ANVIL®
INTERNATIONAL
Building Connections That Last

December 2009

For the most current product/pricing information on Anvil products, please visit our website at www.anvilintl.com.

Pipe Fittings & Steel Nipples

Forged Steel • Cast Iron • Malleable

BUILDING CONNECTIONS THAT LAST

GRUVLOK · SPF/ANVIL · Catawissa · ANVIL EPS · JBS · CANVIL · MERIT · BECK · ANVIL-STRUT · SEMINOLE Tubular Products

BUILDING CONNECTIONS THAT LAST

For over 150 years, Anvil has worked diligently to build a strong, vibrant tradition of making connections — from pipe to pipe and people to people.

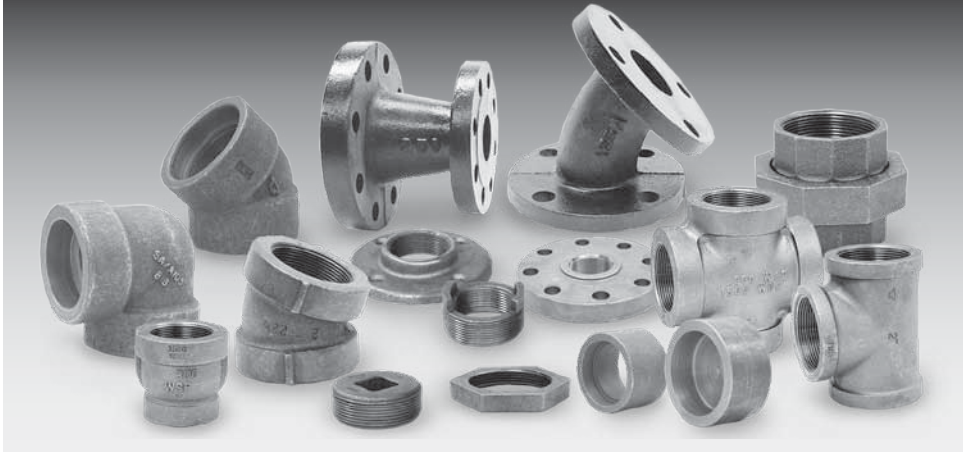
We pride ourselves in providing the finest-quality pipe products and services with integrity and dedication to superior customer service at all levels.

We provide expertise and product solutions for a wide range of applications, from plumbing, mechanical, HVAC, industrial and fire protection to mining, oil and gas. Our comprehensive line of products includes: grooved pipe couplings, grooved and plain-end fittings, valves, cast and malleable iron fittings, forged steel fittings, steel pipe nipples and couplings, pipe hangers and supports, channel and strut fittings, mining and oil field fittings, along with much more.

As an additional benefit to our customers, Anvil offers a complete and comprehensive Design Services Analysis for mechanical equipment rooms, to help you determine the most effective and cost-efficient piping solutions.

Anvil is a proud member of the United States Green Building Council (USGBC). Go to the Anvil website to obtain manufacturer recycled certificates and other Green information.

At Anvil, we believe that responsive and accessible customer support is what makes the difference between simply delivering products — and delivering solutions.



Pipe Fittings

History

For over 150 years, Anvil has been a trusted name in piping solutions by consistently providing quality products, service, and support to the PVF industry. Our ability to provide cost-efficient piping packages that are tailored to individual markets is unmatched in the industry. From plumbing, mechanical, and fire protection, to mining, oil and gas, our innovative responses are designed to meet your specific demands.

Products

Our manufacturing facilities produce an unrivaled package of piping products, while setting a world-wide industry standard for quality and dependability. Our ISO certified facilities use recycled materials in the manufacturing of our product as well as being a proud member of the USGBC.

Distribution Channel

The wholesaler has always been the key to Anvil's business. Our dedication to the wholesale trade is the driving force for our services and these relationships remain a primary focus of Anvil's innovation. Our value-added services including a proprietary suite of inventory management tools signifies a strong commitment to our customers needs.

Customer Service

Having major distribution centers located throughout North America, you can count on getting the product you need - when you need it. Customer satisfaction has always been Anvil's #1 objective. Our experienced Sales and Customer Service Teams are knowledgeable and eager to serve our customers, validating our company's motto "Building Connections that Last."

Pipe Fitting Product Line

- Malleable Iron Pipe Fittings
  Threaded Fittings
  Class 150 (Standard)
  Class 300 (XS/XH)

- Cast Iron Pipe Fittings
  Threaded Fittings
  Class 125 (Standard)
  Class 250 (Extra Heavy)
  Flanged Fittings
  Class 125 (Standard)
  Class 250 (Extra Heavy)
  Drainage Fittings

- Small Steel Fittings
  Merchant Steel

- Pipe Nipples
  Seamless and Welded

- Pipe Couplings

- Forged Steel Pipe Fittings
  Threaded Fittings
  Class 2000
  Class 3000
  Class 6000
  Socket Weld Fittings
  Class 3000
  Class 6000

- Anvilets

- Catawissa Products

- J.B. Smith Products

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Malleable Iron Threaded Pipe Unions Pressure - Temperature Ratings

Temperature		Pressure					
		Class 150		Class 250		Class 300	
(°F)	*(°C)*	psi	*bar*	psi	*bar*	psi	*bar*
-20° to 150°	*-28.9° to 65.6°*	300	*20.7*	500	*34.5*	600	*41.4*
200°	*93.3°*	265	*18.3*	455	*31.4*	550	*37.9*
250°	*121.1°*	225	*15.5*	405	*27.9*	505	*34.8*
300°	*148.9°*	185	*12.8*	360	*24.8*	460	*31.7*
350°	*176.7°*	150	*10.3*	315	*21.7*	415	*28.6*
400°	*204.4°*	110	*7.6*	270	*18.6*	370	*25.5*
450°	*232.2°*	75	*5.2*	225	*15.5*	325	*22.4*
500°	*260.0°*	–	–	180	*12.4*	280	*19.3*
550°	*287.8°*	–	–	130	*9.0*	230	*15.9*

Note: Unions with Copper or Copper Alloy seats are not intended for use where temperature exceeds 450°F

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FM APPROVED

For Listings/Approval Details and Limitations, visit our website @ www.anvilintl.com or contact an Anvil/AnvilStar Sales Representative.

Malleable Iron Threaded Fittings Pressure - Temperature Ratings

Temperature		Pressure							
		Class 150		Class 300					
				Sizes ¼"–1" *(6–25 mm)*		Sizes 1¼"–2" *(32–51 mm)*		Sizes 2½"–3" *(64–76 mm)*	
(°F)	*(°C)*	psi	*bar*	psi	*bar*	psi	*bar*	psi	*bar*
-20° to 150°	*-28.9° to 65.6°*	300	*20.7*	2,000	*137.9*	1,500	*103.4*	1,000	*68.9*
200°	*93.3*	265	*18.3*	1,785	*123.1*	1,350	*93.1*	910	*62.7*
250°	*121.1*	225	*15.5*	1,575	*108.6*	1,200	*82.7*	825	*56.9*
300°	*148.9*	185	*12.8*	1,360	*93.8*	1,050	*72.4*	735	*50.7*
350°	*176.7*	150	*10.3*	1,150	*79.3*	900	*62.1*	650	*44.8*
400°	*204.4*	–	–	935	*64.5*	750	*51.7*	560	*38.6*
450°	*232.2*	–	–	725	*50.0*	600	*41.4*	475	*32.8*
500°	*260.0*	–	–	510	*35.2*	450	*31.0*	385	*26.5*
550°	*287.8*	–	–	300	*20.7*	300	*20.7*	300	*20.7*

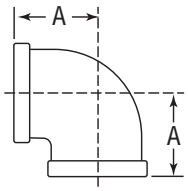
Anvil Class 150 (standard Weight) Malleable Iron Fittings conform to ASME B16.3 and Unions conform to ASME B16.39.

ALL ELBOWS & TEES ⅜" *(10 DN)* and LARGER ARE 100% GAS TESTED AT A MINIMUM OF 100 PSI. *(6.9 bar)*

Malleable Iron

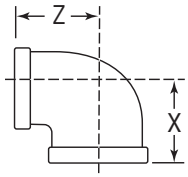
Class 150 (Standard)

FIGURE 1101
90° Elbow



Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1/8	*6*	11/16	*17*	0.06	*0.03*	0.06	*0.03*
1/4	*8*	13/16	*22*	0.11	*0.05*	0.11	*0.05*
3/8	*10*	15/16	*24*	0.17	*0.08*	0.17	*0.08*
1/2	*15*	1 1/8	*29*	0.30	*0.14*	0.30	*0.14*
3/4	*20*	1 5/16	*33*	0.45	*0.20*	0.45	*0.20*
1	*25*	1 1/2	*38*	0.73	*0.33*	0.73	*0.33*
1 1/4	*32*	1 3/4	*44*	0.97	*0.44*	0.97	*0.44*
1 1/2	*40*	1 15/16	*49*	1.30	*0.59*	1.30	*0.59*
2	*50*	2 1/4	*57*	2.06	*0.93*	2.06	*0.93*
2 1/2	*65*	2 11/16	*68*	3.55	*1.61*	3.55	*1.61*
3	*80*	3 1/16	*78*	5.46	*2.48*	5.46	*2.48*
3 1/2	*90*	3 7/16	*87*	7.10	*3.22*	7.10	*3.22*
4	*100*	3 13/16	*98*	8.95	*4.06*	8.95	*4.06*
5	*125*	4 1/2	*114*	13.90	*6.30*	13.90	*6.30*
6	*150*	5 1/8	*130*	23.00	*10.43*	23.00	*10.43*

FIGURE 1101R
Reducing Elbow



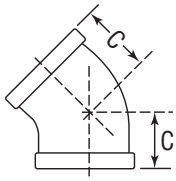
Size				X		Z		Unit Weight			
								Black		Galv.	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1/4	*8*	1/8	*6*	3/4	*19*	3/4	*19*	0.10	*0.05*	0.10	*0.05*
3/8	*10*	1/8	*6*	13/16	*22*	7/8	*22*	0.12	*0.05*	0.12	*0.05*
		1/4	*8*	7/8	*22*	15/16	*24*	0.14	*0.06*	0.14	*0.06*
1/2	*15*	1/4	*8*	1	*25*	1	*25*	0.19	*0.09*	0.19	*0.09*
		3/8	*10*	1 1/16	*27*	1 1/16	*27*	0.22	*0.10*	0.22	*0.10*
3/4	*20*	1/4	*8*	1 1/8	*29*	1 1/8	*29*	0.26	*0.12*	0.26	*0.12*
		3/8	*10*	1 1/8	*29*	1 1/8	*29*	0.29	*0.13*	0.29	*0.13*
		1/2	*15*	1 3/16	*30*	1 1/4	*32*	0.38	*0.17*	0.38	*0.17*
1	*25*	3/8	*10*	1 3/16	*30*	1 1/4	*32*	0.41	*0.19*	0.41	*0.19*
		1/2	*15*	1 1/4	*32*	1 3/8	*35*	0.46	*0.21*	0.46	*0.21*
		3/4	*20*	1 3/8	*35*	1 7/16	*37*	0.56	*0.25*	0.56	*0.25*
1 1/4	*32*	1/2	*15*	1 3/8	*35*	1 9/16	*40*	0.61	*0.28*	0.61	*0.28*
		3/4	*20*	1 7/16	*37*	1 5/8	*41*	0.71	*0.32*	0.71	*0.32*
		1	*25*	1 9/16	*40*	1 11/16	*43*	0.87	*0.39*	0.87	*0.39*
1 1/2	*40*	3/4	*20*	1 1/2	*38*	1 3/4	*44*	0.83	*0.38*	0.83	*0.38*
		1	*25*	1 5/8	*41*	1 13/16	*47*	1.02	*0.46*	1.02	*0.46*
		1 1/4	*32*	1 13/16	*47*	1 7/8	*48*	1.17	*0.53*	1.17	*0.53*
2	*50*	3/4	*20*	1 5/8	*41*	2	*51*	1.30	*0.59*	1.30	*0.59*
		1	*25*	1 3/4	*44*	2	*51*	1.35	*0.61*	1.35	*0.61*
		1 1/4	*32*	1 7/8	*48*	2 1/8	*54*	1.53	*0.69*	1.53	*0.69*
		1 1/2	*40*	2	*51*	2 1/8	*54*	1.75	*0.79*	1.75	*0.79*
2 1/2	*65*	1 1/2	*40*	2 3/16	*56*	2 1/2	*64*	2.50	*1.13*	2.50	*1.13*
		2	*50*	2 7/16	*62*	2 5/8	*67*	2.98	*1.35*	2.98	*1.35*
3	*80*	2	*50*	2 9/16	*65*	2 15/16	*75*	3.75	*1.70*	3.75	*1.70*
		2 1/2	*65*	2 13/16	*73*	3	*76*	4.30	*1.95*	4.30	*1.95*
4	*100*	3	*80*	3 5/16	*84*	3 5/8	*92*	7.87	*3.57*	7.87	*3.57*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees 3/8" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

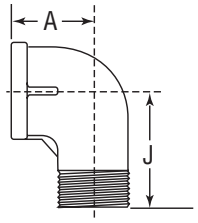
Class 150 (Standard)

FIGURE 1102
45° Elbow



Size		C		Unit Weight			
				Black		Galv.	
NPS	DN	in	mm	lbs	kg	lbs	kg
1/8	6	11/16	17	0.07	0.03	0.07	0.03
1/4	8	3/4	19	0.11	0.05	0.11	0.05
3/8	10	13/16	22	0.16	0.07	0.16	0.07
1/2	15	7/8	22	0.22	0.10	0.22	0.10
3/4	20	1	25	0.37	0.17	0.37	0.17
1	25	1 1/8	29	0.54	0.24	0.54	0.24
1 1/4	32	1 5/16	33	0.86	0.39	0.86	0.39
1 1/2	40	1 7/16	37	1.13	0.51	1.13	0.51
2	50	1 11/16	43	1.79	0.81	1.79	0.81
2 1/2	65	1 15/16	49	3.60	1.63	3.60	1.63
3	80	2 3/16	56	4.48	2.03	4.48	2.03
4	100	2 5/8	67	7.40	3.36	7.40	3.36
5	125	3 1/16	78	11.46	5.20	11.46	5.20
6	150	3 7/16	87	19.93	9.04	19.93	9.04

FIGURE 1103 (Straight)
FIGURE 1103R (Reducing)
90° Street Elbow



First size denotes female end.

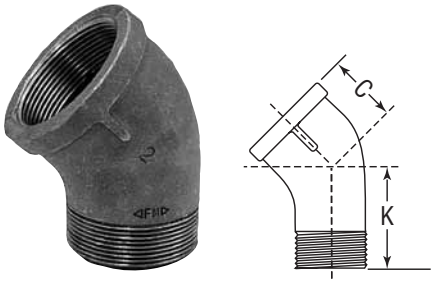
Size		A		J		Unit Weight			
						Black		Galv.	
NPS	DN	in	mm	in	mm	lbs	kg	lbs	kg
1/8	6	11/16	17	1	25	0.06	0.03	0.06	0.03
1/4	8	13/16	22	1 3/16	30	0.10	0.05	0.10	0.05
3/8	10	15/16	24	1 7/16	37	0.17	0.08	0.17	0.08
1/2	15	1 1/8	29	1 5/8	41	0.28	0.13	0.28	0.13
3/4	20	1 5/16	33	1 7/8	48	0.41	0.19	0.41	0.19
1	25	1 1/2	38	2 1/8	54	0.62	0.28	0.62	0.28
1 1/4	32	1 3/4	44	2 7/16	62	1.09	0.49	1.09	0.49
1 1/2	40	1 15/16	49	2 11/16	68	1.44	0.65	1.44	0.65
2	50	2 1/4	57	3 1/4	83	2.85	1.29	2.85	1.29
2 1/2	65	2 11/16	68	3 7/8	98	4.00	1.81	4.00	1.81
3	80	3 1/16	78	4 1/2	114	6.06	2.75	6.06	2.75
4	100	3 13/16	98	5 11/16	144	10.53	4.78	10.53	4.78
1/2 x 3/8	15 x 10	1 1/16	27	1 9/16	40	0.23	0.10	0.23	0.10
3/4 x 1/2	20 x 15	1 3/16	30	1 3/4	44	0.32	0.15	0.32	0.15
1 x 3/4	25 x 20	1 3/8	35	2 1/16	52	0.54	0.24	0.54	0.24
1 1/4 x 1	32 x 25	1 9/16	40	2 5/16	59	0.86	0.39	0.86	0.39
1 1/4 x 3/4	32 x 20	1 7/16	37	2 1/4	57	0.75	0.34	0.75	0.34
1 1/2 x 1 1/4	40 x 32	1 13/16	47	2 9/16	65	1.18	0.54	1.18	0.54
1 1/2 x 1	40 x 25	1 5/8	41	2 1/2	64	1.08	0.49	1.08	0.49
2 x 1 1/2	50 x 40	2	51	2 15/16	75	1.85	0.84	1.85	0.84

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees 3/8" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

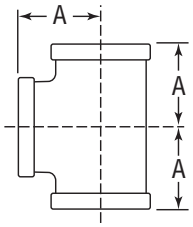
Class 150 (Standard)

FIGURE 1104
45° Street Elbow



Size		C		K		Unit Weight			
						Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1/8	*6*	11/16	*17*	7/8	*22*	0.06	*0.03*	0.06	*0.03*
1/4	*8*	3/4	*19*	15/16	*24*	0.10	*0.05*	0.10	*0.05*
3/8	*10*	13/16	*22*	1	*25*	0.14	*0.06*	0.14	*0.06*
1/2	*15*	7/8	*22*	1 1/8	*29*	0.20	*0.09*	0.20	*0.09*
3/4	*20*	1	*25*	1 5/16	*33*	0.33	*0.15*	0.33	*0.15*
1	*25*	1 1/8	*29*	1 7/16	*37*	0.52	*0.24*	0.52	*0.24*
1 1/4	*32*	1 5/16	*33*	1 11/16	*43*	0.85	*0.39*	0.85	*0.39*
1 1/2	*40*	1 7/16	*37*	1 7/8	*48*	1.22	*0.55*	1.22	*0.55*
2	*50*	1 11/16	*43*	2 1/4	*57*	1.92	*0.87*	1.92	*0.87*

FIGURE 1105
Straight Tee



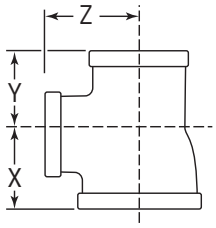
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1/8	*6*	11/16	*17*	0.09	*0.04*	0.09	*0.04*
1/4	*8*	13/16	*22*	0.15	*0.07*	0.15	*0.07*
3/8	*10*	15/16	*24*	0.23	*0.10*	0.23	*0.10*
1/2	*15*	1 1/8	*29*	0.41	*0.19*	0.41	*0.19*
3/4	*20*	1 5/16	*33*	0.60	*0.27*	0.60	*0.27*
1	*25*	1 1/2	*38*	0.90	*0.41*	0.90	*0.41*
1 1/4	*32*	1 3/4	*44*	1.31	*0.59*	1.31	*0.59*
1 1/2	*40*	1 15/16	*49*	1.73	*0.78*	1.73	*0.78*
2	*50*	2 1/4	*57*	2.52	*1.14*	2.52	*1.14*
2 1/2	*65*	2 11/16	*68*	4.90	*2.22*	4.90	*2.22*
3	*80*	3 1/16	*78*	7.13	*3.23*	7.13	*3.23*
3 1/2	*90*	3 7/16	*87*	9.00	*4.08*	9.00	*4.08*
4	*100*	3 13/16	*98*	11.32	*5.13*	11.32	*5.13*
5	*125*	4 1/2	*114*	19.42	*8.81*	19.42	*8.81*
6	*150*	5 1/8	*130*	25.50	*11.56*	25.50	*11.56*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees 3/8" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

Class 150 (Standard)

FIGURE 1105R
Reducing Tee



Size						X		Y		Z		Unit Weight			
												Black		Galv.	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
⅛	*6*	⅛	*6*	¼	*8*	¾	*19*	¾	*19*	¾	*19*	0.12	*0.05*	0.12	*0.05*
¼	*8*	¼	*8*	⅛	*6*	¾	*19*	¾	*19*	¾	*19*	0.13	*0.06*	0.13	*0.06*
				⅜	*10*	15⁄16	*24*	15⁄16	*24*	⅞	*22*	0.19	*0.09*	0.19	*0.09*
⅜	*10*	¼	*8*	¼	*8*	⅞	*22*	13⁄16	*22*	15⁄16	*24*	0.19	*0.09*	0.19	*0.09*
				⅜	*10*	15⁄16	*24*	15⁄16	*24*	15⁄16	*24*	0.21	*0.10*	0.21	*0.10*
		⅜	*10*	¼	*8*	⅞	*22*	⅞	*22*	15⁄16	*24*	0.21	*0.10*	0.21	*0.10*
				½	*15*	1 1⁄16	*27*	1 1⁄16	*27*	1 1⁄16	*27*	0.27	*0.12*	0.27	*0.12*
½	*15*	¼	*8*	½	*15*	1 ⅛	*29*	1 5⁄16	*24*	1 ⅛	*29*	0.29	*0.13*	0.29	*0.13*
		⅜	*10*	⅜	*10*	1 1⁄16	*27*	1	*25*	1 1⁄16	*27*	0.28	*0.13*	0.28	*0.13*
				½	*15*	1 ⅛	*29*	1 1⁄16	*27*	1 ⅛	*29*	0.33	*0.15*	0.33	*0.15*
		½	*15*	¼	*8*	1	*25*	1	*25*	1	*25*	0.27	*0.12*	0.27	*0.12*
				⅜	*10*	1 1⁄16	*27*	1 1⁄16	*27*	1 1⁄16	*27*	0.30	*0.14*	0.30	*0.14*
				¾	*20*	1 ¼	*32*	1 ¼	*32*	1 3⁄16	*30*	0.45	*0.20*	0.45	*0.20*
				1	*25*	1 ⅜	*35*	1 ⅜	*35*	1 ¼	*32*	0.55	*0.25*	0.55	*0.25*
¾	*20*	¼	*8*	¾	*20*	1 5⁄16	*33*	1 ⅛	*29*	1 5⁄16	*33*	0.45	*0.20*	0.45	*0.20*
		⅜	*10*	⅜	*10*	1 ⅛	*29*	15⁄16	*24*	1 ⅛	*29*	0.36	*0.16*	–	–
				¾	*20*	1 5⁄16	*33*	1 ⅛	*29*	1 5⁄16	*33*	0.46	*0.21*	0.46	*0.21*
		½	*15*	½	*15*	1 3⁄16	*30*	1 ⅛	*29*	1 ¼	*32*	0.43	*0.20*	0.43	*0.20*
				¾	*20*	1 5⁄16	*33*	1 ¼	*32*	1 5⁄16	*33*	0.51	*0.23*	0.51	*0.23*
		¾	*20*	¼	*8*	1 1⁄16	*27*	1 1⁄16	*27*	1 ⅛	*29*	0.38	*0.17*	0.38	*0.17*
				⅜	*10*	1 ⅛	*29*	1 ⅛	*29*	1 ⅛	*29*	0.42	*0.19*	0.42	*0.19*
				½	*15*	1 3⁄16	*22*	1 3⁄16	*30*	1 ¼	*32*	0.47	*0.21*	0.47	*0.21*
				1	*25*	1 7⁄16	*37*	1 7⁄16	*37*	1 ⅜	*35*	0.62	*0.28*	0.62	*0.28*
				1 ¼	*32*	1 ⅝	*41*	1 ⅝	*41*	1 7⁄16	*37*	0.90	*0.41*	0.90	*0.41*
1	*25*	¼	*8*	1	*25*	1 ½	*38*	1 5⁄16	*33*	1 ½	*38*	0.69	*0.31*	0.69	*0.31*
		½	*15*	½	*15*	1 ¼	*32*	1 ⅛	*29*	1 ⅜	*35*	0.70	*0.32*	0.70	*0.32*
				¾	*20*	1 ⅜	*35*	1 ¼	*32*	1 7⁄16	*37*	0.56	*0.25*	0.56	*0.25*
				1	*25*	1 ½	*38*	1 ⅜	*35*	1 ½	*38*	0.76	*0.34*	0.76	*0.34*
		¾	*20*	½	*15*	1 ¼	*32*	1 3⁄16	*30*	1 ⅜	*35*	0.59	*0.27*	0.59	*0.27*
				¾	*20*	1 ⅜	*35*	1 5⁄16	*33*	1 7⁄16	*37*	0.74	*0.34*	0.74	*0.34*
				1	*25*	1 ½	*38*	1 7⁄16	*37*	1 ½	*38*	0.78	*0.35*	0.78	*0.35*
		1	*25*	¼	*8*	1 ⅛	*29*	1 ⅛	*29*	1 ¼	*44*	0.53	*0.24*	0.53	*0.24*
				⅜	*10*	1 3⁄16	*30*	1 3⁄16	*30*	1 ¼	*32*	0.60	*0.27*	0.60	*0.27*
				½	*15*	1 ¼	*32*	1 ¼	*32*	1 ⅜	*35*	0.70	*0.32*	0.70	*0.32*
				¾	*20*	1 ⅜	*35*	1 ⅜	*35*	1 7⁄16	*37*	0.82	*0.37*	0.82	*0.37*
				1 ¼	*32*	1 11⁄16	*43*	1 11⁄16	*43*	1 9⁄16	*40*	0.92	*0.42*	0.92	*0.42*
				1 ½	*40*	1 13⁄16	*47*	1 13⁄16	*46*	1 ⅝	*41*	1.19	*0.54*	1.19	*0.54*
				2	*50*	2	*51*	2	*51*	1 ¾	*44*	1.63	*0.74*	1.63	*0.74*

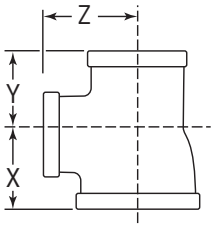
See additional sizes on following page.

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

Class 150 (Standard)

FIGURE 1105R
Reducing Tee (Cont'd.)



Size						X		Y		Z		Unit Weight			
												Black		Galv.	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1¼	*32*	½	*15*	1	*25*	1 9/16	*40*	1 3/8	*35*	1 11/16	*43*	0.87	*0.39*	0.87	*0.39*
				1¼	*32*	1¾	*44*	1 9/16	*40*	1¾	*44*	1.04	*0.47*	1.04	*0.47*
		¾	*20*	¾	*20*	1 7/16	*37*	1 5/16	*33*	1 5/8	*41*	0.86	*0.39*	0.86	*0.39*
				1	*25*	1 9/16	*40*	1 7/16	*37*	1 11/16	*43*	0.91	*0.41*	0.91	*0.41*
				1¼	*32*	1¾	*44*	1 5/8	*41*	1¾	*44*	1.04	*0.47*	1.04	*0.47*
		1	*25*	½	*15*	1 3/8	*35*	1¼	*32*	1 9/16	*40*	0.76	*0.34*	0.76	*0.34*
				¾	*20*	1 7/16	*37*	1 3/8	*35*	1 5/8	*41*	0.87	*0.39*	0.87	*0.39*
				1	*25*	1 9/16	*40*	1½	*38*	1 11/16	*43*	1.11	*0.50*	1.11	*0.50*
				1¼	*32*	1¾	*44*	1 11/16	*43*	1¾	*44*	1.13	*0.51*	1.13	*0.51*
		1¼	*32*	⅜	*10*	1¼	*32*	1¼	*32*	1 7/16	*37*	0.86	*0.39*	0.86	*0.39*
				½	*15*	1 3/8	*35*	1 3/8	*35*	1 9/16	*40*	0.98	*0.44*	0.98	*0.44*
				¾	*20*	1 7/16	*37*	1 7/16	*37*	1 5/8	*41*	1.07	*0.49*	1.07	*0.49*
				1	*25*	1 9/16	*40*	1 9/16	*40*	1 11/16	*43*	1.18	*0.54*	1.18	*0.54*
				1½	*40*	1 7/8	*48*	1 7/8	*48*	1 13/16	*47*	1.45	*0.66*	1.45	*0.66*
				2	*50*	2 1/8	*54*	2 1/8	*54*	1 7/8	*48*	1.70	*0.77*	1.70	*0.77*
1½	*40*	½	*15*	1½	*40*	1 15/16	*49*	1 11/16	*43*	1 15/16	*49*	1.33	*0.60*	1.33	*0.60*
		¾	*20*	¾	*20*	1½	*38*	1 5/16	*33*	1¾	*44*	1.00	*0.45*	1.00	*0.45*
				1½	*40*	1 15/16	*49*	1¾	*44*	1 15/16	*49*	1.41	*0.64*	1.41	*0.64*
		1	*25*	1	*25*	1 5/8	*41*	1½	*38*	1 13/16	*47*	1.14	*0.52*	1.14	*0.52*
				1¼	*32*	1 13/16	*47*	1 11/16	*43*	1 7/8	*48*	1.30	*0.59*	1.30	*0.59*
				1½	*40*	1 15/16	*49*	1 13/16	*47*	1 15/16	*49*	1.50	*0.68*	1.50	*0.68*
		1¼	*32*	½	*15*	1 7/16	*37*	1 3/8	*35*	1 11/16	*43*	1.05	*0.48*	1.05	*0.48*
				¾	*20*	1½	*38*	1 7/16	*37*	1¾	*44*	1.08	*0.49*	1.08	*0.49*
				1	*25*	1 5/8	*41*	1 9/16	*40*	1 13/16	*47*	1.26	*0.57*	1.26	*0.57*
				1¼	*32*	1 13/16	*47*	1¾	*44*	1 7/8	*48*	1.52	*0.69*	1.52	*0.69*
				1½	*40*	1 15/16	*49*	1 7/8	*48*	1 15/16	*49*	1.50	*0.68*	1.50	*0.68*
		1½	*40*	½	*15*	1 7/16	*37*	1 7/16	*37*	1 11/16	*43*	1.19	*0.54*	1.19	*0.54*
				¾	*20*	1½	*38*	1½	*38*	1¾	*44*	1.60	*0.73*	1.60	*0.73*
				1	*25*	1 5/8	*41*	1 5/8	*41*	1 13/16	*47*	1.45	*0.66*	1.45	*0.66*
				1¼	*32*	1 13/16	*47*	1 13/16	*47*	1 7/8	*48*	1.45	*0.66*	1.45	*0.66*
				2	*50*	2 3/16	*56*	2 3/16	*56*	2	*51*	1.86	*0.84*	1.86	*0.84*

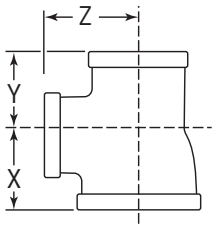
See additional sizes on previous and following page.

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

Class 150 (Standard)

FIGURE 1105R
Reducing Tee (Cont'd.)



Size						X		Y		Z		Unit Weight			
												Black		Galv.	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
2	*50*	½	*15*	2	*50*	2¼	*57*	1⅞	*48*	2¼	*57*	2.15	*0.98*	2.15	*0.98*
		¾	*20*	2	*50*	2¼	*57*	1 15/16	*49*	2¼	*57*	2.00	*0.91*	2.00	*0.91*
		1	*25*	2	*50*	2¼	*57*	2	*51*	2¼	*57*	2.14	*0.97*	2.14	*0.97*
		1¼	*32*	1¼	*32*	1⅞	*48*	1¾	*44*	2⅛	*54*	1.72	*0.78*	1.72	*0.78*
				1½	*40*	2	*51*	1⅞	*48*	2 3/16	*56*	1.85	*0.84*	1.85	*0.84*
				2	*50*	2¼	*57*	2⅛	*54*	2¼	*57*	2.20	*1.00*	2.20	*1.00*
		1½	*40*	1	*25*	1¾	*44*	1⅝	*41*	2	*51*	1.57	*0.71*	1.57	*0.71*
				1¼	*32*	1⅞	*48*	1 13/16	*47*	2⅛	*54*	1.76	*0.80*	1.76	*0.80*
				1½	*40*	2	*51*	1 15/16	*49*	2 3/16	*56*	1.95	*0.88*	1.95	*0.88*
				2	*50*	2¼	*57*	2 3/16	*56*	2¼	*57*	2.24	*1.02*	2.24	*1.02*
		2	*50*	½	*15*	1½	*38*	1½	*38*	1⅞	*48*	1.65	*0.75*	1.65	*0.75*
				¾	*20*	1⅝	*41*	1⅝	*41*	2	*51*	1.87	*0.85*	1.87	*0.85*
				1	*25*	1¾	*44*	1¾	*44*	2	*51*	1.76	*0.80*	1.76	*0.80*
				1¼	*32*	1⅞	*48*	1⅞	*48*	2⅛	*54*	2.35	*1.07*	2.35	*1.07*
				1½	*40*	2	*51*	2	*51*	2 3/16	*56*	2.55	*1.16*	2.55	*1.16*
				2½	*65*	2⅝	*67*	2⅝	*67*	2⅜	*60*	3.50	*1.59*	3.50	*1.59*
2½	*65*	1½	*40*	2	*50*	2⅜	*60*	2 3/16	*56*	2⅝	*67*	3.43	*1.56*	3.43	*1.56*
				2½	*65*	2 11/16	*68*	2½	*64*	2 11/16	*68*	3.80	*1.72*	3.80	*1.72*
		2	*50*	2	*50*	2⅜	*60*	2¼	*57*	2⅝	*67*	3.28	*1.49*	3.28	*1.49*
				2½	*65*	2 11/16	*68*	2⅝	*67*	2 11/16	*68*	4.10	*1.86*	4.10	*1.86*
		2½	*65*	¾	*20*	1¾	*44*	1¾	*44*	2 5/16	*59*	2.72	*1.23*	2.72	*1.23*
				1	*25*	1⅞	*48*	1⅞	*48*	2⅜	*60*	2.85	*1.29*	2.85	*1.29*
				1¼	*32*	2 1/16	*52*	2 1/16	*52*	2 7/16	*62*	3.36	*1.52*	3.36	*1.52*
				1½	*40*	2 3/16	*56*	2 3/16	*56*	2½	*64*	3.46	*1.57*	3.46	*1.57*
				2	*50*	2⅜	*60*	2⅜	*60*	2⅝	*67*	3.65	*1.66*	3.65	*1.66*
				3	*80*	3	*76*	3	*76*	2 13/16	*73*	5.82	*2.64*	5.82	*2.64*
3	*80*	2	*50*	2	*50*	2½	*64*	2¼	*57*	2⅞	*73*	4.50	*2.04*	4.50	*2.04*
				3	*80*	3⅛	*79*	2⅞	*73*	3⅛	*79*	5.80	*2.63*	5.80	*2.63*
		2½	*65*	2	*50*	2½	*64*	2⅜	*60*	2⅞	*73*	4.80	*2.18*	4.80	*2.18*
				2½	*65*	2 13/16	*73*	2 11/16	*68*	3	*76*	5.80	*2.63*	5.80	*2.63*
		3	*80*	¾	*20*	1⅞	*48*	1⅞	*48*	2⅝	*67*	4.03	*1.83*	4.03	*1.83*
				1	*25*	2	*51*	2	*51*	2⅝	*67*	4.13	*1.87*	4.13	*1.87*
				1¼	*32*	2 3/16	*56*	2 3/16	*56*	2¾	*70*	4.50	*2.04*	4.50	*2.04*
				1½	*40*	2 5/16	*59*	2 5/16	*59*	2 13/16	*73*	5.18	*2.35*	5.18	*2.35*
				2	*50*	2½	*64*	2½	*64*	2⅞	*73*	5.70	*2.59*	5.70	*2.59*
				2½	*65*	2 13/16	*73*	2 13/16	*73*	3	*76*	6.09	*2.76*	6.09	*2.76*
4	*100*	3	*80*	4	*100*	3 13/16	*98*	3⅝	*92*	3 13/16	*98*	10.40	*4.72*	10.40	*4.72*
		4	*100*	1½	*40*	2½	*65*	2½	*65*	3⅜	*86*	7.47	*3.39*	7.47	*3.39*
				2	*50*	2¾	*70*	2¾	*70*	3 7/16	*87*	8.39	*3.80*	8.39	*3.80*
				2½	*65*	3 1/16	*78*	3 1/16	*78*	3½	*89*	9.60	*4.35*	9.60	*4.35*
				3	*80*	3 5/16	*84*	3 5/16	*84*	3⅝	*92*	11.02	*5.00*	11.02	*5.00*

See additional sizes on previous page.

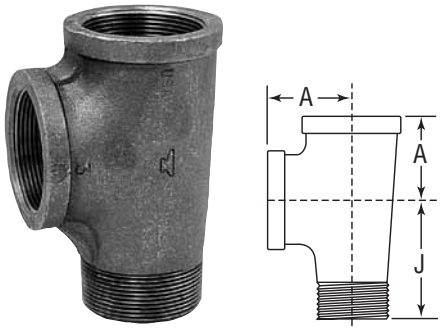
Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.

All Elbows & Tees 3/8" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

Class 150 (Standard)

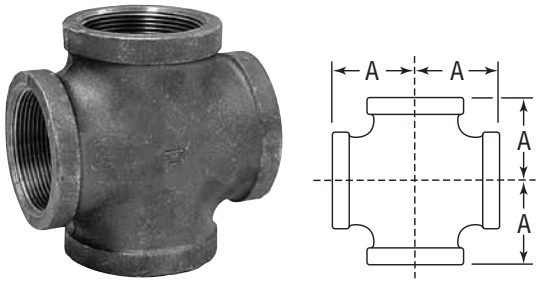
FIGURE 1106 (Straight)
FIGURE 1106R (Reducing)
Street or Service Tee



Size		A		J		Unit Weight			
						Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	13⁄16	*30*	13⁄16	*30*	0.15	*0.07*	0.15	*0.07*
⅜	*10*	15⁄16	*33*	17⁄16	*37*	0.24	*0.11*	0.24	*0.11*
½	*15*	1⅛	*29*	1⅝	*41*	0.34	*0.15*	0.34	*0.15*
¾	*20*	15⁄16	*33*	1⅞	*48*	0.61	*0.28*	0.61	*0.28*
1	*25*	1½	*38*	2⅛	*54*	0.96	*0.44*	0.96	*0.44*
1¼	*32*	1¾	*44*	27⁄16	*62*	1.39	*0.63*	1.39	*0.63*
1½	*40*	115⁄16	*49*	211⁄16	*68*	1.93	*0.88*	1.93	*0.88*
2	*50*	2¼	*57*	3¼	*83*	3.16	*1.43*	3.16	*1.43*

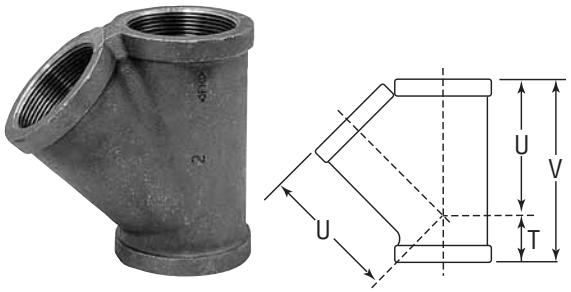
Size female run x male run x outlet		Run				Outlet		Unit Weight			
		A		J		A		Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1¼ x 1 x 1¼	*32 x 25 x 32*	1¾	*44*	25⁄16	*59*	1¾	*44*	1.34	*0.61*	1.34	*0.61*

FIGURE 1107
Cross



Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
⅛	*6*	11⁄16	*17*	0.12	*0.05*	0.12	*0.05*
¼	*8*	13⁄16	*22*	0.18	*0.08*	0.18	*0.08*
⅜	*10*	15⁄16	*24*	0.28	*0.13*	0.28	*0.13*
½	*15*	1⅛	*29*	0.42	*0.19*	0.42	*0.19*
¾	*20*	15⁄16	*33*	0.69	*0.31*	0.69	*0.31*
1	*25*	1½	*38*	1.12	*0.51*	1.12	*0.51*
1¼	*32*	1¾	*44*	1.44	*0.65*	1.44	*0.65*
1½	*40*	115⁄16	*49*	1.98	*0.90*	1.98	*0.90*
2	*50*	2¼	*57*	3.30	*1.50*	3.30	*1.50*
2½	*65*	211⁄16	*68*	5.90	*2.68*	5.90	*2.68*
3	*80*	3⅛	*78*	7.94	*3.60*	7.94	*3.60*
4	*100*	313⁄16	*98*	13.50	*6.12*	13.50	*6.12*

FIGURE 1108
45° Y-Branch or Lateral



Size		T		U		V		Unit Weight			
								Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
⅜	*10*	½	*13*	17⁄16	*37*	115⁄16	*49*	0.27	*0.12*	0.27	*0.12*
½	*15*	⅝	*16*	111⁄16	*43*	25⁄16	*59*	0.37	*0.17*	0.37	*0.17*
¾	*20*	¾	*19*	21⁄16	*52*	213⁄16	*73*	0.62	*0.28*	0.62	*0.28*
1	*25*	⅞	*22*	27⁄16	*62*	35⁄16	*84*	0.86	*0.39*	0.86	*0.39*
1¼	*32*	1	*25*	215⁄16	*75*	315⁄16	*100*	1.63	*0.74*	1.63	*0.74*
1½	*40*	1⅛	*29*	3¼	*83*	4⅜	*111*	2.00	*0.91*	2.00	*0.91*
2	*50*	1¼	*32*	315⁄16	*100*	5⅜16	*132*	3.05	*1.38*	3.05	*1.38*
2½	*65*	1½	*38*	4¾	*121*	6¼	*159*	5.86	*2.66*	5.86	*2.66*
3	*80*	111⁄16	*43*	59⁄16	*141*	7¼	*184*	9.18	*4.16*	9.18	*4.16*
4	*100*	2	*51*	7	*178*	9	*229*	15.70	*7.12*	15.70	*7.12*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

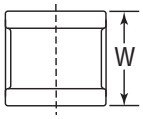
Malleable Iron

Class 150 (Standard)

FIGURE 1119
Return Bends
Open Pattern, R.H.

Size		Center to Center		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
½	*15*	1½	*38*	0.36	*0.16*	–	–
¾	*20*	2	*51*	0.64	*0.29*	–	–
1	*25*	2½	*64*	1.10	*0.50*	1.10	*0.50*
1¼	*32*	3	*76*	1.77	*0.80*	–	–
1½	*40*	3½	*90*	2.55	*1.16*	2.55	*1.16*
2	*50*	4	*102*	4.00	*1.81*	4.00	*1.81*

FIGURE 1121
Coupling Right Hand



Size		W		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
⅛*	*6*	15⁄16	*24*	0.06	*0.03*	0.06	*0.03*
¼	*8*	1 1⁄16	*27*	0.09	*0.04*	0.09	*0.04*
⅜	*10*	1 3⁄16	*30*	0.13	*0.06*	0.13	*0.06*
½	*15*	1 5⁄16	*33*	0.20	*0.09*	0.20	*0.09*
¾	*20*	1½	*38*	0.30	*0.14*	0.30	*0.14*
1	*25*	1 11⁄16	*43*	0.48	*0.22*	0.48	*0.22*
1¼	*32*	1 15⁄16	*49*	0.75	*0.34*	0.75	*0.34*
1½	*40*	2⅛	*54*	1.00	*0.45*	1.00	*0.45*
2	*50*	2½	*64*	1.45	*0.66*	1.45	*0.66*
2½	*65*	2⅞	*73*	2.40	*1.09*	2.40	*1.09*
3	*80*	3 3⁄16	*81*	3.30	*1.50*	3.30	*1.50*
4	*100*	3 11⁄16	*94*	5.72	*2.59*	5.72	*2.59*

* Offered in steel only.

FIGURE 1124
Cap

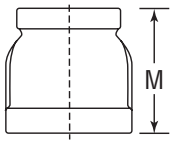
Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
½	*15*	0.12	*0.05*	0.12	*0.05*
¾	*20*	0.22	*0.10*	0.22	*0.10*
1	*25*	0.38	*0.17*	0.38	*0.17*
1¼	*32*	0.58	*0.26*	0.58	*0.26*
1½	*40*	0.73	*0.33*	0.73	*0.33*
2	*50*	1.13	*0.51*	1.13	*0.51*
2½	*65*	1.75	*0.79*	1.75	*0.79*
3	*80*	2.62	*1.19*	2.62	*1.19*
3½	*90*	3.19	*1.45*	3.19	*1.45*
4	*100*	4.54	*2.06*	4.54	*2.06*
5	*125*	6.45	*2.93*	6.45	*2.93*
6	*150*	10.00	*4.54*	10.00	*4.54*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

Class 150 (Standard)

FIGURE 1125
Reducer



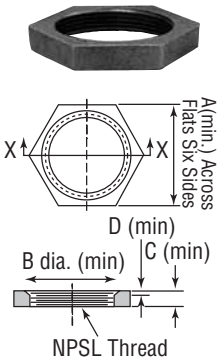
Size				M		Unit Weight			
						Black		Galv.	
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	⅛	*6*	1	*25*	0.07	*0.03*	0.07	*0.03*
⅜	*10*	⅛	*6*	1⅛	*29*	0.11	*0.05*	0.11	*0.05*
		¼	*8*			0.11	*0.05*	0.11	*0.05*
½	*15*	⅛	*6*	1¼	*32*	0.14	*0.06*	0.14	*0.06*
		¼	*8*			0.15	*0.07*	0.15	*0.07*
		⅜	*10*			0.17	*0.08*	0.17	*0.08*
¾	*20*	⅛	*6*	1 7/16	*37*	0.24	*0.11*	0.24	*0.11*
		¼	*8*			0.22	*0.10*	0.22	*0.10*
		⅜	*10*			0.25	*0.11*	0.25	*0.11*
		½	*15*			0.27	*0.12*	0.27	*0.12*
1	*25*	¼	*8*	1 11/16	*43*	0.35	*0.16*	0.35	*0.16*
		⅜	*10*			0.35	*0.16*	0.35	*0.16*
		½	*15*			0.39	*0.18*	0.39	*0.18*
		¾	*20*			0.43	*0.20*	0.43	*0.20*
1¼	*32*	½	*15*	2 1/16	*52*	0.61	*0.28*	0.61	*0.28*
		¾	*20*			0.64	*0.29*	0.64	*0.29*
		1	*25*			0.68	*0.31*	0.68	*0.31*
1½	*40*	½	*15*	2 5/16	*59*	0.78	*0.35*	0.78	*0.35*
		¾	*20*			0.88	*0.40*	0.88	*0.40*
		1	*25*			0.88	*0.40*	0.88	*0.40*
		1¼	*32*			0.90	*0.41*	0.90	*0.41*
2	*50*	½	*15*	2 13/16	*73*	1.30	*0.59*	1.30	*0.59*
		¾	*20*			1.34	*0.61*	1.34	*0.61*
		1	*25*			1.40	*0.63*	1.40	*0.63*
		1¼	*32*			1.53	*0.69*	1.53	*0.69*
		1½	*40*			1.55	*0.70*	1.55	*0.70*
2½	*65*	1	*25*	3¼	*83*	2.12	*0.96*	2.12	*0.96*
		1¼	*32*			2.09	*0.95*	2.09	*0.95*
		1½	*40*			2.09	*0.95*	2.09	*0.95*
		2	*50*			2.51	*1.14*	2.51	*1.14*
3	*80*	1	*25*	3 11/16	*94*	3.16	*1.43*	3.16	*1.43*
		1¼	*32*			2.99	*1.36*	2.99	*1.36*
		1½	*40*			3.30	*1.50*	3.30	*1.50*
		2	*50*			3.25	*1.47*	3.25	*1.47*
		2½	*65*			3.31	*1.50*	3.31	*1.50*
3½	*90*	2	*50*	4	*102*	4.32	*1.96*	4.32	*1.96*
		2½	*65*			4.72	*2.14*	4.72	*2.14*
		3	*80*			4.99	*2.26*	4.99	*2.26*
4	*100*	1½	*40*	4⅜	*111*	4.90	*2.22*	4.90	*2.22*
		2	*50*			5.10	*2.31*	5.10	*2.31*
		2½	*65*			5.93	*2.69*	5.93	*2.69*
		3	*80*			6.55	*2.97*	6.55	*2.97*
		3½	*90*			6.30	*2.86*	6.30	*2.86*
5	*125*	4	*100*	4 9/16	*116*	9.57	*4.34*	9.57	*4.34*
6	*150*	4	*100*	4 13/16	*124*	10.30	*4.67*	10.30	*4.67*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

Class 150 (Standard)

FIGURE 1134
Hex Locknut



For additional sizes larger than 2" (50 DN) see Cast Iron page 53.
Not to be used for pressure service.

Size		Minimum Dimensions								Unit Weight			
		A		B		C		D		Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
• ⅛	*6*	.690	*18*	.500	*13*	.190	*5*	.040	*1*	0.04	*0.02*	0.04	*0.02*
• ¼	*8*	.840	*21*	.660	*17*	.250	*6*	.060	*2*	0.02	*0.01*	0.02	*0.01*
• ⅜	*10*	1.000	*25*	.770	*20*	.280	*7*	.060	*2*	0.04	*0.02*	0.04	*0.02*
• ½	*15*	1.180	*30*	.970	*25*	.310	*8*	.060	*2*	0.06	*0.03*	0.06	*0.03*
¾	*20*	1.430	*36*	1.230	*31*	.340	*9*	.060	*2*	0.08	*0.04*	0.08	*0.04*
1	*25*	1.750	*44*	1.500	*38*	.380	*10*	.060	*2*	0.14	*0.06*	0.14	*0.06*
1¼	*32*	2.100	*53*	1.860	*47*	.420	*11*	.060	*2*	0.21	*0.10*	0.21	*0.10*
1½	*40*	2.350	*60*	2.120	*54*	.470	*12*	.060	*2*	0.24	*0.11*	0.24	*0.11*
2	*50*	2.880	*73*	2.630	*67*	.530	*13*	.090	*2*	0.40	*0.18*	0.40	*0.18*

FIGURE 1190
Floor Flange (Ductile Iron)

Structural use only.

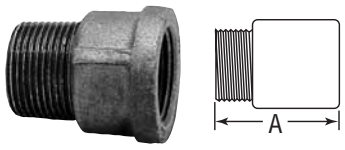
Size		Dia. of Flange		Diameter of Bolt Circle		No. of Holes	Dia. of Holes		Unit Weight			
									Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*		in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	2 3/16	*56*	1⅞	*48*	4	¼	*6*	0.39	*0.18*	0.39	*0.18*
⅜	*10*	3	*76*	2	*51*	4	¼	*6*	0.43	*0.20*	0.43	*0.20*
½	*15*	3½	*89*	2½	*64*	4	¼	*6*	0.56	*0.25*	0.56	*0.25*
¾	*20*	3½	*89*	2½	*64*	4	¼	*6*	0.60	*0.27*	0.60	*0.27*
1	*25*	4	*102*	3	*76*	4	¼	*6*	0.84	*0.38*	0.84	*0.38*
1¼	*32*	4	*102*	3	*76*	4	¼	*6*	0.90	*0.41*	0.90	*0.41*
1½	*40*	4½	*114*	3½	*89*	4	5/16	*8*	1.20	*0.54*	1.20	*0.54*
2	*50*	5½	*140*	4¼	*108*	4	5/16	*8*	2.03	*0.92*	2.03	*0.92*

FIGURE 1133
Waste Nut

Not to be used for pressure service.

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
½	*15*	0.12	*0.05*	–	–
¾	*20*	0.15	*0.07*	0.15	*0.07*

FIGURE 1138
Extension Piece



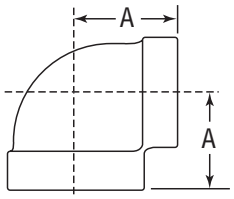
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
½	*15*	1⅝	*41*	0.19	*0.09*	0.19	*0.09*
¾	*20*	1 15/16	*49*	0.35	*0.16*	0.35	*0.16*
1	*25*	2 1/16	*52*	0.48	*0.22*	0.48	*0.22*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

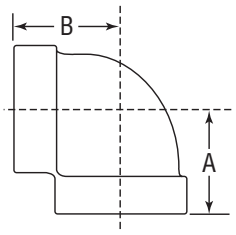
Class 300 (XS / XH)

FIGURE 1161
90° Elbow Straight



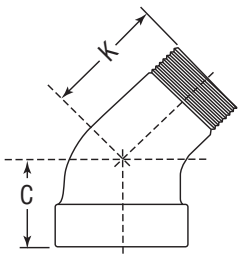
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	1 5/16	*24*	0.20	*0.09*	0.20	*0.09*
⅜	*10*	1 1/16	*27*	0.29	*0.13*	0.29	*0.13*
½	*15*	1¼	*32*	0.47	*0.21*	0.47	*0.21*
¾	*20*	1 7/16	*37*	0.66	*0.30*	0.66	*0.30*
1	*25*	1⅝	*41*	1.15	*0.52*	1.15	*0.52*
1¼	*32*	1 15/16	*49*	1.88	*0.85*	1.88	*0.85*
1½	*40*	2⅛	*54*	2.47	*1.12*	2.47	*1.12*
2	*50*	2½	*64*	3.85	*1.75*	3.85	*1.75*
2½	*65*	2 15/16	*75*	5.80	*2.63*	5.80	*2.63*
3	*80*	3⅜	*86*	9.95	*4.51*	9.95	*4.51*
4	*100*	4½	*114*	16.00	*7.26*	16.00	*7.26*

FIGURE 1161R
90° Reducing Elbow



Size		A		B		Unit Weight			
						Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
⅜ x ¼	*10 x 8*	1	*25*	1	*25*	0.26	*0.12*	–	–
½ x ⅜	*15 x 10*	1 3/16	*30*	1 3/16	*30*	0.41	*0.19*	–	–
¾ x ½	*20 x 15*	1 5/16	*33*	1⅜	*35*	0.62	*0.28*	0.62	*0.28*
1 x ½	*25 x 15*	1 7/16	*37*	1½	*38*	0.87	*0.39*	–	–
1 x ¾	*25 x 20*	1½	*38*	1 9/16	*40*	1.00	*0.45*	1.00	*.45*
1¼ x ¾	*32 x 20*	1⅝	*41*	1¾	*44*	1.41	*0.64*	–	–
1¼ x 1	*32 x 25*	1¾	*44*	1 13/16	*47*	1.60	*0.73*	–	–
1½ x 1	*40 x 25*	1	*25*	1 13/16	*47*	1.89	*0.86*	–	–
1½ x 1¼	*40 x 32*	2	*51*	2 1/16	*52*	2.15	*0.98*	–	–
2 x 1¼	*50 x 32*	2⅛	*54*	2 5/16	*59*	3.12	*1.41*	3.12	*1.41*
2 x 1½	*50 x 40*	2¼	*57*	2⅜	*60*	3.30	*1.50*	–	–

FIGURE 1160
45° Street Elbow



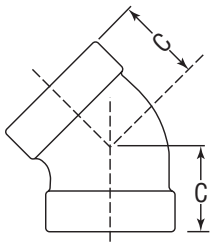
Size		C		K		Unit Weight	
						Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	1	*25*	1⅜	*35*	0.36	*0.16*
¾	*20*	1⅛	*29*	1 9/16	*40*	0.54	*0.24*
1	*25*	1 5/16	*33*	1 13/16	*47*	0.85	*0.39*
1¼	*32*	1½	*38*	2⅛	*54*	1.50	*0.68*
1½	*40*	1 11/16	*43*	2 5/16	*59*	2.06	*0.93*
2	*50*	2	*51*	2 11/16	*68*	3.34	*1.51*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

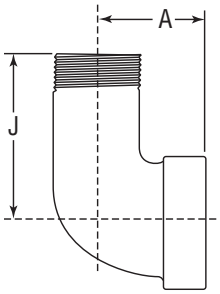
Class 300 (XS / XH)

FIGURE 1162
45° Elbow



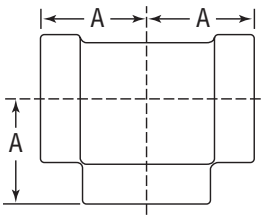
Size		C		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	13⁄16	*22*	0.19	*0.09*	0.19	*0.09*
⅜	*10*	⅞	*22*	0.28	*0.13*	0.28	*0.13*
½	*15*	1	*25*	0.43	*0.20*	0.43	*0.20*
¾	*20*	1⅛	*29*	0.66	*0.30*	0.66	*0.30*
1	*25*	1 5⁄16	*33*	1.00	*0.45*	1.00	*0.45*
1¼	*32*	1½	*38*	1.67	*0.76*	1.67	*0.76*
1½	*40*	1 11⁄16	*43*	2.15	*0.98*	2.15	*0.98*
2	*50*	2	*51*	3.40	*1.54*	3.40	*1.54*
2½	*65*	2¼	*57*	5.51	*2.50*	5.51	*2.50*
3	*80*	2½	*64*	8.10	*3.67*	8.10	*3.67*
4	*100*	2 13⁄16	*73*	13.41	*6.08*	13.41	*6.08*

FIGURE 1170
90° Street Elbow



Size		A		J		Unit Weight			
						Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	5⁄16	*24*	1 7⁄16	*37*	0.17	*0.08*	0.17	*0.08*
⅜	*10*	1 1⁄16	*27*	1⅝	*41*	0.26	*0.12*	0.26	*0.12*
½	*15*	1¼	*32*	2	*51*	0.40	*0.18*	0.40	*0.18*
¾	*20*	1 7⁄16	*37*	2 3⁄16	*56*	0.68	*0.31*	0.68	*0.31*
1	*25*	1⅝	*41*	2 9⁄16	*65*	1.04	*0.47*	1.04	*0.47*
1¼	*32*	1 15⁄16	*49*	2⅞	*73*	1.60	*0.73*	1.60	*0.73*
1½	*40*	2⅛	*54*	3⅛	*79*	2.20	*1.00*	2.20	*1.00*
2	*50*	2½	*64*	3 11⁄16	*94*	3.59	*1.63*	3.59	*1.63*
3	*80*	3⅜	*86*	5⅛	*130*	9.55	*4.33*	–	–

FIGURE 1164
Straight Tee



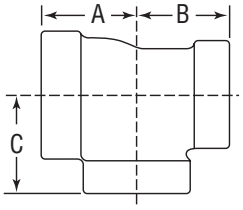
Size		Center to End A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	1 5⁄16	*33*	0.27	*0.12*	0.27	*0.12*
⅜	*10*	1 1⁄16	*27*	0.42	*0.19*	0.42	*0.19*
½	*15*	1¼	*32*	0.65	*0.29*	0.65	*0.29*
¾	*20*	1 7⁄16	*37*	1.07	*0.49*	1.07	*0.49*
1	*25*	1⅝	*41*	1.62	*0.73*	1.62	*0.73*
1¼	*32*	1 15⁄16	*49*	2.49	*1.13*	2.49	*1.13*
1½	*40*	2⅛	*54*	3.40	*1.54*	3.40	*1.54*
2	*50*	2½	*64*	5.20	*2.36*	5.20	*2.36*
2½	*65*	2 15⁄16	*75*	7.87	*3.57*	7.87	*3.57*
3	*80*	3⅜	*86*	12.46	*5.65*	12.46	*5.65*
4	*100*	4½	*114*	24.02	*10.89*	24.02	*10.89*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

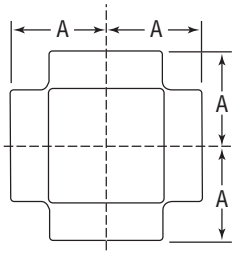
Class 300 (XS / XH)

FIGURE 1164R
Reducing Tee



Size						Center to End						Unit Weight			
						A		B		C		Black		Galv.	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
⅜	*10*	⅜	*10*	¼	*8*	1	*25*	1	*25*	1	*25*	0.37	*0.17*	–	–
½	*15*	½	*15*	¼	*8*	1 1/16	*27*	1 1/16	*27*	1⅛	*29*	0.48	*0.22*	–	–
				⅜	*10*	1 3/16	*30*	1 3/16	*30*	1 3/16	*30*	0.61	*0.28*	–	–
				¾	*20*	1⅜	*35*	1⅜	*35*	1 5/16	*33*	0.80	*0.36*	–	–
¾	*20*	½	*15*	½	*15*	1 5/16	*33*	1¼	*32*	1⅜	*35*	0.78	*0.35*	–	–
				¾	*20*	1 7/16	*37*	1⅜	*35*	1 7/16	*37*	0.93	*0.42*	–	–
		¾	*20*	¼	*8*	1 3/16	*30*	1 3/16	*30*	1¼	*32*	0.76	*0.34*	–	–
				⅜	*10*	1¼	*32*	1¼	*32*	1 5/16	*33*	0.80	*0.36*	–	–
				½	*15*	1 5/16	*33*	1 5/16	*33*	1⅜	*35*	0.90	*0.41*	0.9	*0.41*
1	*25*	½	*15*	1	*25*	1⅝	*41*	1½	*38*	1⅝	*41*	1.36	*0.62*	–	–
		¾	*20*	¾	*20*	1½	*38*	1 7/16	*37*	1 9/16	*40*	1.27	*0.58*	–	–
				1	*25*	1⅝	*41*	1 9/16	*40*	1⅝	*41*	1.38	*0.63*	–	–
		1	*25*	¼	*8*	1¼	*32*	1¼	*32*	1⅜	*35*	1.09	*0.49*	–	–
				½	*15*	1 7/16	*37*	1 7/16	*37*	1½	*38*	1.26	*0.57*	1.26	*0.57*
				¾	*20*	1½	*38*	1½	*38*	1 9/16	*40*	1.33	*0.60*	1.33	*0.60*
1¼	*32*	1	*25*	1	*25*	1¾	*44*	1⅝	*41*	1 13/16	*47*	1.92	*0.87*	–	–
		1¼	*32*	½	*15*	1½	*38*	1½	*38*	1 11/16	*43*	1.70	*0.77*	1.70	*0.77*
				¾	*20*	1⅝	*41*	1⅝	*41*	1¾	*44*	1.90	*0.86*	1.90	*0.86*
				1	*25*	1¾	*44*	1¾	*44*	1 13/16	*47*	2.10	*0.95*	2.10	*0.95*
1½	*40*	1½	*40*	½	*15*	1⅝	*41*	1⅝	*41*	1 13/16	*47*	2.27	*1.03*	2.27	*1.03*
				¾	*20*	1 11/16	*43*	1 11/16	*43*	1⅞	*48*	2.46	*1.12*	2.46	*1.12*
				1	*25*	1 13/16	*47*	1 13/16	*47*	2	*51*	2.60	*1.18*	2.60	*1.18*
				1¼	*32*	2	*51*	2	*51*	2 1/16	*52*	3.05	*1.38*	3.05	*1.38*
2	*50*	1½	*40*	2	*50*	2½	*64*	2⅜	*60*	2½	*64*	4.50	*2.04*	–	–
		2	*50*	½	*15*	1¾	*44*	1¾	*44*	2 1/16	*52*	3.35	*1.52*	3.35	*1.52*
				¾	*20*	1 13/16	*47*	1 13/16	*47*	2⅛	*54*	3.56	*1.61*	3.56	*1.61*
				1	*25*	2	*51*	2	*51*	2¼	*57*	3.70	*1.68*	3.70	*1.68*
				1¼	*32*	2⅛	*54*	2⅛	*54*	2 5/16	*59*	4.22	*1.91*	4.22	*1.91*
				1½	*40*	2¼	*57*	2¼	*57*	2⅜	*60*	4.60	*2.09*	4.60	*2.09*
2½	*65*	2½	*65*	1½	*40*	2 7/16	*62*	2 7/16	*62*	2 5/8	*67*	6.35	*2.88*	–	–
				2	*50*	2 11/16	*68*	2 11/16	*68*	2¾	*70*	7.60	*3.45*	–	–
3	*80*	3	*80*	2	*50*	2 13/16	*73*	2 13/16	*73*	3⅛	*79*	9.60	*4.35*	9.60	*4.36*

FIGURE 1165
Cross



Size		Center to End A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	15/16	*24*	0.35	*0.16*	–	–
¾	*20*	1 7/16	*37*	1.25	*0.57*	1.25	*0.57*
1	*25*	1⅝	*41*	1.90	*0.86*	–	–
1¼	*32*	1 15/16	*49*	3.23	*1.46*	–	–
1½	*40*	2⅛	*54*	4.20	*1.90*	–	–
2	*50*	2½	*64*	6.49	*2.94*	–	–

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

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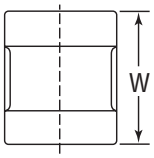
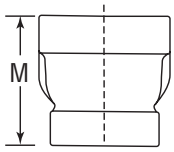
FIGURE 1166
Coupling



Size		End to End W		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
¼	*8*	1⅜	*35*	0.17	*0.08*	0.17	*0.08*
⅜	*10*	1⅝	*41*	0.26	*0.12*	0.26	*0.12*
½	*15*	1⅞	*48*	0.40	*0.18*	0.40	*0.18*
¾	*20*	2⅛	*54*	0.65	*0.29*	0.65	*0.29*
1	*25*	2⅜	*60*	0.99	*0.45*	0.99	*0.45*
1¼	*32*	2⅞	*73*	1.66	*0.75*	1.66	*0.75*
1½	*40*	2⅞	*73*	2.03	*0.92*	2.03	*0.92*
2	*50*	3⅝	*92*	3.24	*1.47*	3.24	*1.47*
2½	*65*	4⅛	*105*	5.45	*2.47*	5.45	*2.47*
3	*80*	4⅛	*105*	7.30	*3.31*	7.30	*3.31*

FIGURE 1167
Reducer



Size				End to End M		Unit Weight			
						Black		Galv.	
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
⅜	*10*	¼	*8*	1⁷⁄₁₆	*37*	0.21	*0.10*	0.21	*0.10*
½	*15*	¼	*8*	1¹¹⁄₁₆	*43*	0.31	*0.14*	0.31	*0.14*
		⅜	*10*			0.34	*0.15*	0.34	*0.15*
¾	*20*	¼	*8*	1¾	*44*	0.46	*0.21*	–	–
		⅜	*10*			0.47	*0.21*	0.47	*0.21*
		½	*15*			0.50	*0.23*	0.50	*0.23*
1	*25*	¼	*8*	2	*51*	0.66	*0.30*	0.66	*0.30*
		⅜	*10*			0.71	*0.32*	0.71	*0.32*
		½	*15*			0.71	*0.32*	0.71	*0.32*
		¾	*20*			0.77	*0.35*	0.77	*0.35*
1¼	*32*	½	*15*	2⅜	*60*	1.12	*0.51*	1.12	*0.51*
		¾	*20*			1.16	*0.53*	1.16	*0.53*
		1	*25*			1.27	*0.58*	1.27	*0.58*
1½	*40*	½	*15*	2¹¹⁄₁₆	*68*	1.51	*0.68*	1.51	*0.68*
		¾	*20*			1.57	*0.71*	1.57	*0.71*
		1	*25*			1.62	*0.73*	1.62	*0.73*
		1¼	*32*			1.78	*0.81*	1.78	*0.81*
2	*50*	½	*15*	3³⁄₁₆	*81*	2.39	*1.08*	2.39	*1.08*
		¾	*20*			2.44	*1.11*	2.44	*1.11*
		1	*25*			2.54	*1.15*	2.54	*1.15*
		1¼	*32*			2.66	*1.21*	2.66	*1.21*
		1½	*40*			2.72	*1.23*	2.72	*1.23*
2½	*65*	1½	*40*	3¹¹⁄₁₆	*94*	4.09	*1.85*	4.09	*1.85*
		2	*50*			4.32	*1.96*	–	–
3	*80*	1½	*40*	4⅛	*103*	5.79	*2.63*	–	–
		2	*50*			5.83	*2.64*	5.83	*2.64*
		2½	*65*			6.45	*2.93*	6.45	*2.93*
4	*100*	2	*50*	4⅜	*111*	9.50	*4.31*	–	–
		3	*80*			10.00	*4.54*	–	–

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron

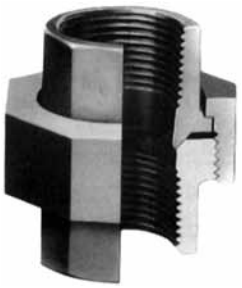
Class 300 (XS / XH)

FIGURE 1163 Cap	Size		Height L		Unit Weight			
					Black		Galv.	
	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
	¼	*8*	25⁄32	*20*	0.10	*0.05*	0.10	*0.05*
	⅜	*10*	13⁄16	*22*	0.15	*0.07*	0.15	*0.07*
	½	*15*	1	*25*	0.23	*0.10*	0.23	*0.10*
	¾	*20*	1 1⁄16	*27*	0.35	*0.16*	0.35	*0.16*
	1	*25*	1¼	*32*	0.58	*0.26*	0.58	*0.26*
	1¼	*32*	1⅜	*35*	1.00	*0.45*	1.00	*0.45*
	1½	*40*	1 7⁄16	*37*	1.18	*0.54*	1.18	*0.54*
	2	*50*	1 11⁄16	*43*	1.94	*0.88*	1.94	*0.88*
	2½	*65*	2 1⁄16	*52*	3.32	*1.51*	3.32	*1.51*
	3	*80*	2 3⁄16	*56*	4.71	*2.14*	4.71	*2.14*

FIGURE 390 Square Countersunk Plugs	Size		Unit Weight			
			Black		Galv.	
	NPS	*DN*	lbs	*kg*	lbs	*kg*
	½	*15*	0.05	*0.02*	0.05	*0.02*
	¾	*20*	0.11	*0.05*	0.11	*0.05*

See page 52 (Cast Iron) for other available sizes.

All Iron Unions

FIGURE J-3300 All Iron Union Class 300	Size		End to End		Unit Weight	
					Black	
	NPS	*DN*	in	*mm*	lbs	*kg*
	¼	*8*	1⅝	*41*	0.27	*0.12*
	⅜	*10*	1 13⁄16	*47*	0.37	*0.17*
	½	*15*	2⅛	*54*	0.51	*0.23*
	¾	*20*	2 7⁄16	*62*	0.76	*0.34*
	1	*25*	2¾	*70*	1.20	*0.54*
	1¼	*32*	3	*76*	1.87	*0.85*
	1½	*40*	3 3⁄16	*81*	2.51	*1.14*
	2	*50*	3½	*89*	4.30	*1.95*
	2½	*65*	3 11⁄16	*94*	6.02	*2.73*
	3	*80*	3 15⁄16	*100*	7.96	*3.61*

Note: See page 17 for pressure-temperature ratings. Galvanized weights may vary. Please contact your Anvil Representative if you need verification.
All Elbows & Tees ⅜" *(10 DN)* and Larger are 100% Gas Tested at a Minimum of 100 PSI. *(6.9 bar)*

Malleable Iron Unions

Class 150; 250; 300

COPPER OR COPPER ALLOY TO IRON

FIGURE 463
■ **Class 150 Union**
150lb. wsp · 300lb. wog non-shock
† UL Listed

FIGURE 554
■ **Class 250 Union**
250 lb. wsp · 500lb. wog non-shock
† UL Listed

FIGURE 459
■ **Class 300 Union**
300lb. wsp · 600lb. wog non-shock

FIGURE 551
■ **Class 300 Union male & female**
300lb. wsp · 600lb. wog non-shock

Unions	Size		End to End		Unit Weight			
					Black		Galv.	
	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
FIGURE 463 ■ Class 150 Union	⅛	*6*	1 5/16	*33*	0.15	*0.07*	0.15	*0.07*
	† ¼	*† 8*	1 13/16	*47*	0.45	*0.20*	0.45	*0.20*
	† ⅜	*† 10*	1 13/16	*47*	0.42	*0.19*	0.42	*0.19*
	† ½	*† 15*	1 15/16	*49*	0.44	*0.20*	0.44	*0.20*
	† ¾	*† 20*	2 1/16	*52*	0.60	*0.27*	0.60	*0.27*
	† ¾ x ½	*† 20 x 15*	2 1/16	*52*	0.55	*0.25*	0.55	*0.25*
	† 1	*† 25*	2 7/16	*62*	0.91	*0.41*	0.91	*0.41*
	† 1¼	*† 32*	2 5/8	*67*	1.45	*0.66*	1.45	*0.66*
	† 1½	*† 40*	2¾	*70*	1.69	*0.77*	1.69	*0.77*
	† 2	*† 50*	2 15/16	*75*	2.46	*1.12*	2.46	*1.12*
	2½	*65*	3 5/8	*92*	3.60	*1.63*	3.60	*1.63*
	3	*80*	3¾	*95*	4.95	*2.24*	4.95	*2.24*
FIGURE 554 ■ Class 250 Union	⅛	*6*	1 5/16	*33*	0.14	*0.06*	–	–
	† ¼	*† 8*	1 13/16	*47*	0.45	*0.20*	0.45	*0.20*
	† ⅜	*† 10*	1 13/16	*47*	0.37	*0.17*	0.37	*0.17*
	† ½	*† 15*	2 1/16	*52*	0.53	*0.24*	0.53	*0.24*
	† ¾	*20*	2¼	*57*	0.80	*0.36*	0.80	*0.36*
	† 1	*† 25*	2 9/16	*65*	1.28	*0.58*	1.28	*0.58*
	† 1¼	*† 32*	2¾	*70*	1.63	*0.74*	1.63	*0.74*
	† 1½	*† 40*	3	*76*	2.06	*0.93*	2.06	*0.93*
	†2	*† 50*	3⅜	*86*	3.48	*1.58*	3.48	*1.58*
	2½	*65*	3⅞	*98*	5.30	*2.40*	5.30	*2.40*
	3	*80*	4¼	*108*	7.60	*3.45*	7.60	*3.45*
	4	*100*	4⅞	*124*	17.50	*7.94*	17.50	*7.94*
FIGURE 459 ■ Class 300 Union	⅛	*6*	1 5/16	*33*	0.14	*0.06*	0.14	*0.06*
	¼	*8*	1 13/16	*47*	0.45	*0.20*	0.45	*0.20*
	⅜	*10*	1 13/16	*47*	0.43	*0.20*	0.43	*0.20*
	½	*15*	2 1/16	*52*	0.53	*0.24*	0.53	*0.24*
	¾	*20*	2¼	*57*	0.80	*0.36*	0.80	*0.36*
	1	*25*	2 9/16	*65*	1.28	*0.58*	1.28	*0.58*
	1¼	*32*	2¾	*70*	1.63	*0.74*	1.63	*0.74*
	1½	*40*	3	*76*	2.13	*0.97*	2.13	*0.97*
	2	*50*	3⅜	*86*	3.46	*1.57*	3.46	*1.57*
	2½	*65*	3⅞	*98*	5.05	*2.29*	5.05	*2.29*
	3	*80*	4¼	*108*	7.66	*3.47*	7.66	*3.47*
	4	*100*	4⅞	*124*	17.70	*8.03*	17.70	*8.03*
FIGURE 551 ■ Class 300 Union male & female	½	*15*	3	*76*	0.62	*0.28*	–	–
	¾	*20*	3 3/16	*81*	0.92	*0.42*	–	–
	1	*25*	3 5/8	*92*	1.54	*0.70*	–	–
	1½	*40*	4¼	*108*	2.60	*1.18*	–	–
	2	*50*	4 5/8	*117*	4.21	*1.91*	–	–

■ Pressure & Temperature rates shown on page 17.

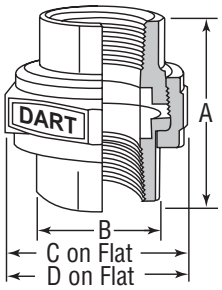
- Anvil Malleable Iron Unions conform to ASME B 16.39 and are in compliance with the requirements of the AAR (1994 AAR Manual of standards and Practices).
- Dimensions conform to ASME B 16.39 for Class 150, 250 & 300 Unions.

wsp=working steam pressure wog=water, oil, gas

Malleable Iron Unions

Class 150; 250; 300

COPPER OR COPPER ALLOY TO IRON								
FIGURE 552 **Class 300 90° Elbow** **Female Union 300lb. wsp**	**Size**		**Center to End**				**Unit Weight**	
			Elbow		**Union**		**Black**	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	⅜	*10*	1 1/16	*27*	2 1/16	*52*	0.51	*0.23*
	½	*15*	1¼	*32*	2 5/16	*59*	0.79	*0.36*
	¾	*20*	1 7/16	*37*	2¾	*70*	1.24	*0.56*
	1	*25*	1⅝	*41*	3	*76*	1.88	*0.85*

FIGURE 832 **Dart Union Bronze to Bronze Seat Union**	**Size**		**A**		**B**		**C**		**D**		**Unit Weight**			
											Black		**Galv.**	
	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
	⅜	*10*	1¾	*44*	15/16	*24*	1½	*38*	1¾	*44*	0.41	*0.19*	0.43	*0.20*
	½	*15*	2⅛	*54*	1⅛	*29*	1 3/16	*30*	2	*51*	0.58	*0.26*	0.61	*0.28*
	¾	*20*	2 5/16	*59*	1⅜	*35*	2 3/16	*56*	2½	*64*	0.82	*0.37*	0.86	*0.39*
	1	*25*	2⅝	*67*	1 11/16	*43*	2 9/16	*65*	3	*76*	1.31	*0.59*	1.36	*0.62*
	1¼	*32*	2 13/16	*73*	2 1/16	*52*	3 1/16	*78*	3½	*89*	1.90	*0.86*	2.00	*0.91*
	1½	*40*	3	*76*	2 3/16	*56*	3⅜	*86*	4	*102*	2.32	*1.05*	2.43	*1.10*
	2	*50*	3⅝	*92*	2⅞	*73*	4 1/16	*103*	4⅝	*117*	4.00	*1.81*	4.20	*1.90*

- Meets ASME B16.39 The standard union for most installations
  ⅜ – 2 NPS *(10 – 50 DN)* – 300lb *(136 kg)* steam working pressure at 450°F.
  ⅜ – 2 NPS *(10 – 50 DN)* – 600lb *(272 kg)* cold water, gas, or oil pressure - non-shock.
- Bronze Seat, on both sides of the joint. Resists corrosion.
- True bearing surfaces, unlike ordinary union seats.
- Bodies and nuts are high test air-refined malleable iron - generally superior to mild steel in most services.
- Can be repeatedly installed and removed.
- Straight way through. No cored parts to hold liquid or sediment.
- Extra heavy shoulder on swivel end and in the nut to stand pipe strains, vibration, and wrench abuse.
- Bronze Seat Ball Joint, with extra wide seating surfaces.

Malleable Hex and Face Bushing

FIGURE 383
Hex Bushing

⬢ Inside hex

See page 50-51 (Cast Iron) for other available sizes.

Size					Unit Weight			
					Black		Galv.	
NPS	*DN*	Hex	NPS	*DN*	lbs	*kg*	lbs	*kg*
¾	*10*		⅛	*6*	0.12	*0.05*	0.12	*0.05*
			¼	*8*	0.14	*0.06*	0.14	*0.06*
			⅜	*10*	0.11	*0.05*	0.11	*0.05*
			½	*15*	0.09	*0.04*	0.09	*0.04*
1	*25*	⬢	⅛	*6*	0.24	*0.11*	0.24	*0.11*
		⬢	¼	*8*	0.18	*0.08*	0.18	*0.08*
		⬢	⅜	*10*	0.18	*0.08*	0.18	*0.08*
			½	*15*	0.20	*0.09*	0.20	*0.09*
			¾	*20*	0.16	*0.07*	0.16	*0.07*
1¼	*32*	⬢	¼	*8*	0.33	*0.15*	0.33	*0.15*
		⬢	⅜	*10*	0.27	*0.12*	0.27	*0.12*
		⬢	½	*15*	0.34	*0.15*	0.34	*0.15*
			¾	*20*	0.39	*0.18*	0.39	*0.18*
			1	*25*	0.30	*0.14*	0.30	*0.14*
1½	*40*		1¼	*32*	0.30	*0.14*	0.30	*0.14*
2	*50*	⬢	1½	*40*	0.64	*0.29*	0.64	*0.29*
2½	*65*		2	*50*	1.02	*0.46*	1.02	*0.46*

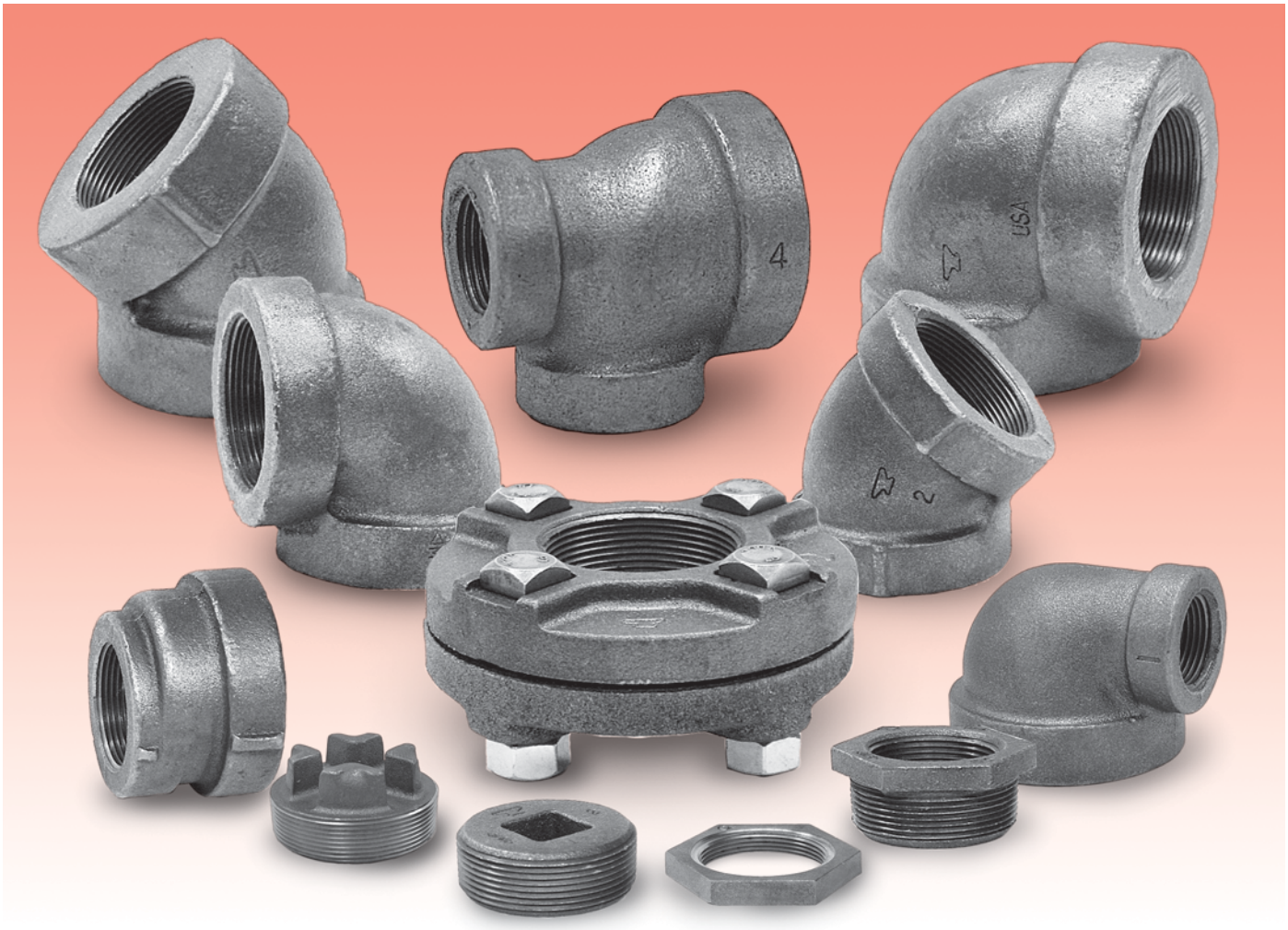
FIGURE 385
Face Bushing

See page 51 (Cast Iron) for other available sizes.

Size				Unit Weight			
				Black		Galv.	
NPS	*DN*	NPS	*DN*	lbs	*kg*	lbs	*kg*
¾	*20*	⅜	*10*	0.08	*0.04*	–	–
		½	*15*	0.06	*0.03*	0.06	*0.03*
1	*25*	½	*15*	0.16	*0.07*	0.16	*0.07*
		¾	*20*	0.10	*0.05*	0.10	*0.05*
1¼	*32*	½	*15*	0.30	*0.14*	–	–
		¾	*20*	0.27	*0.12*	–	–
		1	*25*	0.19	*0.09*	0.19	*0.09*
1½	*40*	½	*15*	0.40	*0.18*	–	–
		¾	*20*	0.39	*0.18*	–	–
		1	*25*	0.33	*0.15*	–	–
		1¼	*32*	0.16	*0.07*	0.16	*0.07*
2	*50*	1	*25*	0.65	*0.29*	0.65	*0.29*
		1¼	*32*	0.53	*0.24*	0.53	*0.24*
		1½	*40*	0.40	*0.18*	0.40	*0.18*
2½	*65*	1¼	*32*	1.10	*0.50*	–	–
		1½	*40*	0.93	*0.42*	–	–
		2	*50*	0.40	*0.18*	0.40	*0.18*
3	*80*	2½	*65*	0.99	*0.45*	–	–

Note: Hexagon head or octagon head bushings 2½ NPS *(65 DN)* and smaller reducing one size may be made of malleable iron, ductile iron or steel. Other sizes may be made of cast iron, ductile iron, malleable iron or steel. Face bushings 2½ NPS *(65 DN)* and smaller may be made of malleable iron, ductile iron or steel. Face bushings 3NPS *(80 DN)* and larger reducing one size may be made of malleable iron, ductile iron or steel. Face bushings 3NPS *(80 DN)* and larger reducing two sizes or more may be made of cast or malleable iron, ductile iron, or steel. According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

NOTES



Anvil standard and extra heavy cast iron threaded fittings are manufactured in accordance with ASME-B16.4 (except plugs and bushings, ASME B16.14). Dimensions also conform to Federal Specifications, WW-P-501 (except plugs and bushings WW-P-471).

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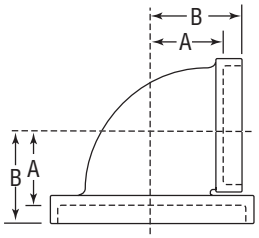
For Listings/Approval Details and Limitations, visit our website @ www.anvilintl.com or contact an Anvil/AnvilStar Sales Representative.

Cast Iron Threaded Fittings Pressure - Temperature Ratings					
Temperature		Pressure			
		Class 125		Class 250	
(°F)	*(°C)*	psi	*bar*	psi	*bar*
-20° to 150°	*-28.9 to 65.6*	175	*12.1*	400	*27.6*
200°	*93.3*	165	*11.4*	370	*25.5*
250°	*121.1*	150	*10.3*	340	*23.4*
300°	*148.9*	140	*9.7*	310	*21.4*
350°	*176.7*	125	*8.6*	300	*20.7*
400°	*204.4*	–	–	250	*17.2*

Cast Iron Threaded Fittings

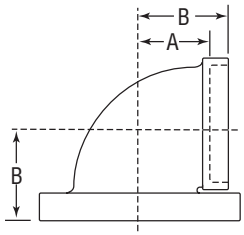
Class 125 (Standard)

FIGURE 351
90° Elbow



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/4	*8*	1/2	*13*	13/16	*22*	0.16	*0.07*
3/8	*10*	9/16	*14*	15/16	*24*	0.25	*0.11*
1/2	*15*	11/16	*17*	1 1/8	*29*	0.40	*0.18*
3/4	*20*	13/16	*22*	1 15/16	*33*	0.60	*0.27*
1	*25*	15/16	*24*	1 1/2	*38*	0.92	*0.42*
1 1/4	*32*	1 1/8	*29*	1 3/4	*44*	1.44	*0.65*
1 1/2	*40*	1 5/16	*33*	1 15/16	*49*	1.95	*0.88*
2	*50*	1 9/16	*40*	2 1/4	*57*	3.13	*1.42*
2 1/2	*65*	1 13/16	*47*	2 11/16	*68*	4.94	*2.24*
3	*80*	2 3/16	*56*	3 1/8	*79*	7.21	*3.27*
3 1/2	*90*	2 7/16	*62*	3 7/16	*87*	9.67	*4.39*
4	*100*	2 11/16	*68*	3 13/16	*98*	12.17	*5.52*
5	*125*	3 5/16	*84*	4 1/2	*114*	21.46	*9.73*
6	*150*	3 7/8	*98*	5 1/8	*130*	31.33	*14.21*
8	*200*	5 3/16	*132*	6 9/16	*167*	64.56	*29.28*

FIGURE 371
90° Elbow,
Flange & Screw



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
2 1/2	*65*	1 13/16	*47*	2 11/16	*68*	10.22	*4.63*
3	*80*	2 3/16	*56*	3 1/8	*79*	13.25	*6.01*
4	*100*	2 11/16	*68*	3 13/16	*98*	21.56	*9.78*
6	*150*	3 7/8	*98*	5 1/8	*130*	40.50	*18.37*

tNominal Pipe Sizes of 4" *(100 DN)* and larger have two holes tapped for stud or tap bolts.

Note: See page 37 for pressure-temperature ratings.

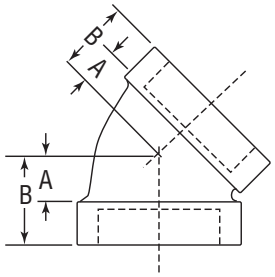
Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 356 (Straight)
FIGURE 356R (Reducing)
45° Elbow

FIGURE 356 (Straight)

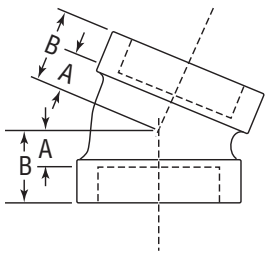
Figure 356R (Reducing)



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/4	*8*	7/16	*11*	3/4	*19*	0.16	*0.07*
3/8	*10*	7/16	*11*	13/16	*22*	0.23	*0.10*
1/2	*15*	7/16	*11*	7/8	*22*	0.37	*0.17*
3/4	*20*	1/2	*13*	1	*25*	0.55	*0.25*
1	*25*	9/16	*14*	1 1/8	*29*	0.83	*0.38*
1 1/4	*32*	5/8	*16*	1 1/4	*32*	1.33	*0.60*
1 1/2	*40*	13/16	*22*	1 7/16	*37*	1.79	*0.81*
2	*50*	1	*25*	1 11/16	*43*	2.89	*1.31*
2 1/2	*65*	1 1/16	*27*	1 15/16	*49*	4.29	*1.95*
3	*80*	1 3/16	*30*	2 3/16	*56*	6.44	*2.92*
3 1/2	*90*	1 3/8	*35*	2 3/8	*60*	8.42	*3.82*
4	*100*	1 9/16	*40*	2 5/8	*67*	10.64	*4.83*
5	*125*	1 7/8	*48*	3 1/16	*78*	16.96	*7.69*
6	*150*	2 3/16	*56*	3 7/16	*87*	26.02	*11.80*
8	*200*	2 7/8	*73*	4 1/4	*108*	50.17	*22.75*

Size		A		B		C		D		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1 x 1/2	*25 x 15*	1/2	*15*	7/8	*22*	1 1/16	*27*	1 5/16	*33*	0.95	*0.43*

FIGURE 356A
22 1/2° Elbow



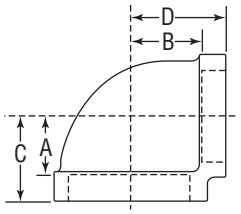
Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
3/4	*20*	3/8	*10*	7/8	*22*	0.52	*0.24*
1	*25*	7/16	*11*	1	*25*	0.80	*0.36*
1 1/4	*32*	1/2	*13*	1 1/8	*29*	1.40	*0.63*
1 1/2	*40*	5/8	*16*	1 1/4	*32*	1.64	*0.74*
2	*50*	3/4	*19*	1 7/16	*37*	2.50	*1.13*
2 1/2	*65*	3/4	*19*	1 5/8	*41*	3.95	*1.79*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 352
90° Elbow, Reducing



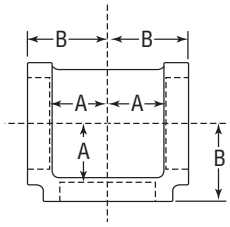
Size				A		B		C		D		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1/2	*15*	1/4	*8*	5/8	*16*	3/4	*19*	1 1/16	*27*	1 1/16	*27*	0.40	*0.18*
		3/8	*10*	5/8	*16*	11/16	*17*	1 1/16	*27*	1 1/16	*27*	0.34	*0.15*
3/4	*20*	1/2	*15*	11/16	*17*	13/16	*22*	1 1/4	*32*	1 1/4	*32*	0.51	*0.23*
1	*25*	1/2	*15*	11/16	*17*	15/16	*24*	1 3/8	*35*	1 3/8	*35*	0.67	*0.30*
		3/4	*20*	13/16	*22*	15/16	*24*	1 7/16	*37*	1 7/16	*37*	0.76	*0.34*
1 1/4	*32*	1/2	*15*	11/16	*17*	1 1/16	*27*	1 1/2	*38*	1 1/2	*38*	1.07	*0.49*
		3/4	*20*	13/16	*22*	1 1/8	*29*	1 5/8	*41*	1 5/8	*41*	1.02	*0.46*
		1	*25*	15/16	*24*	1 1/8	*29*	1 11/16	*43*	1 11/16	*43*	1.21	*0.55*
1 1/2	*40*	1/2	*15*	3/4	*19*	1 1/4	*32*	1 5/8	*41*	1 5/8	*41*	1.53	*0.69*
		3/4	*20*	7/8	*22*	1 5/16	*33*	1 13/16	*47*	1 13/16	*47*	1.55	*0.70*
		1	*25*	1	*25*	1 1/4	*32*	1 13/16	*47*	1 13/16	*47*	1.44	*0.65*
		1 1/4	*32*	1 3/16	*30*	1 1/4	*32*	1 7/8	*48*	1 7/8	*48*	1.74	*0.79*
2	*50*	1/2	*15*	1 3/16	*30*	1 7/16	*37*	1 3/8	*35*	1 3/8	*35*	2.22	*1.01*
		3/4	*20*	1 5/16	*33*	1 1/2	*38*	2	*51*	2	*51*	2.20	*1.00*
		1	*25*	1 1/16	*27*	1 7/16	*37*	2	*51*	2	*51*	2.08	*0.94*
		1 1/4	*32*	1 3/16	*30*	1 7/16	*37*	2 1/16	*52*	2 1/16	*52*	2.33	*1.06*
		1 1/2	*40*	1 5/16	*33*	1 1/2	*38*	2 1/8	*54*	2 1/8	*54*	2.59	*1.17*
2 1/2	*65*	1	*25*	1	*25*	1 3/4	*44*	2 5/16	*59*	2 5/16	*59*	2.93	*1.33*
		1 1/4	*32*	1 3/16	*30*	1 3/4	*44*	2 3/8	*60*	2 3/8	*60*	3.41	*1.55*
		1 1/2	*40*	1 5/16	*33*	1 13/16	*47*	2 7/16	*62*	2 7/16	*62*	3.68	*1.67*
		2	*50*	1 9/16	*40*	1 7/8	*48*	2 9/16	*65*	2 9/16	*65*	4.01	*1.82*
3	*80*	1 1/4	*32*	1 5/8	*41*	2 5/16	*59*	2 15/16	*75*	2 15/16	*75*	5.98	*2.71*
		1 1/2	*40*	1 5/8	*41*	2 5/16	*59*	2 15/16	*75*	2 15/16	*75*	5.65	*2.56*
		2	*50*	1 5/8	*41*	2 1/4	*57*	2 15/16	*75*	2 15/16	*75*	5.25	*2.38*
		2 1/2	*65*	1 7/8	*48*	2 3/16	*56*	3 1/16	*78*	3 1/16	*78*	6.44	*2.92*
3 1/2	*90*	3	*80*	2 3/16	*56*	2 7/16	*62*	3 3/8	*86*	3 3/8	*86*	8.95	*4.06*
4	*100*	2	*50*	2 3/16	*56*	2 15/16	*75*	3 5/8	*92*	3 5/8	*92*	11.89	*5.39*
		2 1/2	*65*	2 3/16	*56*	2 3/4	*70*	3 5/8	*92*	3 5/8	*92*	11.27	*5.11*
		3	*80*	2 3/16	*56*	2 11/16	*68*	3 5/8	*92*	3 5/8	*92*	10.63	*4.82*
5	*125*	4	*100*	2 13/16	*73*	3 5/16	*84*	4 3/8	*111*	4 3/8	*111*	16.47	*7.47*
6	*150*	3	*80*	2 5/16	*59*	3 13/16	*98*	4 13/16	*124*	4 13/16	*124*	19.43	*8.81*
		4	*100*	2 13/16	*73*	3 7/8	*98*	4 15/16	*125*	4 15/16	*125*	23.53	*10.67*
		5	*125*	3 3/8	*86*	3 13/16	*98*	5	*127*	5	*127*	26.66	*12.09*
8	*200*	6	*150*	4 3/16	*106*	5 1/8	*130*	6 3/8	*162*	6 3/8	*162*	51.11	*23.18*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

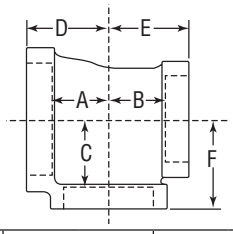
Class 125 (Standard)

FIGURE 358
Tee



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/4	*8*	1/2	*13*	13/16	*22*	0.22	*0.10*
3/8	*10*	5/8	*16*	1	*25*	0.35	*0.16*
1/2	*15*	11/16	*17*	1 1/8	*29*	0.56	*0.25*
3/4	*20*	13/16	*22*	1 5/16	*33*	0.84	*0.38*
1	*25*	15/16	*24*	1 1/2	*38*	1.25	*0.57*
1 1/4	*32*	1 1/8	*29*	1 3/4	*44*	2.03	*0.92*
1 1/2	*40*	1 5/16	*33*	1 15/16	*49*	2.70	*1.22*
2	*50*	1 9/16	*40*	2 1/4	*57*	4.23	*1.92*
2 1/2	*65*	1 13/16	*47*	2 11/16	*68*	6.67	*3.02*
3	*80*	2 3/16	*56*	3 1/8	*79*	10.00	*4.54*
3 1/2	*90*	2 7/16	*62*	3 7/16	*87*	13.29	*6.03*
4	*100*	2 11/16	*68*	3 3/4	*95*	16.33	*7.41*
5	*125*	3 5/16	*84*	4 1/2	*114*	27.33	*12.39*
6	*150*	3 7/8	*98*	5 1/8	*130*	40.85	*18.53*
8	*200*	5 3/16	*132*	6 9/16	*167*	79.00	*35.83*

FIGURE 359
Tee Reducing



Size						A		B		C		D		E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1/2	*15*	1/2	*15*	1/4	*8*	1 1/16	*17*	11/16	*17*	13/16	*22*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	0.57	*0.26*
				3/8	*10*	1 1/16	*17*	11/16	*17*	3/4	*19*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	0.57	*0.26*
				3/4	*20*	1 3/16	*22*	13/16	*22*	11/16	*17*	1 1/4	*32*	1 1/4	*32*	13/16	*22*	0.68	*0.31*
				1	*25*	1	*25*	1	*25*	13/16	*22*	1 7/16	*37*	1 7/16	*37*	1 3/8	*35*	1.00	*0.45*
3/4	*20*	1/4	*8*	3/4	*20*	1 3/16	*22*	15/16	*24*	13/16	*22*	15/16	*24*	1 1/4	*32*	15/16	*24*	0.79	*0.36*
		1/2	*15*	1/2	*15*	1 1/16	*17*	11/16	*17*	13/16	*22*	13/16	*22*	1 1/8	*29*	1 1/4	*32*	0.64	*0.29*
				3/4	*20*	1 3/16	*22*	13/16	*22*	13/16	*22*	15/16	*24*	1 1/4	*32*	15/16	*24*	0.75	*0.34*
		3/4	*20*	1/4	*8*	9/16	*14*	9/16	*14*	7/8	*22*	11/16	*17*	11/16	*17*	13/16	*22*	0.62	*0.28*
				3/8	*10*	1 1/16	*17*	11/16	*17*	15/16	*24*	13/16	*22*	13/16	*22*	1 1/4	*32*	0.75	*0.34*
				1/2	*15*	1 1/16	*17*	11/16	*17*	13/16	*22*	13/16	*22*	13/16	*22*	1 1/4	*32*	0.76	*0.34*
				1	*25*	1 5/16	*24*	15/16	*24*	13/16	*22*	1 7/16	*37*	1 7/16	*37*	1 3/8	*35*	0.99	*0.45*
1	*25*	1/4	*8*	1	*25*	1 5/16	*24*	15/16	*24*	15/16	*24*	1 1/2	*38*	1 1/4	*32*	1 1/2	*38*	1.08	*0.49*
		1/2	*15*	1/2	*15*	1 1/16	*17*	3/4	*19*	15/16	*24*	1 1/4	*32*	13/16	*22*	1 3/8	*35*	0.90	*0.41*
				3/4	*20*	1 3/16	*22*	13/16	*22*	15/16	*24*	1 3/8	*35*	1 1/4	*32*	1 7/16	*37*	0.91	*0.41*
				1	*25*	1 5/16	*24*	15/16	*24*	15/16	*24*	1 1/2	*38*	1 3/8	*35*	1 1/2	*38*	1.08	*0.49*
		3/4	*20*	1/2	*15*	1 1/16	*17*	11/16	*17*	15/16	*24*	1 1/4	*32*	13/16	*22*	1 3/8	*35*	0.89	*0.40*
				3/4	*20*	1 3/16	*22*	13/16	*22*	15/16	*24*	1 3/8	*35*	15/16	*24*	1 7/16	*37*	1.00	*0.45*
				1	*25*	1 5/16	*24*	15/16	*24*	15/16	*24*	1 1/2	*38*	1 7/16	*37*	1 1/2	*38*	1.13	*0.51*
		1	*25*	1/4	*8*	1 1/16	*17*	11/16	*17*	1 1/8	*29*	1 1/8	*29*	1 1/4	*32*	1 3/8	*35*	1.01	*0.46*
				1/2	*15*	1 1/16	*17*	11/16	*17*	15/16	*24*	1 1/4	*32*	1 1/4	*32*	1 3/8	*35*	1.01	*0.46*
				3/4	*20*	1 3/16	*22*	13/16	*22*	15/16	*24*	1 3/8	*35*	1 3/8	*35*	1 7/16	*37*	1.11	*0.50*
				1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	15/16	*24*	1 11/16	*43*	1 11/16	*43*	1 9/16	*40*	1.49	*0.68*
				1 1/2	*40*	1 1/4	*32*	1 1/4	*32*	1	*25*	1 13/16	*47*	1 13/16	*47*	1 5/8	*41*	1.84	*0.83*
				2	*50*	1 7/16	*37*	1 7/16	*37*	1	*25*	2	*50*	2	*50*	1 3/4	*44*	2.70	*1.22*

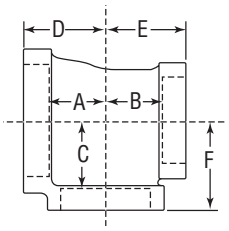
Note: See page 37 for pressure-temperature ratings.

Continued on next page.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



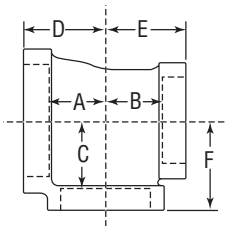
Size						A		B		C		D		E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1¼	*32*	1/2	*15*	1/2	*15*	13/16	*22*	13/16	*22*	1 1/8	*29*	1 7/16	*37*	15/16	*24*	1 5/8	*41*	1.00	*0.45*
				1	*25*	1 5/16	*24*	15/16	*24*	1 1/8	*29*	1 9/16	*40*	1 3/8	*35*	1 11/16	*43*	1.38	*0.63*
				1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	1 3/4	*44*	1 9/16	*40*	1 3/4	*44*	1.64	*0.74*
		3/4	*20*	3/4	*20*	13/16	*22*	13/16	*22*	1 1/8	*29*	1 7/16	*37*	15/16	*24*	1 5/8	*41*	1.27	*0.58*
				1	*25*	1 5/16	*24*	15/16	*24*	1 1/8	*29*	1 9/16	*40*	1 7/16	*37*	1 11/16	*43*	1.43	*0.65*
				1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	1 3/4	*44*	1 5/8	*41*	1 3/4	*44*	1.73	*0.78*
		1	*25*	1/2	*15*	1 1/16	*17*	11/16	*17*	1 1/8	*29*	15/16	*24*	1 1/4	*32*	1 9/16	*40*	1.27	*0.58*
				3/4	*20*	1 3/16	*22*	13/16	*22*	1 1/8	*29*	1 7/16	*37*	1 3/8	*35*	1 5/8	*41*	1.36	*0.62*
				1	*25*	1 5/16	*24*	15/16	*24*	1 1/8	*29*	1 9/16	*40*	1 9/16	*40*	1 11/16	*43*	1.53	*0.69*
				1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	1 1/8	*29*	1 3/4	*44*	1 11/16	*43*	1 3/4	*44*	1.79	*0.81*
				1 1/2	*40*	1 1/4	*32*	1 1/4	*32*	13/16	*22*	1 7/8	*48*	1 13/16	*47*	1 13/16	*47*	2.07	*0.94*
				2	*50*	1 7/16	*37*	1 7/16	*37*	13/16	*22*	2 1/16	*52*	2	*50*	1 7/8	*48*	2.66	*1.21*
		1 1/4	*32*	1/2	*15*	1 1/16	*17*	11/16	*17*	1 1/8	*29*	15/16	*24*	15/16	*24*	1 9/16	*40*	1.47	*0.67*
				3/4	*20*	1 3/16	*22*	13/16	*22*	1 1/8	*29*	1 7/16	*37*	1 7/16	*37*	1 5/8	*41*	1.57	*0.71*
				1	*25*	1 5/16	*24*	15/16	*24*	1 1/8	*29*	1 9/16	*40*	1 9/16	*40*	1 11/16	*43*	1.73	*0.78*
				1 1/2	*40*	1 1/4	*32*	1 1/4	*32*	13/16	*22*	1 7/8	*48*	1 7/8	*48*	1 13/16	*47*	2.29	*1.04*
				2	*50*	1 7/16	*37*	1 7/16	*37*	13/16	*22*	2 1/16	*52*	2 1/16	*52*	1 7/8	*48*	2.81	*1.27*
1½	*40*	1/2	*15*	1 1/4	*32*	13/16	*22*	1 1/8	*29*	1 1/4	*32*	1 13/16	*47*	1 9/16	*40*	1 7/8	*48*	1.93	*0.88*
				1 1/2	*40*	15/16	*24*	1 1/4	*32*	15/16	*24*	1 15/16	*49*	1 11/16	*43*	1 15/16	*49*	2.14	*0.97*
		3/4	*20*	1 1/2	*40*	15/16	*24*	1 1/4	*32*	15/16	*24*	1 15/16	*49*	1 3/4	*44*	1 15/16	*49*	2.18	*0.99*
		1	*25*	1/2	*15*	13/16	*22*	3/4	*19*	1 1/4	*32*	1 7/16	*37*	15/16	*24*	1 11/16	*43*	1.75	*0.79*
				3/4	*20*	7/8	*22*	13/16	*22*	1 1/4	*32*	1 1/2	*38*	1 3/8	*35*	1 3/4	*44*	1.70	*0.77*
				1	*25*	1	*25*	15/16	*24*	1 1/4	*32*	1 5/8	*41*	1 1/2	*38*	1 13/16	*47*	1.72	*0.78*
				1 1/4	*32*	13/16	*22*	1 1/8	*29*	1 1/4	*32*	1 13/16	*47*	1 11/16	*43*	1 7/8	*48*	2.08	*0.94*
				1 1/2	*40*	15/16	*24*	1 1/4	*32*	15/16	*24*	1 15/16	*49*	1 13/16	*47*	1 15/16	*49*	2.29	*1.04*
				2	*50*	1 1/2	*38*	1 7/16	*37*	15/16	*24*	2 1/8	*54*	2	*50*	2	*51*	2.91	*1.32*
		1 1/4	*32*	1/2	*15*	13/16	*22*	11/16	*17*	1 1/4	*32*	1 7/16	*37*	15/16	*24*	1 11/16	*43*	1.67	*0.76*
				3/4	*20*	7/8	*22*	13/16	*22*	1 1/4	*32*	1 1/2	*38*	1 7/16	*37*	1 3/4	*44*	1.79	*0.81*
				1	*25*	1	*25*	15/16	*24*	1 1/4	*32*	1 5/8	*41*	1 9/16	*40*	1 13/16	*47*	1.97	*0.89*
				1 1/4	*32*	13/16	*22*	1 1/8	*29*	1 1/4	*32*	1 13/16	*47*	1 3/4	*44*	17/8	*48*	2.28	*1.03*
				1 1/2	*40*	15/16	*24*	1 1/4	*32*	15/16	*24*	1 15/16	*49*	1 7/8	*48*	1 15/16	*49*	2.50	*1.13*
				2	*50*	1 1/2	*38*	1 7/16	*37*	15/16	*24*	2 1/8	*54*	2 1/16	*52*	2	*51*	3.07	*1.39*
		1 1/2	*40*	1/2	*15*	13/16	*22*	13/16	*22*	1 1/4	*32*	1 7/16	*37*	1 7/16	*37*	1 11/16	*43*	1.84	*0.83*
				3/4	*20*	7/8	*22*	7/8	*22*	1 1/4	*32*	1 1/2	*38*	1 1/2	*38*	1 3/4	*44*	1.95	*0.88*
				1	*25*	1	*25*	1	*25*	1 1/4	*32*	1 5/8	*41*	1 5/8	*41*	1 13/16	*47*	2.13	*0.97*
				1 1/4	*32*	13/16	*22*	13/16	*22*	1 1/4	*32*	1 13/16	*47*	1 13/16	*47*	1 7/8	*48*	2.44	*1.11*
				2	*50*	1 1/2	*38*	1 1/2	*38*	15/16	*24*	2 1/8	*54*	2 1/8	*54*	2	*51*	3.23	*1.46*
				2 1/2	*65*	1 13/16	*47*	1 13/16	*47*	15/16	*24*	2 7/16	*62*	2 7/16	*62*	2 3/16	*56*	4.15	*1.88*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



Size						A		B		C		D		E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	50	1/2	15	1 1/2	40	15/16	24	1 3/8	35	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.95	1.34
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 7/8	48	2 1/4	57	3.30	1.50
		3/4	20	1 1/4	32	1 3/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.50	1.13
				1 1/2	40	1 5/16	24	15/16	24	1 1/2	38	2	51	1 13/16	47	2 1/8	54	3.40	1.54
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	1 15/16	49	2 1/4	57	3.31	1.50
		1	25	1	25	11/16	17	11/16	17	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.70	1.22
				1 1/4	32	13/16	22	1 1/8	29	1 1/2	38	1 7/8	48	1 3/4	44	2 1/16	52	2.94	1.33
				1 1/2	40	15/16	24	1 1/4	32	1 1/2	38	2	51	1 13/16	47	2 1/8	54	2.85	1.29
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2	51	2 1/4	57	3.46	1.57
				2 1/2	65	1 7/8	48	1 13/16	47	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.88	2.21
		1 1/4	32	1/2	15	11/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.48	1.12
				3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.50	1.13
				1	25	11/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.73	1.24
				1 1/4	32	13/16	22	1 1/8	29	1 7/16	37	1 7/8	48	1 3/4	44	2 1/16	52	2.90	1.32
				1 1/2	40	15/16	24	1 1/4	32	1 1/2	38	2	51	1 7/8	48	2 1/8	54	3.13	1.42
				2	50	1 9/16	40	1 7/16	37	1 9/16	40	2 1/4	57	2 1/16	52	2 1/4	57	3.71	1.68
				2 1/2	65	1 7/8	48	1 3/4	44	1 9/16	40	2 9/16	65	2 3/8	60	2 7/16	62	4.54	2.06
		1 1/2	40	1/2	15	13/16	22	13/16	22	1 7/16	37	1 1/2	38	1 7/16	37	1 7/8	48	2.34	1.06
				3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 1/2	38	1 15/16	49	2.46	1.12
				1	25	11/16	17	1	25	1 7/16	37	1 3/4	44	1 5/8	41	2	51	2.66	1.21
				1 1/4	32	13/16	22	13/16	22	1 7/16	37	1 7/8	48	1 13/16	47	2 1/16	52	2.98	1.35
				1 1/2	40	15/16	24	15/16	24	1 1/2	38	2	51	1 15/16	49	2 1/8	54	3.24	1.47
				2	50	1 9/16	40	1 1/2	38	1 9/16	40	2 1/4	57	2 1/8	54	2 1/4	57	3.70	1.68
				2 1/2	65	1 7/8	48	1 15/16	49	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.46	2.48
		2	50	1/2	15	13/16	22	13/16	22	1 7/16	37	1 1/2	38	1 1/2	38	1 7/8	48	2.74	1.24
				3/4	20	7/8	22	7/8	22	1 7/16	37	1 9/16	40	1 9/16	40	1 15/16	49	2.86	1.30
				1	25	11/16	17	11/16	17	1 7/16	37	1 3/4	44	1 3/4	44	2	51	3.05	1.38
				1 1/4	32	13/16	22	13/16	22	1 7/16	37	1 7/8	48	1 7/8	48	2 1/16	52	3.38	1.53
				1 1/2	40	15/16	24	15/16	24	1 1/2	38	2	51	2	51	2 1/8	54	3.59	1.63
				2 1/2	65	1 7/8	48	1 7/8	48	1 9/16	40	2 9/16	65	2 9/16	65	2 7/16	62	5.17	2.34
				3	100	3	76	3	76	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	7.87	3.57

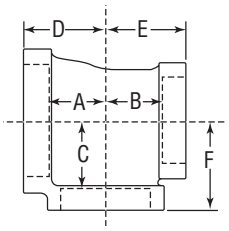
Continued on next page.

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



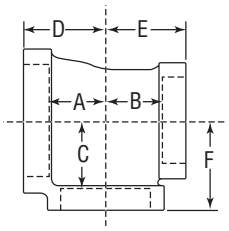
Size						A		B		C		D		E		F		Unit Weight Black	
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
2 1/2	65	1/2	15	2 1/2	65	1 13/16	47	1 13/16	47	1 13/16	47	2 11/16	68	2 1/4	57	2 11/16	68	5.20	2.36
		3/4	20	2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 1/4	57	2 11/16	68	5.10	2.31
		1	25	2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	5.03	2.28
				2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 5/16	59	2 11/16	68	5.36	2.43
		1 1/4	32	2	50	1 9/16	40	1 1/2	38	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	4.96	2.25
				2 1/2	65	1 13/16	47	1 3/4	44	1 13/16	47	2 11/16	68	2 3/8	60	2 11/16	68	5.40	2.45
		1 1/2	40	1 1/2	40	15/16	24	15/16	22	1 13/16	47	2 3/16	56	1 15/16	49	2 7/16	62	4.23	1.92
				2	50	1 9/16	40	1 1/2	38	1 7/8	48	2 7/16	62	2 1/8	54	2 9/16	65	4.85	2.20
				2 1/2	65	1 13/16	47	1 13/16	47	1 13/16	47	2 11/16	68	2 7/16	62	2 11/16	68	4.85	2.20
		2	50	1/2	15	3/4	19	13/16	22	1 3/4	44	1 11/16	43	1 1/2	38	2 3/16	56	5.82	2.64
				3/4	20	7/8	22	7/8	22	1 3/4	44	1 3/4	44	1 9/16	40	2 1/4	57	3.62	1.64
				1	25	1	25	11/16	17	1 3/4	44	1 15/16	49	1 3/4	44	2 5/16	59	3.92	1.78
				1 1/4	32	13/16	22	13/16	22	1 3/4	44	2 1/16	52	1 7/8	48	2 3/8	60	4.26	1.93
				1 1/2	40	15/16	24	15/16	24	1 13/16	47	2 3/16	56	2	51	2 7/16	62	4.42	2.00
				2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 1/4	57	2 9/16	65	5.17	2.34
				2 1/2	65	1 13/16	47	1 7/8	48	1 13/16	47	2 11/16	68	2 9/16	65	2 11/16	68	6.00	2.72
				3	80	2 1/16	52	2 1/8	54	1 7/8	48	3	80	2 7/8	73	2 13/16	73	7.35	3.33
		2 1/2	65	1/2	15	3/4	19	3/4	19	1 3/4	44	1 11/16	43	1 11/16	43	2 3/16	56	4.00	1.81
				3/4	20	7/8	22	7/8	22	1 3/4	44	1 3/4	44	1 3/4	44	2 1/4	57	4.29	1.95
				1	25	1	25	1	25	1 3/4	44	1 15/16	49	1 15/16	49	2 5/16	59	4.48	2.03
				1 1/4	32	13/16	22	13/16	22	1 3/4	44	2 1/16	52	2 1/16	52	2 3/8	60	4.83	2.19
				1 1/2	40	15/16	24	15/16	24	1 13/16	47	2 3/16	56	2 3/16	56	2 7/16	62	5.14	2.33
				2	50	1 9/16	40	1 9/16	40	1 7/8	48	2 7/16	62	2 7/16	62	2 9/16	65	5.88	2.67
				3	80	2 1/16	52	2 1/16	52	1 7/8	48	3	80	3	80	2 13/16	73	8.09	3.67
				4	100	2 3/4	70	2 13/16	73	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	14.03	6.36
3	80	1/2	15	3	80	2 1/8	54	2 1/4	57	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	7.60	3.45
		3/4	20	3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	8.25	3.74
		1	25	3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	2 11/16	68	3 1/8	79	8.30	3.76
		1 1/4	32	3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	2 13/16	73	3 1/8	79	8.46	3.84
		1 1/2	40	3	80	2 1/8	54	2 3/16	56	2 1/8	54	3 1/8	79	2 13/16	73	3 1/8	79	8.13	3.69
		2	50	1 1/2	40	1 3/8	35	1 1/2	38	2 3/16	56	2 5/16	59	2 3/16	56	2 13/16	73	6.83	3.10
				2	50	1 9/16	40	1 9/16	40	2 3/16	56	2 9/16	65	2 1/4	57	2 15/16	75	7.29	3.31
				2 1/2	65	1 7/8	48	1 15/16	49	2 1/8	54	2 13/16	73	2 9/16	65	3 1/16	78	7.10	3.22
				3	80	2 1/8	54	2 3/16	56	2 1/8	54	3 1/8	79	2 15/16	75	3 1/8	79	8.79	3.99
		2 1/2	65	1	25	1	25	15/16	24	2 1/8	54	2 1/16	52	1 15/16	49	2 11/16	68	5.51	2.50
				1 1/4	32	1 1/4	32	13/16	22	2 1/8	54	2 3/16	56	2 1/16	52	2 3/4	70	5.92	2.68
				1 1/2	40	1 3/8	35	15/16	24	2 3/16	56	2 5/16	59	2 3/16	56	2 13/16	73	6.23	2.83
				2	50	1 9/16	40	1 1/2	38	2 3/16	56	2 9/16	65	2 7/16	62	2 15/16	75	6.81	3.09
				2 1/2	65	1 7/8	48	1 13/16	47	2 1/8	54	2 13/16	73	2 11/16	68	3 1/16	78	7.66	3.47
				3	80	2 1/8	54	2 1/8	54	2 1/8	54	3 1/8	79	3 1/16	78	3 1/8	79	9.13	4.14
		3	80	1/2	15	15/16	24	15/16	24	2 3/16	56	1 7/8	48	1 7/8	48	2 5/8	67	6.08	2.76
				3/4	20	15/16	24	15/16	24	2 1/8	54	1 7/8	48	1 7/8	48	2 5/8	67	6.06	2.75
				1	25	1	25	1	25	2 1/8	54	2 1/16	52	2 1/16	52	2 11/16	68	6.27	2.84
				1 1/4	32	1 1/4	32	1 1/4	32	2 1/8	54	2 3/16	56	2 3/16	56	2 3/4	70	6.75	3.06
				1 1/2	40	1 3/8	35	1 3/8	35	2 3/16	56	2 5/16	59	2 5/16	59	2 15/16	75	7.10	3.22
				2	50	1 9/16	40	1 9/16	40	2 3/16	56	2 9/16	65	2 9/16	65	2 7/8	73	7.75	3.51
				2 1/2	65	1 7/8	48	1 7/8	48	2 1/8	54	2 13/16	73	2 13/16	73	3 1/16	78	8.92	4.05
				4	100	2 11/16	68	2 11/16	68	2 7/16	62	3 11/16	94	3 11/16	94	3 1/2	89	12.80	5.80

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 359
Tee Reducing



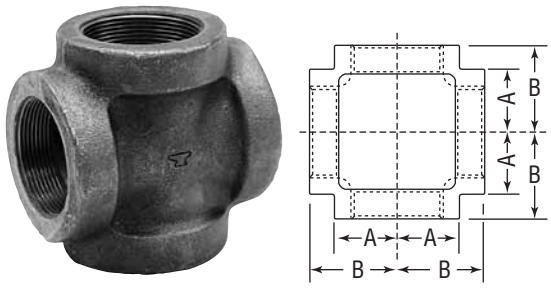
Size						A		B		C		D		E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
3 1/2	*90*	3 1/2	*90*	1 1/2	*40*	1 3/8	*35*	1 3/8	*35*	2 7/16	*62*	2 3/8	*60*	2 3/8	*60*	3 1/16	*78*	8.87	*4.02*
				2	*50*	1 5/8	*41*	1 5/8	*41*	2 7/16	*62*	2 5/8	*67*	2 5/8	*67*	3 3/16	*81*	9.94	*4.51*
4	*100*	1	*25*	4	*100*	2 3/4	*70*	2 15/16	*75*	2 3/4	*70*	3 3/4	*95*	3 1/2	*89*	3 3/4	*95*	13.52	*6.13*
		1 1/2	*40*	4	*100*	2 3/4	*70*	2 7/8	*73*	2 3/4	*70*	3 3/4	*95*	3 1/2	*89*	3 3/4	*95*	13.47	*6.11*
		2	*50*	2	*50*	1 11/16	*43*	1 7/8	*48*	2 3/4	*70*	2 11/16	*68*	2 9/16	*65*	3 1/2	*89*	11.34	*5.14*
				4	*100*	2 3/4	*70*	2 3/4	*70*	2 3/4	*70*	3 3/4	*95*	3 1/2	*89*	3 3/4	*95*	13.89	*6.30*
		2 1/2	*65*	2 1/2	*65*	1 7/8	*48*	1 13/16	*47*	2 5/8	*67*	2 15/16	*75*	2 13/16	*73*	3 9/16	*90*	11.78	*5.34*
				4	*100*	2 3/4	*70*	2 3/4	*70*	2 3/4	*70*	3 3/4	*95*	3 5/8	*92*	3 3/4	*95*	15.75	*7.14*
		3	*80*	2	*50*	1 11/16	*43*	1 9/16	*40*	2 3/4	*70*	2 11/16	*68*	2 9/16	*65*	3 1/2	*89*	10.21	*4.63*
				2 1/2	*65*	1 7/8	*48*	1 7/8	*48*	2 5/8	*67*	2 15/16	*75*	2 13/16	*73*	3 9/16	*90*	11.25	*5.10*
				3	*80*	2 1/4	*57*	2 1/8	*54*	2 11/16	*68*	3 1/4	*83*	3 1/8	*79*	3 5/8	*92*	12.50	*5.67*
				4	*100*	2 3/4	*70*	2 11/16	*68*	2 3/4	*70*	3 3/4	*95*	3 5/8	*92*	3 3/4	*95*	15.04	*6.82*
		4	*100*	3/4	*20*	1 1/4	*32*	1 1/4	*32*	2 13/16	*73*	2 5/16	*59*	2 5/16	*59*	3 5/16	*84*	10.58	*4.80*
				1	*25*	13/16	*22*	13/16	*22*	2 3/4	*70*	2 5/16	*59*	2 5/16	*59*	3 5/16	*84*	10.40	*4.72*
				1 1/4	*32*	15/16	*24*	15/16	*24*	2 5/8	*67*	2 5/16	*59*	2 5/16	*59*	3 5/16	*84*	10.38	*4.71*
				1 1/2	*40*	1 7/16	*37*	1 7/16	*37*	2 11/16	*68*	2 7/16	*62*	2 7/16	*62*	3 5/16	*84*	10.75	*4.88*
				2	*50*	1 11/16	*43*	1 11/16	*43*	2 3/4	*70*	2 11/16	*68*	2 11/16	*68*	3 1/2	*89*	11.63	*5.27*
				2 1/2	*65*	2	*51*	2	*51*	2 5/8	*67*	2 15/16	*75*	2 15/16	*75*	3 9/16	*90*	12.85	*5.83*
				3	*80*	2 1/4	*57*	2 1/4	*57*	2 11/16	*68*	3 1/4	*83*	3 1/4	*83*	3 5/8	*92*	14.12	*6.40*
				5	*125*	3 3/8	*86*	3 3/8	*86*	2 13/16	*73*	4 3/8	*111*	4 3/8	*111*	4	*102*	20.88	*9.47*
				6	*150*	3 7/8	*98*	3 7/8	*98*	2 7/8	*73*	4 15/16	*125*	4 15/16	*125*	4 1/16	*103*	26.36	*11.95*
5	*125*	5	*125*	2	*50*	1 3/4	*44*	1 3/4	*44*	3 7/16	*87*	2 15/16	*75*	2 15/16	*75*	4 1/8	*105*	17.43	*7.90*
				2 1/2	*65*	2 1/16	*52*	2 1/16	*52*	3 3/8	*86*	3 3/16	*81*	3 3/16	*81*	4 1/4	*108*	18.84	*8.54*
				3	*80*	2 5/16	*59*	2 5/16	*59*	3 1/4	*83*	3 1/2	*89*	3 1/2	*89*	4 1/4	*108*	20.00	*9.07*
				4	*100*	2 13/16	*71*	2 13/16	*71*	3 3/8	*86*	4	*102*	4	*102*	4 3/8	*111*	23.83	*10.81*
6	*150*	4		4	*100*	2 7/8	*73*	2 13/16	*71*	3 7/8	*98*	4 1/16	*103*	4	*102*	4 15/16	*125*	30.00	*13.61*
		6	*150*	2 1/2	*65*	2	*51*	2	*51*	3 13/16	*97*	3 1/4	*83*	3 1/4	*83*	4 3/4	*121*	25.67	*11.64*
				3	*80*	2 3/8	*60*	2 3/8	*60*	3 13/16	*97*	3 9/16	*90*	3 9/16	*90*	4 13/16	*122*	27.46	*12.45*
				4	*100*	2 7/8	*73*	2 7/8	*73*	3 7/8	*98*	4 1/16	*103*	4 1/16	*103*	4 15/16	*125*	32.44	*14.71*
				5	*125*	3 3/8	*86*	3 3/8	*86*	3 13/16	*97*	4 5/8	*117*	4 5/8	*117*	5	*127*	37.00	*16.78*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

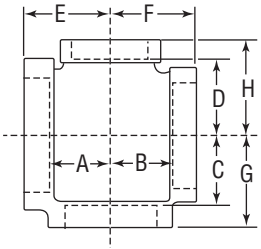
Class 125 (Standard)

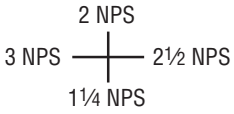
FIGURE 360
Cross



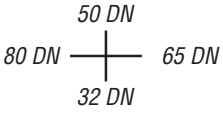
Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/2	*15*	13/16	*22*	9/16	*14*	2.80	*1.27*
3/4	*20*	1 5/16	*33*	13/16	*22*	1.03	*0.47*
1	*25*	1 1/2	*38*	15/16	*24*	1.59	*0.72*
1 1/4	*32*	1 3/4	*44*	1 1/8	*29*	2.42	*1.10*
1 1/2	*40*	1 15/16	*49*	1 5/16	*33*	3.21	*1.46*
2	*50*	2 1/4	*57*	1 9/16	*40*	5.28	*2.39*
2 1/2	*65*	2 11/16	*68*	1 13/16	*47*	8.07	*3.66*
3	*80*	3 1/8	*79*	2 3/16	*56*	11.84	*5.37*
4	*100*	3 13/16	*98*	2 3/4	*70*	19.63	*8.90*
5	*125*	4 1/2	*114*	3 5/16	*84*	31.16	*14.13*
6	*150*	5 1/8	*130*	3 7/8	*98*	47.67	*21.62*

FIGURE 361
Cross Reducing





Read as:
3 x 2½ x 2 x 1¼



Read as:
80 x 65 x 50 x 32

Size								A		B		C		D		E, F		G, H		Unit Weight	
NPS	*DN*	*NPS*	*DN*	*NPS*	*DN*	*NPS*	*DN*	*in*	*mm*	*in*	*mm*	*in*	*mm*	*in*	*mm*	*in*	*mm*	*in*	*mm*	*lbs*	*kg*
1	*25*	1	*25*	3/4	*20*	3/4	*20*	13/16	*22*	13/16	*22*	15/16	*24*	15/16	*24*	1 3/8	*35*	1 7/16	*37*	1.30	*0.59*
1 1/4	*32*	1 1/4	*32*	1	*25*	1	*25*	15/16	*24*	15/16	*24*	1 1/8	*29*	1 1/8	*29*	1 9/16	*40*	1 11/16	*43*	2.04	*0.93*
1 1/2	*40*	1	*25*	1	*25*	1	*25*	1	*25*	1 1/8	*29*	1 1/4	*32*	1 1/4	*32*	1 5/8	*41*	1 13/16	*47*	2.74	*1.24*
		1 1/4	*32*	1	*25*	1	*25*	1	*25*	1	*25*	1 1/4	*32*	1 1/4	*32*	1 5/8	*41*	1 13/16	*47*	2.67	*1.21*
		1 1/2	*40*	1	*25*	1	*25*	1	*25*	1	*25*	1 1/4	*32*	1 1/4	*32*	1 5/8	*41*	1 13/16	*47*	2.51	*1.14*
				1 1/4	*32*	1	*25*	1 1/8	*29*	1 1/8	*29*	13/16	*22*	15/16	*24*	1 13/16	*47*	1 7/8	*48*	3.90	*1.77*
						1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	1 3/8	*35*	1 3/8	*35*	1 13/16	*47*	1 7/8	*48*	3.95	*1.79*
2	*50*	1 1/2	*40*	1	*25*	1	*25*	11/16	*17*	1 1/8	*29*	1 7/16	*37*	1 7/16	*37*	1 3/4	*44*	2	*51*	3.57	*1.62*
				1 1/4	*32*	1	*25*	1 1/8	*29*	13/16	*22*	1 1/2	*38*	1 7/16	*37*	1 7/8	*48*	2 1/8	*54*	4.25	*1.93*
						1 1/4	*32*	13/16	*22*	13/16	*22*	1 1/2	*38*	1 1/2	*38*	1 7/8	*48*	2 1/16	*52*	4.18	*1.90*
		2	*50*	1	*25*	1	*25*	11/16	*17*	11/16	*17*	1 7/16	*37*	1 7/16	*37*	1 3/4	*44*	2	*51*	3.22	*1.46*
				1 1/4	*32*	1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	1 7/16	*37*	1 7/16	*37*	1 7/8	*48*	2 1/8	*54*	4.00	*1.81*
				1 1/2	*40*	1 1/2	*40*	1 1/4	*32*	1 1/4	*32*	1 7/16	*37*	1 7/16	*37*	2	*51*	2 1/8	*54*	4.08	*1.85*
2 1/2	*65*	2	*50*	1	*25*	1	*25*	1	*25*	11/16	*17*	1 13/16	*47*	1 13/16	*47*	1 15/16	*49*	2 5/16	*59*	5.11	*2.32*
				1 1/2	*40*	1 1/2	*40*	1 1/4	*32*	15/16	*24*	1 7/8	*48*	1 7/8	*48*	2 3/16	*56*	2 7/16	*62*	6.13	*2.78*
				2	*50*	2	*50*	1 1/2	*38*	1 3/4	*44*	1 7/8	*48*	1 7/8	*48*	2 7/16	*62*	2 9/16	*65*	7.23	*3.28*
		2 1/2	*65*	1	*25*	1	*25*	1	*25*	1	*25*	1 13/16	*47*	1 13/16	*47*	1 15/16	*49*	2 5/16	*59*	5.06	*2.29*
				1 1/4	*32*	1	*25*	13/16	*22*	13/16	*22*	1 3/4	*44*	1 13/16	*47*	2 1/16	*52*	2 3/8	*60*	5.39	*2.44*
						1 1/4	*32*	1 1/8	*29*	1 1/8	*29*	1 13/16	*47*	1 13/16	*47*	2 1/16	*52*	2 3/8	*60*	5.26	*2.39*
				1 1/2	*40*	1 1/2	*40*	1 1/4	*32*	1 1/4	*32*	1 7/8	*48*	1 7/8	*48*	2 3/16	*56*	2 7/16	*62*	5.68	*2.58*
				2	*50*	2	*50*	1 9/16	*40*	1 9/16	*40*	1 15/16	*49*	1 15/16	*49*	2 7/16	*62*	2 9/16	*65*	6.82	*3.09*
3	*80*	3	*80*	1 1/2	*40*	1 1/2	*40*	1 3/8	*35*	1 3/8	*35*	2 3/16	*56*	2 3/16	*56*	2 5/16	*59*	2 13/16	*73*	7.91	*3.59*
				2	*50*	2	*50*	1 5/8	*41*	1 5/8	*41*	2 3/16	*56*	2 3/16	*56*	2 9/16	*65*	2 15/16	*75*	8.85	*4.01*
4	*100*	4	*100*	2	*50*	2	*50*	2	*50*	2	*50*	2 11/16	*68*	2 11/16	*68*	2 3/4	*70*	3 7/16	*87*	12.00	*5.44*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

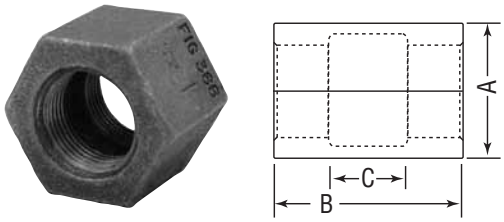
FIGURE 366 Screwed Hex Coupling	Size		Across Flats A		B		C		Unit Weight Black	
	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
	1	*25*	$1^{15}/_{16}$	*49*	$1^{11}/_{16}$	*43*	$^{9}/_{16}$	*14*	0.82	*0.37*

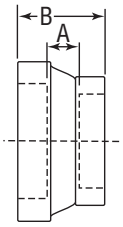
FIGURE 487 Flanged Union Gasket Type	Size		Diam. of Flanges		No. of Bolts	Unit Weight			
						Black		Galv.	
Assembled with gaskets	NPS	*DN*	in	*mm*	–	lbs	*kg*	lbs	*kg*
	$^{1}/_{2}$	*15*	$2^{15}/_{16}$	*75*	3	1.75	*0.79*	1.75	*0.79*
	$^{3}/_{4}$	*20*	3	*76*	3	2.00	*0.91*	2.00	*0.91*
	1	*25*	$3^{1}/_{4}$	*83*	3	2.25	*1.02*	2.25	*1.02*
	$1^{1}/_{4}$	*32*	$4^{3}/_{16}$	*106*	4	4.75	*2.15*	4.75	*2.15*
	$1^{1}/_{2}$	*40*	$4^{3}/_{8}$	*111*	4	5.00	*2.27*	5.00	*2.27*
	2	*50*	5	*127*	4	6.50	*2.95*	6.50	*2.95*
	$2^{1}/_{2}$	*65*	$5^{5}/_{8}$	*143*	4	8.50	*3.85*	8.50	*3.85*
	3	*80*	$6^{3}/_{8}$	*162*	4	11.00	*4.99*	11.00	*4.99*
	$3^{1}/_{2}$	*90*	$6^{7}/_{8}$	*175*	4	12.75	*5.78*	–	–
	4	*100*	$7^{11}/_{16}$	*195*	5	18.00	*8.16*	18.00	*8.16*
	5	*125*	$8^{15}/_{16}$	*227*	5	22.00	*9.98*	–	–
	6	*150*	$10^{1}/_{4}$	*260*	6	30.00	*13.61*	30.00	*13.61*
	8	*200*	$12^{15}/_{16}$	*329*	8	51.00	*23.13*	51.00	*23.13*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 367
Concentric Reducer



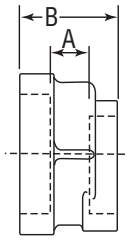
Size				A		B		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
3/4	*20*	1/2	*15*	5/8	*16*	1 9/16	*40*	0.40	*0.18*
1	*25*	1/2 (Hex)	*15*	11/16	*17*	1 11/16	*43*	0.54	*0.24*
		3/4 (Hex)	*20*	7/16	*11*	1 1/2	*38*	0.63	*0.29*
1 1/4	*32*	1/2	*15*	9/16	*14*	1 5/8	*41*	0.84	*0.38*
		3/4	*20*	1	*25*	2 1/8	*54*	0.90	*0.41*
		1	*25*	15/16	*24*	2 1/8	*54*	1.07	*0.49*
1 1/2	*40*	1/2	*15*	1/2	*13*	1 5/8	*41*	1.00	*0.45*
		3/4	*20*	1/2	*13*	1 5/8	*41*	1.20	*0.54*
		1	*25*	1/2	*13*	1 3/4	*44*	1.50	*0.68*
		1 1/4	*32*	1	*25*	2 1/4	*57*	1.45	*0.66*
2	*50*	1/2	*15*	5/8	*16*	2	*51*	2.00	*0.91*
		3/4	*20*	3/4	*19*	2	*51*	1.90	*0.86*
		1	*25*	3/4	*19*	2	*51*	1.83	*0.83*
		1 1/4	*32*	13/16	*22*	2 1/8	*54*	1.78	*0.81*
		1 1/2	*40*	7/8	*22*	2 3/16	*56*	1.98	*0.90*
2 1/2	*65*	1 1/2	*40*	3/4	*19*	2	*51*	3.10	*1.41*
		2	*50*	1	*25*	2 9/16	*65*	2.98	*1.35*
3	*80*	3/4	*20*	15/16	*24*	2 1/2	*64*	4.31	*1.95*
		2	*50*	1 1/16	*27*	2 3/4	*70*	3.96	*1.80*
		2 1/2	*65*	15/16	*24*	2 13/16	*73*	4.40	*2.00*
4	*100*	2	*50*	1 3/16	*30*	2 15/16	*75*	6.50	*2.95*
		2 1/2	*65*	1 3/16	*30*	3 1/8	*79*	7.78	*3.53*
		3	*80*	1 1/16	*27*	3 1/8	*79*	7.01	*3.18*
5	*125*	4	*100*	1 1/16	*27*	3 5/16	*84*	10.48	*4.75*
6	*150*	4	*100*	1 1/8	*29*	3 7/16	*87*	13.83	*6.27*
		5	*125*	1 1/8	*29*	3 9/16	*90*	15.53	*7.04*
8	*200*	6	*150*	1 1/4	*32*	3 7/8	*98*	29.10	*13.20*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 368
Eccentric Reducer



Size				A		B*		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
3/4	*20*	1/2	*15*	9/16	*14*	1 1/2	*38*	0.45	*0.20*
1	*25*	1/2	*15*	1/2	*13*	1 7/16	*37*	0.57	*0.26*
		3/4	*20*	7/16	*11*	1 1/2	*38*	0.61	*0.28*
1 1/4	*32*	1/2	*15*	9/16	*14*	1 5/8	*41*	1.00	*0.45*
		3/4	*20*	1/2	*13*	1 5/8	*41*	0.90	*0.41*
		1	*25*	1/2	*13*	1 11/16	*43*	1.00	*0.45*
1 1/2	*40*	1/2	*15*	11/16	*17*	1 3/4	*44*	1.11	*0.50*
		3/4	*20*	9/16	*14*	1 11/16	*43*	1.17	*0.53*
		1	*25*	9/16	*14*	1 3/4	*44*	1.21	*0.55*
		1 1/4	*32*	5/8	*16*	1 7/8	*48*	1.26	*0.57*
2	*50*	1/2	*15*	3/4	*19*	1 15/16	*49*	1.80	*0.82*
		3/4	*20*	3/4	*19*	2	*51*	1.83	*0.83*
		1	*25*	11/16	*17*	2 1/16	*52*	1.86	*0.84*
		1 1/4	*32*	13/16	*22*	2 1/8	*54*	1.87	*0.85*
		1 1/2	*40*	7/8	*22*	2 3/16	*56*	1.93	*0.88*
2 1/2	*65*	1	*25*	13/16	*22*	2 1/4	*57*	2.74	*1.24*
		1 1/4	*32*	7/8	*22*	2 3/8	*60*	2.80	*1.27*
		1 1/2	*40*	7/8	*22*	2 3/8	*60*	2.94	*1.33*
		2	*50*	1	*25*	2 9/16	*65*	2.95	*1.34*
3	*80*	1	*25*	7/8	*22*	2 7/16	*62*	3.95	*1.79*
		1 1/4	*32*	15/16	*24*	2 9/16	*65*	3.80	*1.72*
		1 1/2	*40*	15/16	*24*	2 9/16	*65*	4.16	*1.89*
		2	*50*	1 1/16	*27*	2 3/4	*70*	4.61	*2.09*
		2 1/2	*65*	15/16	*24*	2 13/16	*73*	4.80	*2.18*
3 1/2	*90*	2	*50*	1 1/16	*27*	2 3/4	*70*	5.23	*2.37*
4	*100*	1 1/4	*32*	1 1/16	*27*	2 3/4	*70*	6.58	*2.98*
		1 1/2	*40*	1 1/8	*29*	2 13/16	*73*	6.61	*3.00*
		2	*50*	1 3/16	*30*	2 15/16	*75*	6.91	*3.13*
		2 1/2	*65*	1 1/8	*29*	3 1/16	*78*	7.26	*3.29*
		3	*80*	1 1/16	*27*	3 1/8	*79*	7.64	*3.46*
5	*125*	2 1/2	*65*	1 1/8	*29*	3 3/16	*81*	11.38	*5.16*
		3	*80*	1 1/16	*27*	3 1/4	*83*	11.44	*5.19*
		4	*100*	1 1/16	*27*	3 5/16	*84*	11.19	*5.07*
6	*150*	3	*80*	1 1/16	*27*	3 5/16	*84*	14.66	*6.65*
		4	*100*	1 1/8	*29*	3 7/16	*87*	15.36	*6.97*

* Dimension "B" does not conform to ASME standard.

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 383
Hex Bushing

⬢ Inside hex
See page 35 (Malleable Iron)
for other available sizes.

Size						Unit Weight			
						Black		Galv.	
NPS	*DN*	Hex	All Cast Iron	NPS	*DN*	lbs	*kg*	lbs	*kg*
1 1/2	*40*		C	1/4	*8*	0.47	*0.21*	0.47	*0.21*
		⬢	C	3/8	*10*	0.47	*0.21*	0.47	*0.21*
		⬢	C	1/2	*15*	0.42	*0.19*	0.42	*0.19*
		⬢	C	3/4	*20*	0.47	*0.21*	0.47	*0.21*
			C	1	*25*	0.50	*0.23*	0.50	*0.23*
2	*50*		C	1/4	*8*	0.75	*0.34*	0.75	*0.34*
			C	3/8	*10*	0.75	*0.34*	0.75	*0.34*
		⬢	C	1/2	*15*	0.70	*0.32*	0.70	*0.32*
		⬢	C	3/4	*20*	0.71	*0.32*	0.71	*0.32*
		⬢	C	1	*25*	0.73	*0.33*	0.73	*0.33*
		⬢	C	1 1/4	*32*	0.81	*0.37*	0.81	*0.37*
2 1/2	*65*	⬢	C	1/2	*15*	1.28	*0.58*	1.28	*0.58*
		⬢	C	3/4	*20*	1.25	*0.57*	1.25	*0.57*
		⬢	C	1	*25*	1.16	*0.53*	1.16	*0.53*
		⬢	C	1 1/4	*32*	1.24	*0.56*	1.24	*0.56*
		⬢	C	1 1/2	*40*	1.29	*0.59*	1.29	*0.59*
3	*80*	⬢	C	1/2	*15*	1.93	*0.88*	1.93	*0.88*
		⬢	C	3/4	*20*	1.92	*0.87*	1.92	*0.87*
		⬢	C	1	*25*	1.90	*0.86*	1.90	*0.86*
		⬢	C	1 1/4	*32*	1.77	*0.80*	1.77	*0.80*
		⬢	C	1 1/2	*40*	1.79	*0.81*	1.79	*0.81*
			C	2	*50*	1.90	*0.86*	1.90	*0.86*
			C	2 1/2	*65*	1.63	*0.74*	1.63	*0.74*
3 1/2	*80*	⬢	C	1	*25*	2.42	*1.10*	2.42	*1.10*
		⬢	C	1 1/4	*32*	2.56	*1.16*	2.56	*1.16*
		⬢	C	1 1/2	*40*	2.65	*1.20*	2.65	*1.20*
		⬢	C	2	*50*	2.54	*1.15*	2.54	*1.15*
			C	2 1/2	*65*	3.23	*1.46*	3.23	*1.46*
			C	3	*80*	1.96	*0.89*	1.96	*0.89*

Continued on next page.

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

Continued from previous page.

FIGURE 383
Hex Bushing

⬢ Inside hex
See page 35 (Malleable Iron) for other available sizes.

Size						Unit Weight			
						Black		Galv.	
NPS	*DN*	Hex	All Cast Iron	NPS	*DN*	lbs	*kg*	lbs	*kg*
4	*100*	⬢	C	1	*25*	3.59	*1.63*	3.59	*1.63*
		⬢	C	1¼	*32*	3.54	*1.61*	3.54	*1.61*
		⬢	C	1½	*40*	3.44	*1.56*	3.44	*1.56*
		⬢	C	2	*50*	3.11	*1.41*	3.11	*1.41*
		⬢	C	2½	*65*	3.29	*1.49*	3.29	*1.49*
			C	3	*80*	3.15	*1.43*	3.15	*1.43*
			C	3½	*90*	2.50	*1.13*	2.50	*1.13*
5	*125*	⬢	C	2	*50*	5.12	*2.32*	5.12	*2.32*
		⬢	C	2½	*65*	4.87	*2.21*	4.87	*2.21*
		⬢	C	3	*80*	4.83	*2.19*	4.83	*2.19*
			C	3½	*90*	4.00	*1.81*	–	–
			C	4	*100*	3.94	*1.79*	3.94	*1.79*
6	*150*	⬢	C	2	*50*	8.00	*3.63*	8.00	*3.63*
		⬢	C	2½	*65*	7.72	*3.50*	–	–
		⬢	C	3	*80*	7.75	*3.51*	7.75	*3.51*
		⬢	C	4	*100*	6.83	*3.10*	6.83	*3.10*
			C	5	*125*	5.24	*2.38*	5.24	*2.38*
8	*200*	⬢	C	3	*80*	15.50	*7.03*	–	–
		⬢	C	4	*100*	13.93	*6.32*	–	–
		⬢	C	5	*125*	13.65	*6.19*	–	–
			C	6	*150*	13.19	*5.98*	13.19	*5.98*
10	*250*	⬢	C	6	*150*	24.50	*11.11*	–	–
			C	8	*200*	22.00	*9.98*	–	–

FIGURE 385
Face Bushing

See page 35 (Malleable Iron) for other available sizes.

Size				Unit Weight	
				Black	
NPS	*DN*	NPS	*DN*	lbs	*kg*
3	*80*	2	*50*	13.30	*6.03*
4	*100*	2½	*65*	2.55	*1.16*
		3	*80*	19.20	*8.71*

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 387
Square Head Plugs, Cored

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
3/4	*20*	0.13	*0.06*	0.13	*0.06*
1	*25*	0.25	*0.11*	0.25	*0.11*
1 1/4	*32*	0.39	*0.18*	0.39	*0.18*
1 1/2	*40*	0.50	*0.23*	0.50	*0.23*
2	*50*	0.82	*0.37*	0.82	*0.37*
2 1/2	*65*	1.32	*0.60*	1.32	*0.60*
3	*80*	1.87	*0.85*	1.87	*0.85*
3 1/2	*90*	2.50	*1.13*	2.50	*1.13*
4	*100*	4.00	*1.81*	4.00	*1.81*

FIGURE 388
Square Head Plugs, Solid

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
1/2	*15*	0.10	*0.05*	0.10	*0.05*
3/4	*20*	0.17	*0.08*	0.17	*0.08*
1	*25*	0.32	*0.15*	0.32	*0.15*
1 1/4	*32*	0.53	*0.24*	0.53	*0.24*
1 1/2	*40*	0.76	*0.34*	0.76	*0.34*
2	*50*	1.23	*0.56*	1.23	*0.56*
2 1/2	*65*	2.00	*0.91*	2.00	*0.91*
3	*80*	3.18	*1.44*	3.18	*1.44*
3 1/2	*90*	4.38	*1.99*	–	–

FIGURE 389
Bar Plugs, Cored

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
4	*100*	3.82	*1.73*	3.82	*1.73*
5	*125*	6.50	*2.95*	6.50	*2.95*
6	*150*	9.94	*4.51*	9.94	*4.51*
8	*200*	20.26	*9.19*	20.26	*9.19*

FIGURE 380
Bar Plugs, Solid

Size		Unit Weight	
		Black	
NPS	*DN*	lbs	*kg*
4	*100*	5.68	*2.58*
5	*125*	9.60	*4.35*
6	*150*	14.78	*6.70*

FIGURE 390
Countersunk Plugs

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
1	*25*	0.20	*0.09*	0.20	*0.09*
1 1/4	*32*	0.32	*0.15*	0.32	*0.15*
1 1/2	*40*	0.47	*0.21*	0.47	*0.21*
2	*50*	0.84	*0.38*	0.84	*0.38*
2 1/2	*65*	1.40	*0.63*	–	–
3	*80*	2.25	*1.02*	–	–
3 1/2	*90*	3.02	*1.37*	–	–
4	*100*	3.76	*1.71*	–	–

See page 32 (Malleable Iron) for other available sizes.

FIGURE 381
Cap

Size		Unit Weight			
		Black		Galv.	
NPS	*DN*	lbs	*kg*	lbs	*kg*
2 1/2	*65*	2.55	*1.16*	–	–
3	*80*	4.10	*1.86*	–	–
4	*100*	6.40	*2.90*	–	–
5	*125*	10.70	*4.85*	–	–
6	*150*	14.20	*6.44*	14.20	*6.44*
8	*200*	27.23	*12.35*	27.23	*12.35*

According to specifications, hex bushings and cored plugs should be used with 150# malleable iron and 125# cast iron. Solid plugs and face bushings are recommended for use with 250# and 300# fittings.

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Class 125 (Standard)

FIGURE 370 Locknut	Size		Minimum Dimensions								Unit Weight	
			A		B		C		D		Black	
	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
	2 1/2	*65*	3.500	*89*	3.180	*81*	.590	*15*	0.90	*2*	1.13	*0.51*
	3	*80*	4.270	*108*	3.840	*98*	.670	*17*	0.90	*2*	1.60	*0.73*
For nominal sizes smaller than 2½" *(65 DN)* see Malleable Iron page 27.	4	*100*	5.380	*137*	5.000	*127*	.800	*20*	.130	*3*	1.10	*0.50*

Cast Iron Threaded Fittings

Class 250 (Extra Heavy)

FIGURE 421 90° Elbow	Size		A		B		Unit Weight Black	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	1/4	*8*	5/8	*16*	15/16	*24*	0.37	*0.17*
	1/2	*15*	13/16	*22*	1 1/4	*32*	0.75	*0.34*
	3/4	*20*	15/16	*24*	1 7/16	*37*	1.13	*0.51*
	1	*25*	1 1/16	*27*	1 5/8	*41*	1.79	*0.81*
	1 1/4	*32*	1 5/16	*33*	1 15/16	*49*	3.00	*1.36*
	1 1/2	*40*	1 1/2	*38*	2 1/8	*54*	4.05	*1.84*
	2	*50*	1 13/16	*47*	2 1/2	*64*	6.76	*3.07*
	2 1/2	*65*	2	*51*	2 15/16	*75*	10.56	*4.79*
	3	*80*	2 3/8	*60*	3 3/8	*86*	15.25	*6.92*

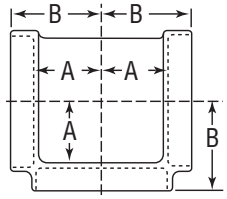
FIGURE 424 45° Elbow	Size		A		B		Unit Weight Black	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	1/2	*15*	9/16	*14*	1	*25*	0.66	*0.30*
	3/4	*20*	5/8	*16*	1 1/8	*29*	1.04	*0.47*
	1	*25*	3/4	*19*	1 5/16	*33*	1.56	*0.71*
	1 1/4	*32*	7/8	*22*	1 1/2	*38*	2.70	*1.22*
	1 1/2	*40*	1 1/16	*27*	1 11/16	*43*	3.55	*1.61*
	2	*50*	1 5/16	*33*	2	*51*	6.07	*2.75*
	2 1/2	*65*	1 5/16	*33*	2 1/4	*57*	9.79	*4.44*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Threaded Fittings

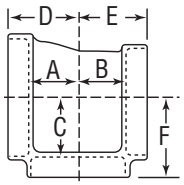
Class 250 (Extra Heavy)

FIGURE 425
Tee



Size		A		B		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1/4	*8*	5/8	*16*	15/16	*24*	0.47	*0.21*
3/8	*10*	11/16	*17*	1 1/16	*27*	0.70	*0.32*
1/2	*15*	3/4	*19*	1 1/4	*32*	1.20	*0.54*
3/4	*20*	7/8	*22*	1 7/16	*37*	1.57	*0.71*
1	*25*	1	*25*	1 5/8	*41*	2.43	*1.10*
1 1/4	*32*	1 3/16	*30*	1 15/16	*49*	3.94	*1.79*
1 1/2	*40*	1 7/16	*37*	2 1/8	*54*	5.31	*2.41*
2	*50*	1 3/4	*44*	2 1/2	*64*	9.01	*4.09*
2 1/2	*65*	1 15/16	*49*	2 15/16	*75*	14.23	*6.45*
3	*80*	2 5/16	*59*	3 3/8	*86*	20.95	*9.50*
4	*100*	2 15/16	*75*	4 1/8	*105*	33.98	*15.41*

FIGURE 426
Reducing Tee



Size						A, B		C		D, E		F		Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
3/4	*20*	3/4	*20*	1/2	*15*	3/4	*19*	7/8	*22*	1 5/16	*33*	1 3/8	*35*	1.37	*0.62*
1	*25*	1	*25*	1/2	*15*	3/4	*19*	1	*25*	1 3/8	*35*	1 1/2	*38*	2.03	*0.92*
				3/4	*20*	7/8	*22*	1	*25*	1 1/2	*38*	1 9/16	*40*	2.19	*0.99*
1 1/4	*32*	1 1/4	*32*	3/4	*20*	15/16	*24*	1 1/8	*29*	1 5/8	*41*	1 11/16	*43*	3.21	*1.46*
				1	*25*	1 1/16	*27*	1 3/16	*30*	1 3/4	*44*	1 13/16	*47*	3.49	*1.58*
1 1/2	*40*	1 1/2	*40*	3/4	*20*	1	*25*	1 1/4	*32*	1 11/16	*43*	1 7/8	*48*	4.02	*1.82*
				1	*25*	1 1/8	*29*	1 5/16	*33*	1 13/16	*47*	1 15/16	*49*	4.26	*1.93*
				1 1/4	*32*	1 5/16	*33*	1 3/8	*35*	2	*51*	2 1/16	*52*	4.98	*2.26*
2	*50*	2	*50*	3/4	*20*	1 1/8	*29*	1 7/16	*37*	1 7/8	*48*	2	*51*	6.24	*2.83*
				1	*25*	1 1/4	*32*	1 1/2	*38*	2	*51*	2 1/8	*54*	6.57	*2.98*
				1 1/4	*32*	1 3/8	*35*	1 9/16	*40*	2 3/16	*56*	2 1/4	*57*	7.11	*3.22*
				1 1/2	*40*	1 1/2	*38*	1 5/8	*41*	2 5/16	*59*	2 5/16	*59*	7.69	*3.49*

Note: See page 37 for pressure-temperature ratings.

Cast Iron Drainage Fittings

Anvil drainage fittings have sufficient sweep to allow free unobstructed flow. They are made with a shoulder of the same diameter as the inside of the pipe. Thus, continuous passage is created when the pipe is screwed to the shoulder. There is no place for solid matter to collect and clog in the pipe. Also, Anvil drainage fittings are recessed and threaded for wrought pipe.

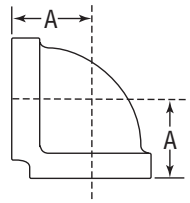
Coated drainage fittings are available in hot dipped, galvanized finish (in sizes listed). Coated drainage fittings are made to order.

90° type drainage fittings are normally tapped with pitch of 1/4 inch *(6mm)* to the foot.

UNPITCHED 90° drainage fittings are POA only.

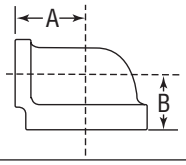
Cast Iron Drainage Fittings

FIGURE 701*
90° Short Turn Elbow



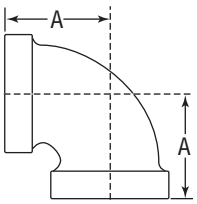
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	1 15/16	*49*	1.91	*0.87*	1.91	*0.87*
2	*50*	2 1/4	*57*	3.04	*1.38*	3.04	*1.38*
3	*80*	3 1/16	*78*	7.09	*3.22*	7.09	*3.22*
4	*100*	3 13/16	*98*	13.69	*6.21*	13.69	*6.21*

FIGURE 701R*
90° Reducing Short Turn Elbow



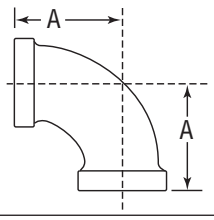
Size				A		B		Unit Weight	
								Black	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
1 1/2	*40*	1 1/4	*32*	1 7/8	*48*	1 11/16	*43*	1.69	*0.77*
2	*50*	1 1/2	*40*	2 1/8	*54*	2	*51*	2.49	*1.13*

FIGURE 702*
90° Long Turn Elbow



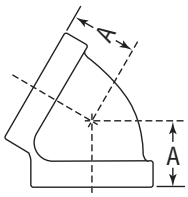
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	2 1/2	*64*	2.24	*1.02*	2.24	*1.02*
2	*50*	3 1/16	*78*	3.61	*1.64*	3.61	*1.64*
3	*80*	4 1/4	*108*	9.04	*4.10*	–	–
4	*100*	5 3/16	*132*	16.40	*7.44*	–	–

FIGURE 702A*
90° Extra Long Turn Elbow



Size		A		Unit Weight	
				Black	
NPS	*DN*	in	*mm*	lbs	*kg*
1 1/2	*40*	3 1/2	*90*	2.62	*1.19*
2	*50*	4	*100*	4.54	*2.06*

FIGURE 703
60° Short Turn Elbow

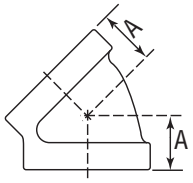


Size		A		Unit Weight	
				Black	
NPS	*DN*	in	*mm*	lbs	*kg*
1 1/2	*40*	3 1/2	*89*	2.34	*1.06*

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

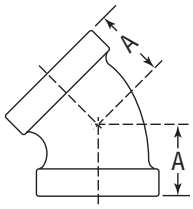
Cast Iron Drainage Fittings

FIGURE 705
45° Short Turn Elbow



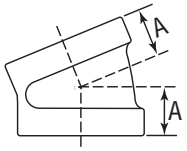
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	1 7/16	*37*	1.71	*0.78*	1.71	*0.78*
2	*50*	1 11/16	*43*	2.79	*1.27*	2.79	*1.27*
3	*80*	2 3/16	*56*	6.31	*2.86*	6.31	*2.86*
4	*100*	2 5/8	*67*	11.44	*5.19*	11.44	*5.19*

FIGURE 706
45° Long Turn Elbow



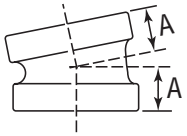
Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	1 7/8	*48*	2.1	*0.97*	2.14	*0.97*

FIGURE 707
22 1/2° Elbow



Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	1 1/4	*32*	1.65	*0.75*	1.65	*0.75*
2	*50*	1 7/16	*37*	3.08	*1.40*	3.08	*1.40*

FIGURE 708
11 1/4° Elbow

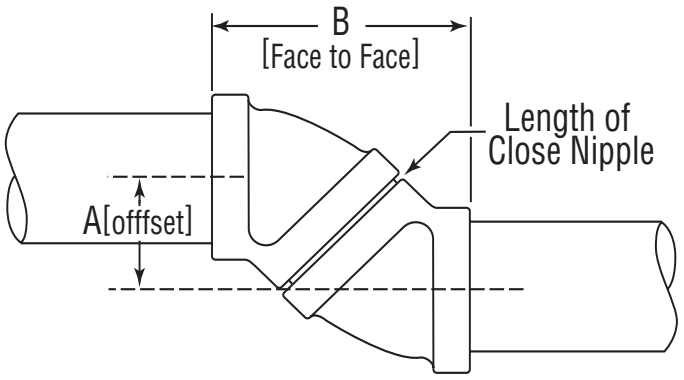


Size		A		Unit Weight	
				Black	
NPS	*DN*	in	*mm*	lbs	*kg*
1 1/2	*40*	1 1/4	*32*	1.81	*0.82*
2	*50*	1 3/8	*35*	2.69	*1.22*

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

Cast Iron Drainage Fittings

SHORTEST OFFSET AND FACE TO FACE WITH USE OF CLOSE NIPPLE



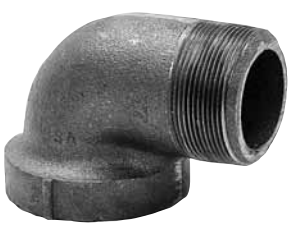
Size		Length Close Nipple		60° Short Figure 703				45° Short Figure 705				45° Long Figure 706			
				A		B		A		B		A		B	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*
1 1/4	*32*	1 5/8	*41*	3	*76*	4 7/8	*124*	2 1/8	*54*	4 3/4	*121*	2 3/4	*70*	6 1/4	*159*
1 1/2	*40*	1 3/4	*44*	3 1/2	*89*	5 1/2	*140*	2 3/8	*60*	5 1/4	*133*	3	*76*	6 3/4	*171*
2	*50*	2	*51*	4 1/8	*105*	6 1/2	*165*	2 13/16	*73*	6 3/16	*157*	3 5/8	*92*	8 1/8	*206*
2 1/2	*65*	2 1/2	*64*	4 15/16	*125*	7 7/8	*200*	3 1/4	*83*	7 1/16	*179*	4 3/16	*106*	9 1/2	*241*
3	*80*	2 5/8	*67*	5 9/16	*141*	9	*229*	3 9/16	*90*	7 15/16	*202*	4 5/8	*117*	10 1/2	*267*
4	*100*	2 7/8	*73*	6 1/2	*165*	10 1/2	*267*	4 1/4	*108*	9 1/2	*241*	5 1/2	*140*	12 1/2	*318*
5	*125*	3	*76*	7 1/4	*184*	11 15/16	*303*	4 3/4	*121*	10 7/8	*276*	6 1/4	*159*	14 1/2	*368*
6	*150*	3 1/8	*79*	7 7/8	*200*	13 1/16	*332*	5 5/16	*135*	12 1/8	*308*	7 3/8	*187*	17 1/8	*435*
8	*200*	3 1/2	*89*	9 3/8	*238*	16 3/16	*411*	6 9/16	*167*	15	*381*	9	*229*	–	–
10	*250*	3 7/8	*98*	–	–	–	–	7 15/16	*202*	18 5/16	*465*	–	–	–	–

Size		Length Close Nipple		22 1/2° Figure 707				11 1/4° Figure 708			
				A		B		A		B	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*
1 1/4	*32*	1 5/8	*41*	1	*25*	4 11/16	*119*	1/2	*13*	4 9/16	*116*
1 1/2	*40*	1 3/4	*44*	1 1/8	*29*	5 1/4	*133*	5/8	*16*	5 7/16	*138*
2	*50*	2	*51*	1 3/8	*35*	6 1/8	*156*	1 1/16	*17*	6 1/16	*154*
2 1/2	*65*	2 1/2	*64*	1 5/8	*41*	7 3/8	*187*	13/16	*22*	7 1/8	*181*
3	*80*	2 5/8	*67*	1 13/16	*47*	8 5/16	*211*	7/8	*22*	7 7/8	*200*
4	*100*	2 7/8	*73*	2 1/16	*52*	9 9/16	*243*	15/16	*24*	8 5/8	*219*
5	*125*	3	*76*	2 1/4	*57*	10 11/16	*271*	1	*25*	9 1/2	*241*
6	*150*	3 1/8	*79*	2 1/2	*64*	11 7/8	*302*	1 1/16	*27*	10	*254*
8	*200*	3 1/2	*89*	3	*76*	14 7/16	*367*	1 1/4	*32*	11 5/8	*295*
10	*250*	3 7/8	*98*	3 7/8	*98*	17 13/16	*452*	1 7/16	*37*	13 1/4	*337*

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

Cast Iron Drainage Fittings

FIGURE 718* 90° Street Elbow



Size		A		B		Unit Weight			
						Black		Galv.	
NPS	DN	in	mm	in	mm	lbs	kg	lbs	kg
1 1/2	40	3	76	1 7/8	48	2.05	0.93	2.05	0.93
2	50	3 1/4	83	2 3/16	56	3.10	1.41	3.10	1.41

FIGURE 719 45° Street Elbow

Size		A		B		Unit Weight			
						Black		Galv.	
NPS	DN	in	mm	in	mm	lbs	kg	lbs	kg
1 1/2	40	2	51	1 1/4	32	1.64	0.74	1.64	0.74
2	50	2 1/4	57	1 11/16	43	2.67	1.21	2.67	1.21

FIGURE 722* Tee

Size		A		B		Unit Weight			
						Black		Galv.	
NPS	DN	in	mm	in	mm	lbs	kg	lbs	kg
1 1/2	40	3 7/8	98	1 15/16	49	2.59	1.17	2.59	1.17
2	50	4 1/2	114	2 1/4	57	4.66	2.11	4.66	2.11

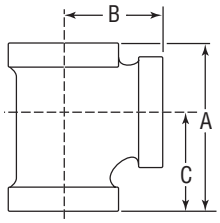
FIGURE 723* Reducing Tee

Size						A		B		Unit Weight
										Black
NPS	DN	NPS	DN	NPS	DN	in	mm	in	mm	lbs kg
2	50	2	50	1 1/2	40	4 1/16	103	2 3/16	56	3.77 1.71

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

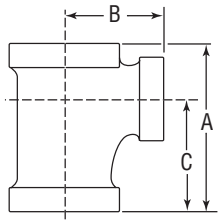
Cast Iron Drainage Fittings

FIGURE 726* 90° Short Turn Y-Branch Tee Pattern



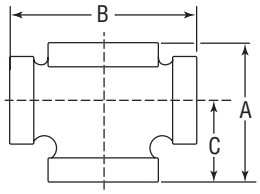
Size		A		B		C		Unit Weight			
								Black		Galv.	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg	lbs	kg
1 1/2	40	4 1/4	108	2 1/2	64	2 1/2	64	3.09	1.40	3.09	1.40
2	50	5 3/16	132	3 1/16	78	3 1/16	78	5.08	2.30	5.08	2.30
3	80	7 1/4	184	4 1/4	108	4 1/4	108	11.77	5.34	11.77	5.34
4	100	8 3/4	222	5 3/16	132	5 3/16	132	21.25	9.64	21.25	9.64

FIGURE 727* 90°Reducing Short Turn Y-Branch Tee Pattern



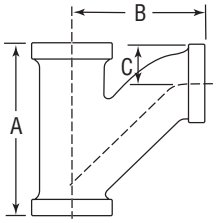
Size		A		B		C		Unit Weight	
								Black	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
2 x 2 x 1 1/2	50 x 50 x 40	4 5/8	117	2 15/16	75	2 11/16	68	4.16	1.89
2 x 1 1/2 x 1 1/2	50 x 40 x 40	4 5/8	117	2 15/16	75	2 11/16	68	4.33	1.96

FIGURE 729* Reducing Double Short Turn Tee



Size		A		B		C		Unit Weight	
								Black	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
2 x 1 1/2	50 x 40	4 5/8	117	5 7/8	149	2 11/16	68	5.82	2.64

FIGURE 730* 90° Long Turn Y-Branch Tee Pattern

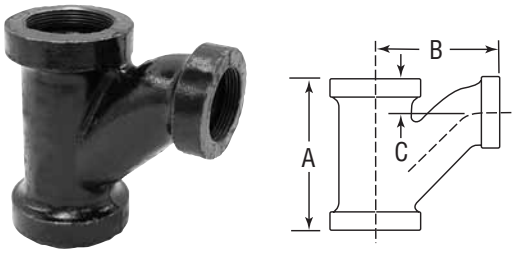


Size		A		B		C		Unit Weight			
								Black		Galv.	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg	lbs	kg
1 1/2	40	5 3/8	137	4 1/8	105	1 1/4	32	4.43	2.01	–	–
2	50	7	178	5 1/4	133	1 3/4	44	6.69	3.03	6.69	3.03

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

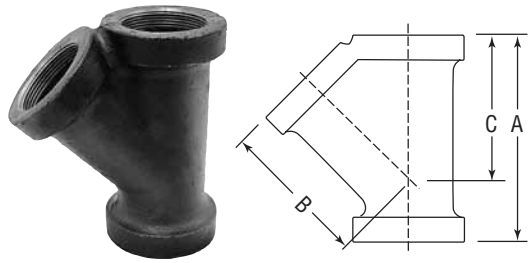
Cast Iron Drainage Fittings

FIGURE 731*
90° Reducing Long Turn Y-Branch Tee Pattern



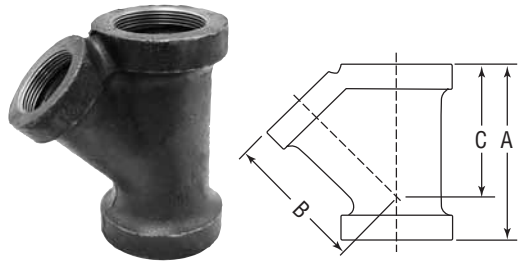
Size		A		B		C		Unit Weight Black	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
2 x 2 x 1 1/2	50 x 50 x 40	5 3/4	146	4 3/8	111	1 5/16	24	5.23	2.37

FIGURE 734
45° Y-Branch



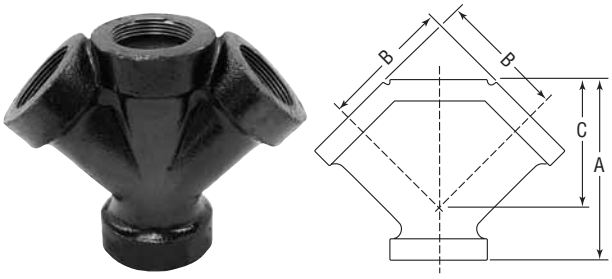
Size		A		B		C		Unit Weight Black		Unit Weight Galv.	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg	lbs	kg
1 1/2	40	5 1/2	140	3 5/8	92	3 5/8	92	4.03	1.83	4.03	1.83
2	50	6 1/2	165	4 3/8	111	4 3/8	111	5.56	2.52	5.56	2.52
3	80	9	229	6 3/16	157	6 3/16	157	12.00	5.44	12.00	5.44
4	100	10 7/8	276	7 11/16	195	7 11/16	195	24.51	11.12	24.51	11.12

FIGURE 735
45°Reducing Y-Branch



Size		A		B		C		Unit Weight Black		Unit Weight Galv.	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg	lbs	kg
2 x 2 x 1 1/2	50 x 50 x 40	5 7/8	149	4 1/8	105	4 1/16	103	4.83	2.19	4.83	2.19
4 x 4 x 3	100 x 100 x 80	9 1/4	235	7 3/16	183	6 7/8	175	20.63	9.36	–	–

FIGURE 736
45° Double Y-Branch

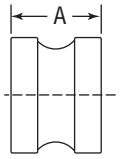


Size		A		B		C		Unit Weight Black	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
1 1/2	40	5 1/2	140	3 5/8	92	3 5/8	92	5.09	2.31

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

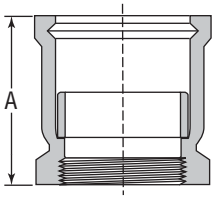
Cast Iron Drainage Fittings

FIGURE 753
Coupling



Size		A		Unit Weight			
				Black		Galv.	
NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	3 3/8	*86*	1.75	*0.79*	1.75	*0.79*

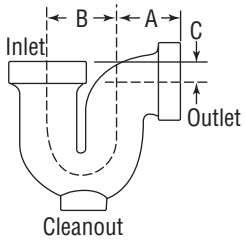
FIGURE 744
Tucker Connection



Size		A		Unit Weight	
				Black	
NPS	*DN*	in	*mm*	lbs	*kg*
1 1/2	*40*	4	*102*	4.04	*1.83*
2	*50*	4 1/2	*114*	5.40	*2.45*
4	*100*	6 13/16	*174*	20.00	*9.07*

4" size *(100 DN)* is only furnished with a loose ring upon request.

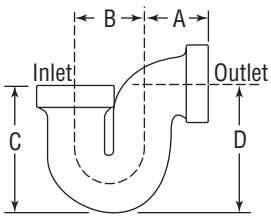
FIGURE 752
P-Trap



Size		A		B		C		Clean Out		Water Seal		Unit Weight			
												Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	2 1/8	*54*	2 1/4	*57*	7/8	*22*	1	*25*	2	*51*	4.69	*2.13*	4.69	*2.13*
2	*50*	2 9/16	*65*	2 3/4	*70*	7/8	*22*	1	*25*	2	*51*	7.18	*3.26*	7.18	*3.26*
3	*80*	3 3/8	*86*	3 3/4	*95*	1 3/16	*30*	1 1/4	*32*	2 1/2	*64*	16.87	*7.65*	16.87	*7.65*

Cleanout plug not included. Outlets tapped, pitched .25"/Ft. *(21mm/meter).*

FIGURE 754
Bath P-Trap



Size		A		B		C		D		Water Seal		Unit Weight	
												Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1 1/2	*40*	2 1/8	*54*	2 3/8	*60*	4 3/8	*111*	4 5/8	*117*	2	*51*	3.87	*1.76*
2	*50*	2 1/2	*64*	2 13/16	*73*	5 5/16	*135*	5 5/16	*135*	2	*51*	6.25	*2.83*

Outlets tapped, pitched .25"/Ft. *(21mm/meter).*

*Inlets tapped, pitched .25" *(6mm)* to the foot. Inlets of reducing fittings are always the smallest openings.

Cast Iron Flanged Fittings

Class 125 (Standard)

For Listings/Approval Details and Limitations, visit our website @ www.anvilintl.com or contact an Anvil/AnvilStar Sales Representative.

Specifications

All standard or "Class 125" Cast Iron Flanged Fittings in sizes listed are made to ASME and are marked 125 for pipe sizes 12 NPS *(300 DN)* and smaller; and have plain faces. Unless otherwise specified, cast iron flanges and fittings are drilled and faced in accordance with ASME B 16.1.

Coatings

Flanged fittings are available in both black and galvanized. Consult an Anvil Representative for available sizes.

Sizes

Size of all fittings scheduled indicates nominal pipe diameter of ports. Standard reducing elbows carry the same dimensions center-to-face as regular elbows of largest straight size.

Ordering

To order reducing companion flanges, specify threaded or reduced size first, then the outside diameter of flange wanted. For instance, if a reducing flange is required to connect a 5-inch pipe to an 8-inch flanged valve or fitting having a 13 1/2-inch O.D. flange, order: 5 x 13 1/2-inch standard reducing flange.

Dimensions

Bolt holes, for bolts smaller than 1 3/4 inches *(44mm)* in diameter are drilled 1/8 inch larger than the bolt diameter; 1 3/4 inch *(44mm)* and larger, bolt holes are 1/4 inch *(6mm)* larger than bolt diameter. Bolt holes straddle the center line. Bolt holes are spot faced on order only.

Tolerances

An inspection limit of plus or minus 1/32 inch *(1mm)* shall be allowed on all center to contact surface dimensions for sizes up to and including 10 NPS *(250 DN)*; plus or minus 1/16 inch *(2mm)* on sizes larger than 10 NPS *(250 DN)*. Inspection limit of plus or minus 1/16 inch *(2mm)* shall be allowed on all contact surface to contact surface dimensions for sizes up to and including 10 NPS *(250 DN)*; plus or minus 1/8 inch *(3mm)* on sizes larger than 10 NPS *(250 DN)*. The largest opening in the fitting governs the tolerance to be applied to all openings.

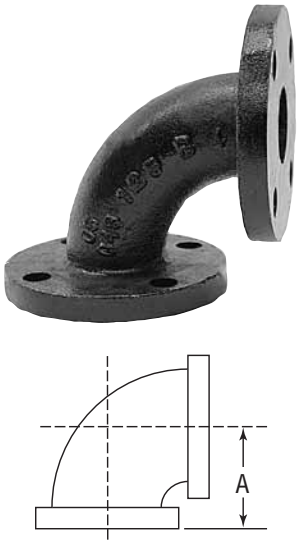
Cast Iron Flanged Fittings and Cast Iron Flanges

Temperature		Pressure									
		Class 125						Class 250			
		1"–12"		14"–24"		30"–48"		1"–12"		14"–24"	
(°F)	*(°C)*	psi	*bar*	psi	*bar*	psi	*bar*	psi	*bar*	psi	*bar*
-20° to 150°	*-28.9 to 65.6*	200	*13.8*	150	*10.3*	150	*10.3*	500	*34.5*	300	*20.7*
200°	*93.3*	190	*13.1*	135	*9.3*	115	*7.9*	460	*31.7*	280	*19.3*
225°	*107.2*	180	*12.4*	130	*9.0*	100	*6.9*	440	*30.3*	270	*18.6*
250°	*121.1*	175	*12.1*	125	*8.6*	85	*5.9*	415	*28.6*	260	*17.9*
275°	*135.0*	170	*11.7*	120	*8.3*	65	*4.5*	395	*27.2*	250	*17.2*
300°	*148.9*	165	*11.4*	110	*7.6*	50	*3.4*	375	*25.9*	240	*16.5*
325°	*162.8*	155	*10.7*	105	*7.2*	–	–	355	*24.5*	230	*15.9*
350°	*178.3*	150	*10.3*	100	*6.9*	–	–	335	*23.1*	220	*15.2*
375°	*190.6*	145	*10.0*	–	–	–	–	315	*21.7*	210	*14.5*
400°	*207.8*	140	*9.7*	–	–	–	–	290	*20.0*	200	*13.8*
425°	*218.3*	130	*9.0*	–	–	–	–	270	*18.6*	–	–
450°	*232.2*	125	*8.6*	–	–	–	–	250	*17.2*	–	–

Cast Iron Flanged Fittings

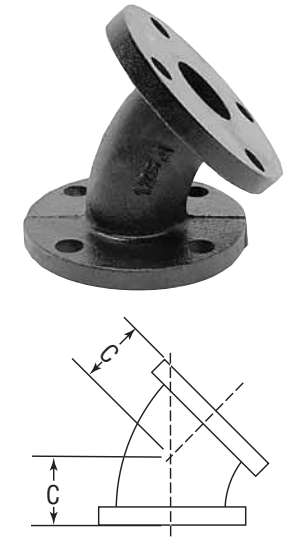
Class 125 (Standard)

FIGURE 801
90° Flanged Elbow



Size		A		Flange Dia.		Thickness				Unit Weight			
						Min. Flange		Wall		Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	4	*102*	5	*127*	9/16	*14*	5/16	*8*	9.00	*4.08*	–	–
2	*50*	4 1/2	*114*	6	*152*	5/8	*16*	5/16	*8*	14.00	*6.35*	14.00	*6.35*
2 1/2	*65*	5	*127*	7	*178*	11/16	*17*	5/16	*8*	19.00	*8.62*	19.00	*8.62*
3	*80*	5 1/2	*140*	7 1/2	*191*	3/4	*19*	3/8	*10*	24.00	*10.88*	24.00	*10.88*
3 1/2	*90*	6	*152*	8 1/2	*216*	13/16	*22*	7/16	*11*	31.00	*14.06*	–	–
4	*100*	6 1/2	*165*	9	*229*	15/16	*24*	1/2	*13*	41.00	*18.59*	41.00	*18.59*
5	*125*	7 1/2	*191*	10	*254*	15/16	*24*	1/2	*13*	52.00	*23.58*	52.00	*23.58*
6	*150*	8	*203*	11	*279*	1	*25*	9/16	*14*	68.00	*30.84*	68.00	*30.84*
8	*200*	9	*229*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	110.00	*49.89*	110.00	*49.89*
10	*250*	11	*279*	16	*406*	1 3/16	*30*	3/4	*19*	175.00	*79.37*	175.00	*79.37*
12	*300*	12	*305*	19	*483*	1 1/4	*32*	13/16	*23*	250.00	*113.38*	250.00	*113.38*

FIGURE 802
45° Flanged Elbow



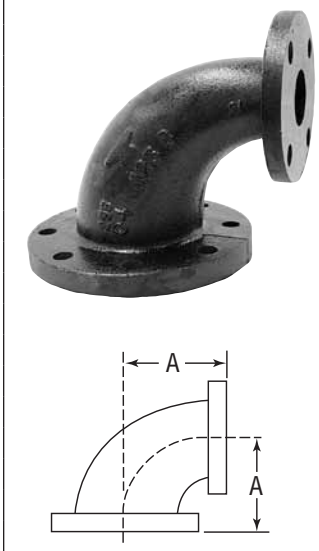
Size		A		Flange Dia.		Thickness				Unit Weight			
						Min. Flange		Wall		Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	2 1/4	*57*	5	*127*	9/16	*14*	5/16	*8*	8.00	*3.63*	–	–
2	*50*	2 1/2	*64*	6	*152*	5/8	*16*	5/16	*8*	12.00	*5.44*	–	–
2 1/2	*65*	3	*76*	7	*178*	11/16	*17*	5/16	*8*	17.00	*7.71*	–	–
3	*80*	3	*76*	7 1/2	*191*	3/4	*19*	3/8	*10*	20.00	*9.07*	20.00	*9.07*
4	*100*	4	*102*	9	*229*	15/16	*24*	1/2	*13*	36.00	*16.33*	36.00	*16.33*
5	*125*	4 1/2	*114*	10	*254*	15/16	*24*	1/2	*13*	45.00	*20.41*	–	–
6	*150*	5	*127*	11	*279*	1	*25*	9/16	*14*	60.00	*27.21*	60.00	*27.21*
8	*200*	5 1/2	*140*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	94.00	*42.63*	94.00	*42.63*
10	*250*	6 1/2	*165*	16	*406*	1 3/16	*30*	3/4	*19*	145.00	*65.76*	145.00	*65.76*
12	*300*	7 1/2	*191*	19	*483*	1 1/4	*32*	13/16	*23*	220.00	*99.77*	220.00	*99.77*

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

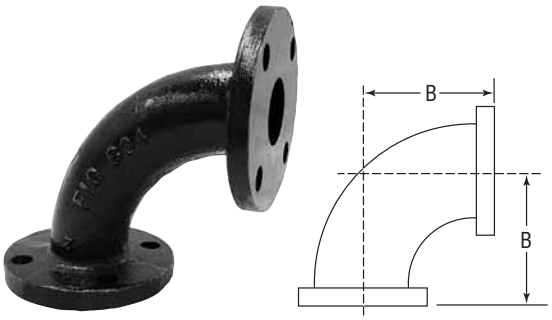
Class 125 (Standard)

FIGURE 803
90° Reducing Flanged Elbow



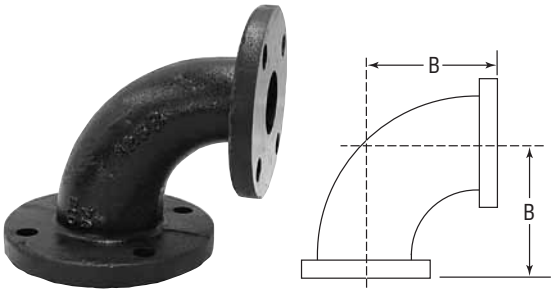
Size				A		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*
2 1/2	*65*	2	*50*	5	*127*	18.00	*8.16*
3	*80*	2	*50*	5 1/2	*140*	19.00	*8.62*
		2 1/2	*65*			22.00	*9.98*
4	*100*	2	*50*	6 1/2	*165*	29.00	*13.15*
		2 1/2	*65*			31.00	*14.06*
		3	*80*			33.00	*14.97*
5	*125*	3	*80*	7 1/2	*191*	40.00	*18.14*
		4	*100*			48.00	*21.77*
6	*150*	3	*80*	8	*203*	47.00	*21.32*
		4	*100*			56.00	*25.40*
		5	*125*			60.00	*27.21*
8	*200*	4	*100*	9	*229*	77.00	*34.92*
		5	*125*			82.00	*37.19*
		6	*150*			90.00	*40.82*
10	*250*	6	*150*	11	*279*	125.00	*56.69*
		8	*200*			150.00	*68.03*
12	*300*	6	*150*	12	*305*	165.00	*74.83*
		8	*200*			190.00	*86.17*
		10	*250*			220.00	*99.77*

FIGURE 804
90° Long Radius Flanged Elbow



Size		B		Flange Diameter		Thickness Min. Flange		Thickness Wall		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	*50*	6 1/2	*165*	6	*152*	5/8	*16*	5/16	*8*	16.00	*7.26*
2 1/2	*65*	7	*178*	7	*178*	11/16	*17*	5/16	*8*	23.00	*10.43*
3	*80*	7 3/4	*197*	7 1/2	*191*	3/4	*19*	3/8	*10*	28.00	*12.70*
4	*100*	9	*229*	9	*229*	15/16	*24*	1/2	*13*	48.00	*21.77*
5	*125*	10 1/4	*260*	10	*254*	15/16	*24*	1/2	*13*	62.00	*28.12*
6	*150*	11 1/2	*292*	11	*279*	1	*25*	9/16	*14*	85.00	*38.55*
8	*200*	14	*356*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	145.00	*65.76*
10	*250*	16 1/2	*419*	16	*406*	1 3/16	*30*	3/4	*19*	230.00	*104.31*
12	*300*	19	*483*	19	*483*	1 1/4	*32*	13/16	*22*	350.00	*158.73*

FIGURE 804R
90° Long Radius Reducing Flanged Elbow



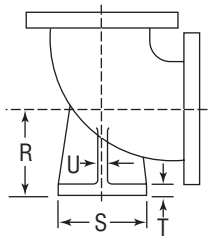
Reducing Size		B		Unit Weight Black	
NPS	*DN*	in	*mm*	lbs	*kg*
4 x 3	*100 x 80*	9	*229*	46.00	*20.86*
5 x 4	*125 x 100*	10 1/4	*260*	58.00	*26.30*
6 x 4	*150 x 100*	11 1/2	*292*	78.00	*35.37*
6 x 5	*150 x 125*	11 1/2	*292*	81.00	*36.73*
8 x 6	*200 x 150*	14	*356*	130.00	*58.96*
10 x 8	*250 x 200*	16 1/2	*419*	205.00	*92.97*

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

Class 125 (Standard)

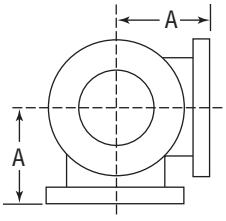
FIGURE 805
90° Flanged Base Elbow



Size		Center to Base R		Dia. of Round Base S		Thickness				Size of Supporting Pipe for Base		Unit Weight	
						Base T		Rubs U				Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
3	*80*	4 7/8	*124*	5	*127*	9/16	*14*	1/2	*13*	1½	*38*	36.00	*16.33*
4	*100*	5 1/2	*140*	6	*152*	5/8	*16*	1/2	*13*	2	*51*	59.00	*26.76*
6	*150*	7	*178*	7	*178*	11/16	*17*	5/8	*16*	2 1/2	*64*	110.00	*49.89*
8	*200*	8 3/8	*213*	9	*229*	15/16	*24*	7/8	*22*	4	*102*	158.00	*71.66*
10	*250*	9 3/4	*248*	9	*229*	15/16	*24*	7/8	*22*	4	*102*	224.00	*101.59*
12	*300*	11 1/4	*286*	11	*279*	1	*25*	1	*25*	6	*152*	324.00	*146.94*

Bases, when drilled, should be drilled to the template of the flange of the supporting pipe size. Size of base determined by size of largest opening of fitting. Bases will be furnished not faced and not drilled unless otherwise specified. When ordered faced, dimensions "R" and "T" will be slightly less than shown in table.

FIGURE 808
90° Flanged Side Outlet Elbow



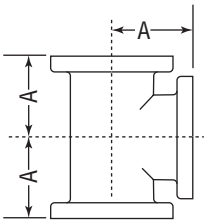
Size		A		Flange Diameter		Thickness				Unit Weight	
						Flange		Wall		Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
4	*100*	6 1/2	*165*	9	*229*	15/16	*24*	1/2	*13*	59.00	*26.76*
6	*150*	8	*203*	11	*279*	1	*25*	9/16	*14*	96.00	*43.54*
8	*200*	9	*229*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	150.00	*68.03*

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

Class 125 (Standard)

FIGURE 811
Flanged Tee



Size		A		AA		Flange Diameter		Thickness				Unit Weight			
								Flange		Wall		Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/2	*40*	4	*102*	8	*203*	5	*127*	9/16	*14*	5/16	*8*	15.00	*6.80*	–	–
2	*50*	4 1/2	*114*	9	*229*	6	*152*	5/8	*16*	5/16	*8*	21.00	*9.52*	21.00	*9.52*
2 1/2	*65*	5	*127*	10	*254*	7	*178*	11/16	*17*	5/16	*8*	30.00	*13.61*	30.00	*13.61*
3	*80*	5 1/2	*140*	11	*279*	7 1/2	*191*	3/4	*19*	3/8	*10*	37.00	*16.78*	37.00	*16.78*
4	*100*	6 1/2	*165*	13	*330*	9	*229*	15/16	*24*	1/2	*13*	64.00	*29.02*	64.00	*29.02*
5	*125*	7 1/2	*191*	15	*381*	10	*254*	15/16	*24*	1/2	*13*	81.00	*36.73*	–	–
6	*150*	8	*203*	16	*406*	11	*279*	1	*25*	9/16	*14*	105.00	*47.62*	105.00	*47.62*
8	*200*	9	*229*	18	*457*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	165.00	*74.83*	165.00	*74.83*
10	*250*	11	*279*	22	*559*	16	*406*	1 3/16	*30*	3/4	*19*	270.00	*122.45*	270.00	*122.45*
12	*300*	12	*305*	24	*610*	19	*483*	1 1/4	*32*	13/16	*22*	380.00	*172.34*	380.00	*172.34*

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

Class 125 (Standard)

FIGURE 812
Flanged Reducing Tee

4 NPS (100 DN)
6 NPS (150 DN) — 5 NPS (125 DN)

Read as:
6 x 5 x 4
(150 x 125 x 100DN)

Dimensions for reducing tees for sizes 16" NPS (400 DN) and smaller have same center to face dimensions as straight size fittings corresponding to the largest opening. Dimensions of sizes not listed furnished on request.

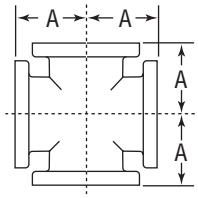
Size						Unit Weight			
						Black		Galv.	
NPS	DN	NPS	DN	NPS	DN	lbs	kg	lbs	kg
3	80	2	50	3	80	33.00	14.97	–	–
		3	80	1½	40	32.00	14.51	–	–
				2	50	34.00	15.42	–	–
				2½	65	35.00	15.87	–	–
				4	100	56.00	25.40	–	–
4	100	2	50	4	100	50.00	22.68	–	–
		2½	65	4	100	56.00	25.40	–	–
		3	80	3	80	53.00	24.04	–	–
				4	100	59.00	26.76	–	–
		4	100	2	50	51.00	23.13	–	–
				2½	65	56.00	25.40	–	–
				3	80	57.00	25.85	–	–
				6	150	88.00	39.91	–	–
5	125	5	125	3	80	71.00	32.20	–	–
				4	100	80.00	36.28	–	–
6	150	3	80	6	150	91.00	41.27	–	–
		4	100	4	100	88.00	39.91	88.00	39.91
				6	150	94.00	42.63	–	–
		5	125	4	100	91.00	41.27	–	–
		6	150	2	50	86.00	39.00	–	–
				2½	65	90.00	40.82	–	–
				3	80	92.00	41.72	–	–
				4	100	97.00	43.99	–	–
				5	125	105.00	47.62	–	–
				8	200	142.00	64.40	–	–
8	200	4	100	6	150	140.00	63.49	–	–
				8	200	146.00	66.21	–	–
		6	150	4	100	125.00	56.69	–	–
				6	150	144.00	65.31	–	–
				8	200	159.00	72.11	–	–
		8	200	3	80	140.00	63.49	–	–
				4	100	143.00	64.85	143.00	64.85
				6	150	156.00	70.75	156.00	70.75
10	250	8	200	6	150	220.00	99.77	–	–
				8	200	232.00	105.22	–	–
				10	250	262.00	118.82	–	–
		10	250	4	100	225.00	102.04	–	–
				6	150	240.00	108.84	–	–
				8	200	262.00	118.82	–	–
12	300	8	200	8	200	298.00	135.15	–	–
				12	300	340.00	154.20	–	–
		12	300	6	150	323.00	146.49	–	–
				8	200	330.00	149.66	–	–
				10	250	362.00	164.17	–	–

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

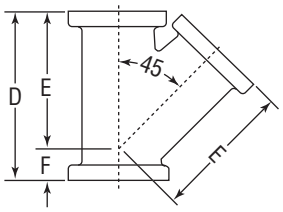
Class 125 (Standard)

FIGURE 821
Flanged Cross



Size		A		AA		Flange Diameter		Thickness				Unit Weight	
								Min. Flange		Wall		Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	*50*	4 1/2	*114*	9	*225*	6	*152*	5/8	*16*	5/16	*8*	28.00	*12.70*
2 1/2	*65*	5	*127*	10	*250*	7	*178*	11/16	*17*	5/16	*8*	39.00	*17.69*
3	*80*	5 1/2	*140*	11	*275*	7 1/2	*191*	3/4	*19*	3/8	*10*	48.00	*21.77*
4	*100*	6 1/2	*165*	13	*325*	9	*229*	15/16	*24*	1/2	*13*	82.00	*37.19*
6	*150*	8	*203*	16	*400*	11	*279*	1	*25*	9/16	*14*	135.00	*61.22*
8	*200*	9	*229*	18	*450*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	210.00	*95.24*
10	*250*	11	*279*	22	*550*	16	*406*	1 3/16	*30*	3/4	*19*	330.00	*149.66*

FIGURE 823
Flanged Lateral



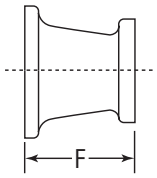
Size		Face to Face D		Center to Face E		Center to Face F		Flange Diameter		Thickness				Unit Weight	
										Min. Flange		Wall		Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	*50*	10 1/2	*267*	8	*203*	2 1/2	*64*	6	*152*	5/8	*16*	5/16	*8*	25.00	*11.34*
2 1/2	*65*	12	*305*	9 1/2	*241*	2 1/2	*64*	7	*178*	11/16	*17*	5/16	*8*	36.00	*16.33*
3	*80*	13	*330*	10	*254*	3	*76*	7 1/2	*191*	3/4	*19*	3/8	*10*	44.00	*19.95*
4	*100*	15	*381*	12	*305*	3	*76*	9	*229*	15/16	*24*	1/2	*13*	75.00	*34.01*
5	*125*	17	*432*	13 1/2	*343*	3 1/2	*89*	10	*254*	15/16	*24*	1/2	*13*	96.00	*43.54*
6	*150*	18	*457*	14 1/2	*368*	3 1/2	*89*	11	*279*	1	*25*	9/16	*14*	125.00	*56.69*
8	*200*	22	*559*	17 1/2	*445*	4 1/2	*114*	13 1/2	*343*	1 1/8	*29*	5/8	*16*	210.00	*95.24*

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

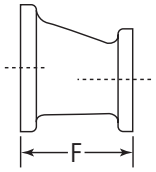
Class 125 (Standard)

FIGURE 825
Flanged Concentric Reducer



Size				F		Unit Weight			
						Black		Galv.	
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
2	*50*	1 1/2	*40*	5	*127*	12.00	*5.44*	–	–
2 1/2	*65*	1 1/2	*40*	5	*127*	12.00	*5.44*	–	–
		2	*50*			14.00	*6.35*	–	–
3	*80*	1 1/2	*40*	6	*152*	14.00	*6.35*	–	–
		2	*50*			16.00	*7.26*	–	–
		2 1/2	*65*			19.00	*8.62*	19.00	*8.62*
4	*100*	2	*50*	7	*178*	24.00	*10.88*	24.00	*10.88*
		2 1/2	*65*			26.00	*11.79*	26.00	*11.79*
		3	*80*			28.00	*12.70*	28.00	*12.70*
5	*125*	2 1/2	*65*	8	*203*	31.00	*14.06*	–	–
		3	*80*			32.00	*14.51*	–	–
		4	*100*			39.00	*17.69*	–	–
6	*150*	2	*50*	9	*229*	34.00	*15.42*	–	–
		2 1/2	*65*			37.00	*16.78*	–	–
		3	*80*			39.00	*17.69*	–	–
		4	*100*			47.00	*21.32*	47.00	*21.32*
		5	*125*			50.00	*22.68*	–	–
8	*200*	4	*100*	11	*279*	66.00	*29.93*	–	–
		5	*125*			71.00	*32.20*	–	–
		6	*150*			77.00	*34.92*	77.00	*34.92*
10	*250*	4	*100*	12	*305*	85.00	*38.55*	–	–
		5	*125*			90.00	*40.82*	–	–
		6	*150*			100.00	*45.35*	–	–
		8	*200*			120.00	*54.42*	–	–
12	*300*	6	*150*	14	*356*	140.00	*63.49*	–	–
		8	*200*			155.00	*70.29*	–	–
		10	*250*			180.00	*81.63*	–	–

FIGURE 826
Flanged Eccentric Reducer



Size				F		Unit Weight			
						Black		Galv.	
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*
3	*80*	2	*50*	6	*152*	16.00	*7.26*	–	–
		2 1/2	*65*			22.00	*9.98*	–	–
4	*100*	2	*50*	7	*178*	28.00	*12.70*	–	–
		2 1/2	*65*			28.00	*12.70*	–	–
		3	*80*			28.00	*12.70*	–	–
5	*125*	4	*100*	8	*203*	39.00	*17.69*	–	–
6	*150*	3	*80*	9	*229*	47.00	*21.32*	–	–
		4	*100*			50.00	*22.68*	50.00	*22.68*
		5	*125*			51.00	*23.13*	–	–
8	*200*	4	*100*	11	*279*	71.00	*32.20*	–	–
		5	*125*			76.00	*34.47*	–	–
		6	*150*			77.00	*34.92*	–	–
10	*250*	6	*150*	12	*305*	107.00	*48.53*	–	–
		8	*200*			120.00	*54.42*	–	–
12	*300*	8	*200*	14	*356*	155.00	*70.29*	–	–
		10	*250*			180.00	*81.63*	–	–

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

Class 250 (Extra Heavy)

Specifications

All Extra Heavy or "Class 250" Cast Iron Flanged Fittings in sizes listed are made to ASME B16.1, and are marked "250". All Class 250 Cast Iron Flange Fittings are faced and drilled to ASME B 16.1, unless otherwise specified.

Anvil Fittings' sizes 1" NPS to 10" NPS *(25 to 250 DN)* shown in this section are included in the "List of Inspected Fire Protection Equipment and Materials" issued by the Underwriters' Laboratories, Inc.

Coatings

Flanged fittings are available in both black and galvanized. Consult an Anvil Representative for available sizes.

Sizes

To avoid delay in shipment, where other than sizes given are ordered, we carry in stock reducing flanges, the use of which, in connection with straight or reducing fittings carried in stock, enable us to fill orders promptly for reducing sizes where specifications will permit reduction made in this manner. The reducing flanges furnished are the same thickness as the regular companion flange of the corresponding outside diameter and will be drilled to the template corresponding to the outside diameter unless otherwise ordered. For fittings reduced in this manner, please specify "reduce by flanges if necessary."

To order reducing companion flanges, specify threaded or reduced size first and follow with outside diameter. For instance, if a reducing flange is required to connect a 4-inch *(100 DN)* pipe to a 6-inch *(150 DN)* valve or fitting having a 12 1/2" *(315 DN)* flange, order a 4 NPS x 12 1/2 NPS *(100 x 315 DN)* reducing flange.

Dimensions

All Extra Heavy or "Class 250" Cast Iron Flanged Fittings have a raised face (for gaskets) 1/16-inch *(2mm)* high inside of bolt holes. For bolts 1 1/8-inch *(29mm)* smaller, the bolt hole is drilled 1/8-inch *(3mm)* larger than the diameter of bolt. Bolt holes straddle the center line and the steel bolts with square heads and hex nuts are recommended.

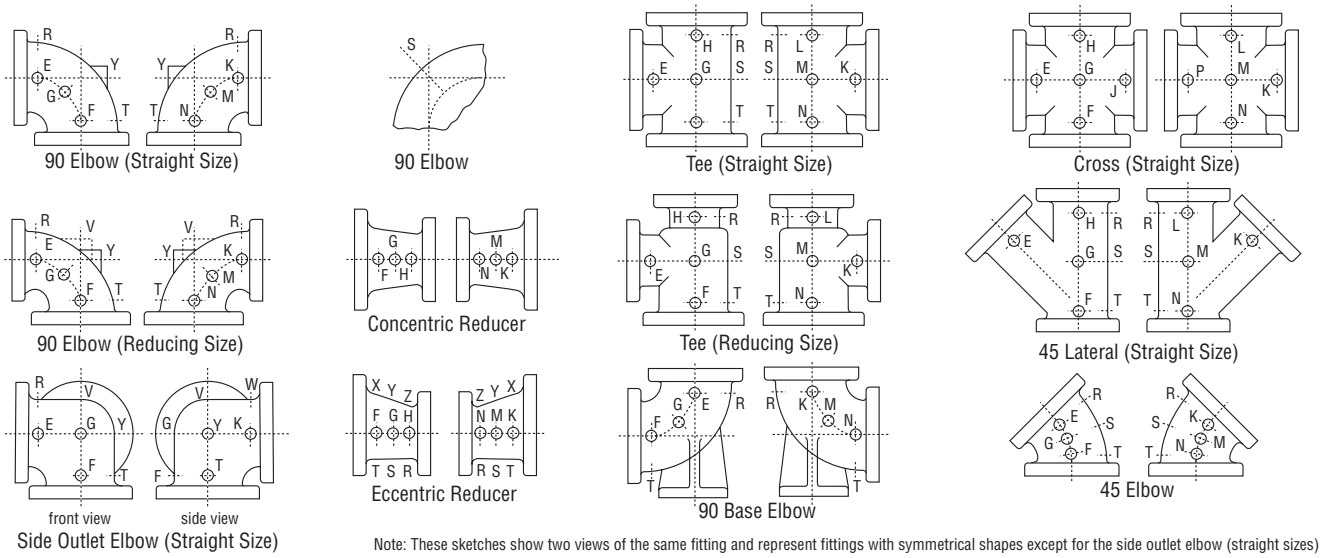
Reducing elbows have same center to face dimensions as regular elbows of the largest straight size.

Reducing tees NPS 12 *(300 DN)* and smaller have the same center-to-face and face-to-face dimensions as a straight fitting of the size of the largest opening. Dimensions for larger sizes furnished upon request.

Tolerances

An inspection limit of plus or minus 1/32 inch *(1mm)* is allowed on all center to contact surface dimensions for sizes up to and including 10 NPS *(250 DN)* and plus or minus 1/16 inch *(2mm)* on sizes larger than 10 NPS *(250 DN)*. Inspection limit of plus or minus 1/16 inch *(2mm)* is allowed on all contact surface to contact surface dimensions for sizes up to and including 10 NPS *(250 DN)*; plus or minus 1/8 inch *(3mm)* on sizes larger than 10 NPS *(250 DN)*.

Method of designating location of tapped holes for drains when specified Class 125 (standard) and Class 250 (extra heavy)



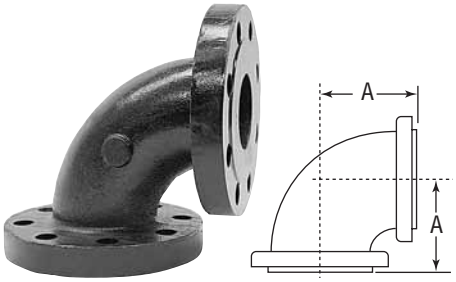
Note: These sketches show two views of the same fitting and represent fittings with symmetrical shapes except for the side outlet elbow (straight sizes)

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

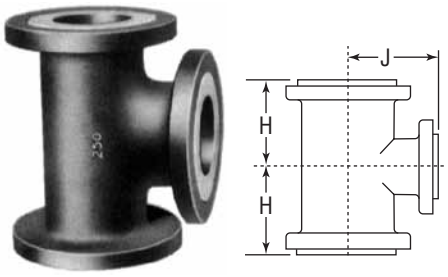
Class 250 (Extra Heavy)

FIGURE 831
90° Flanged Elbow



Size		A		Flange Diameter		Flange Thickness		Dia. of Raised Face		Wall Thickness of Body		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	*50*	5	*127*	6 1/2	*165*	7/8	*22*	4 3/16	*106*	7/16	*11*	20.00	*9.07*
2 1/2	*65*	5 1/2	*140*	7 1/2	*191*	1	*25*	4 15/16	*125*	1/2	*13*	30.00	*13.61*
3	*80*	6	*152*	8 1/4	*210*	1 1/8	*29*	5 11/16	*144*	9/16	*14*	40.00	*18.14*
4	*100*	7	*178*	10	*254*	1 1/4	*32*	6 15/16	*176*	5/8	*16*	65.00	*29.48*
6	*150*	8 1/2	*216*	12 1/2	*318*	1 7/16	*37*	9 11/16	*246*	3/4	*19*	115.00	*52.15*
8	*200*	10	*254*	15	*381*	1 5/8	*41*	11 15/16	*303*	13/16	*22*	185.00	*83.90*

FIGURE 841
Flanged Tee



Size		Min. Inside Diam. of Flange		J		HH		Flange Diam.		Min. Flange Thickness		Diam. of Raised Face		Min. Wall Thickness of Body		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2 1/2	*65*	2 1/2	*64*	5 1/2	*140*	11	*279*	7 1/2	*191*	1	*25*	4 15/16	*125*	1/2	*13*	46.00	*20.86*
3	*80*	3	*76*	6	*152*	12	*305*	8 1/4	*210*	1 1/8	*29*	5 11/16	*144*	9/16	*14*	58.00	*26.30*
4	*100*	4	*102*	7	*178*	14	*356*	10	*254*	1 1/4	*32*	6 15/16	*176*	5/8	*16*	99.00	*44.90*
6	*150*	6	*152*	8 1/2	*216*	17	*432*	12 1/2	*318*	1 7/16	*37*	9 11/16	*246*	3/4	*19*	180.00	*81.63*
8	*200*	8	*203*	10	*254*	20	*508*	15	*381*	1 5/8	*41*	11 15/16	*303*	13/16	*22*	280.00	*126.98*

FIGURE 842
Flanged Reducing Tee

Size Reducing						Unit Weight Black	
NPS	*DN*	NPS	*DN*	NPS	*DN*	lbs	*kg*
6	*150*	6	*150*	4	*100*	160.00	*72.56*
8	*200*	8	*200*	6	*150*	257.00	*116.55*

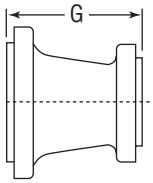
Dimensions for reducing tees for sizes listed 16 NPS *(400 DN)* and smaller have same center to face dimension as straight size fittings corresponding to the largest opening. Dimensions of sizes not listed furnished on request.

Note: See page 63 for pressure-temperature ratings.

Cast Iron Flanged Fittings

Class 250 (Extra Heavy)

FIGURE 855
Flanged Concentric Reducer



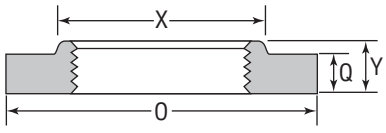
Size				G		Unit Weight Black	
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*
3	*80*	2	*50*	6	*152*	25.00	*11.34*
		2 1/2	*65*			29.00	*13.15*
4	*100*	2 1/2	*65*	7	*178*	40.00	*18.14*
		3	*80*			44.00	*19.95*
6	*150*	3	*80*	9	*229*	67.00	*30.39*
		4	*100*			77.00	*34.92*
		5	*125*			85.00	*38.55*
8	*200*	4	*100*	11	*279*	105.00	*47.62*
		6	*150*			130.00	*58.96*
10	*250*	6	*150*	12	*305*	170.00	*77.10*
		8	*200*			190.00	*86.17*

Iron Flanges

Class 125 (Standard)

Class 125 (Standard) Iron Flanges are manufactured to American National Standard ASME B16.1.

FIGURE 1011
Companion Flange



When ordering companion flanges, always give outside diameter as well as nominal pipe size.

Pipe Size		Diam. of Flange O		Min.Flange Thickness Q		Min. Diam. of Hub X		Min. Length Through Hub Y		Unit Weight Black		Unit Weight Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
3/4	*20*	3 7/8	*98*	7/16	*11*	1 3/4	*44*	5/8	*16*	1.50	*0.68*	1.50	*0.68*
1	*25*	4 1/4	*108*	7/16	*11*	1 15/16	*49*	11/16	*17*	1.75	*0.79*	1.75	*0.79*
1 1/4	*32*	4 5/8	*117*	1/2	*13*	2 5/16	*59*	13/16	*22*	2.00	*0.91*	2.00	*0.91*
1 1/2	*40*	5	*127*	9/16	*14*	2 9/16	*65*	7/8	*22*	2.25	*1.02*	2.25	*1.02*
2	*50*	6	*152*	5/8	*16*	3 1/16	*78*	1	*25*	4.00	*1.81*	4.00	*1.81*
2 1/2	*65*	7	*178*	11/16	*17*	3 9/16	*90*	1 1/8	*29*	6.00	*2.72*	6.00	*2.72*
3	*80*	7 1/2	*191*	3/4	*19*	4 1/4	*108*	1 3/16	*30*	7.63	*3.46*	7.63	*3.46*
3 1/2	*90*	8 1/2	*216*	13/16	*22*	4 13/16	*124*	1 1/4	*32*	9.00	*4.08*	–	–
4	*100*	9	*229*	15/16	*24*	5 5/16	*135*	1 5/16	*33*	11.75	*5.33*	11.75	*5.33*
5	*125*	10	*254*	15/16	*24*	6 7/16	*164*	1 7/16	*37*	14.00	*6.35*	14.00	*6.35*
6	*150*	11	*279*	1	*25*	7 9/16	*192*	1 9/16	*40*	16.50	*7.48*	16.50	*7.48*
8	*200*	13 1/2	*343*	1 1/8	*29*	9 11/16	*246*	1 3/4	*44*	26.00	*11.79*	26.00	*11.79*
10	*250*	16	*406*	1 3/16	*30*	11 15/16	*303*	1 15/16	*49*	37.75	*17.12*	37.75	*17.12*
12	*300*	19	*483*	1 1/4	*32*	14 1/16	*357*	2 3/16	*56*	50.50	*22.90*	50.50	*22.90*

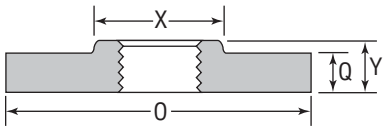
Note: See page 63 for pressure-temperature ratings.

Iron Flanges

Class 125 (Standard)

Class 125 (Standard) Iron Flanges are manufactured to American National Standard ASME B16.1.

FIGURE 1016
Reducing Flange



Pipe Size		Diam. of Flange O		Min.Flange Thickness Q		Min. Diam. of Hub X		Min. Length Thru Hub Y		Unit Weight			
										Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1	*25*	5	*127*	9/16	*14*	1 15/16	*49*	11/16	*17*	2.75	*1.25*	–	–
1 1/4	*32*					2 5/16	*59*	13/16	*22*	2.50	*1.13*	–	–
1	*25*	6	*152*	5/8	*16*	11 5/16	*49*	11/16	*17*	5.00	*2.27*	–	–
1 1/4	*32*					2 5/16	*59*	13/16	*22*	4.75	*2.15*	–	–
1 1/2	*40*					2 9/16	*65*	7/8	*22*	4.50	*2.04*	4.50	*2.04*
1 1/2	*40*	7	*178*	1 1/16	*27*	2 9/16	*65*	7/8	*22*	7.00	*3.17*	7.00	*3.17*
2	*50*					3 1/16	*78*	1	*25*	6.75	*3.06*	6.75	*3.06*
1	*25*	7 1/2	*191*	3/4	*19*	1 15/16	*49*	13/16	*22*	9.00	*4.08*	–	–
1 1/2	*40*					2 9/16	*65*	7/8	*22*	8.75	*3.97*	8.75	*3.97*
2	*50*					3 1/16	*78*	1	*25*	8.50	*3.85*	8.50	*3.85*
2 1/2	*65*					3 9/16	*90*	1 1/8	*29*	8.00	*3.63*	8.00	*3.63*
3	*80*	8 1/2	*203*	1 3/16	*30*	4 1/4	*108*	1 3/16	*30*	10.00	*4.54*	–	–
1 1/2	*40*	9	*229*	1 5/16	*33*	2 9/16	*65*	1	*25*	14.00	*6.35*	14.00	*6.35*
2	*50*					3 1/16	*78*	1	*25*	14.00	*6.35*	14.00	*6.35*
2 1/2	*65*					3 9/16	*90*	1 1/8	*29*	13.50	*6.12*	13.50	*6.12*
3	*80*					4 1/4	*108*	1 3/16	*30*	12.75	*5.78*	12.75	*5.78*
3 1/2	*90*					4 13/16	*124*	1 1/4	*32*	12.00	*5.44*	–	–
3	*80*	10	*254*	1 5/16	*33*	4 1/4	*108*	1 3/16	*30*	17.00	*7.71*	17.00	*7.71*
4	*100*					5 5/16	*135*	1 5/16	*33*	16.00	*7.26*	16.00	*7.26*
1 1/2	*40*	11	*279*	1	*25*	2 9/16	*65*	1 1/16	*27*	27.00	*12.24*	–	–
2	*50*					3 1/16	*78*	1 1/16	*27*	26.00	*11.79*	26.00	*11.79*
2 1/2	*65*					3 9/16	*90*	1 1/8	*29*	25.00	*11.34*	25.00	*11.34*
3	*80*					4 1/4	*108*	1 3/16	*30*	23.00	*10.43*	23.00	*10.43*
4	*100*					5 5/16	*135*	1 5/16	*33*	21.00	*9.52*	21.00	*9.52*
5	*125*					6 7/16	*164*	1 7/16	*37*	19.00	*8.62*	19.00	*8.62*
2	*50*	13 1/2	*343*	1 1/8	*29*	3 1/16	*78*	1 3/16	*30*	44.00	*19.95*	–	–
3	*80*					4 1/4	*108*	1 3/16	*30*	40.00	*18.14*	40.00	*18.14*
4	*100*					5 5/16	*135*	1 5/16	*33*	37.00	*16.78*	37.00	*16.78*
5	*125*					6 7/16	*164*	1 7/16	*37*	34.00	*15.42*	–	–
6	*150*					7 9/16	*192*	1 9/16	*40*	31.00	*14.06*	31.00	*14.06*
6	*150*	16	*406*	1 3/16	*30*	7 9/16	*192*	1 9/16	*40*	53.00	*24.04*	–	–
8	*200*					9 11/16	*246*	1 3/4	*44*	50.00	*22.68*	–	–
6	*150*	19	*483*	1 1/4	*32*	7 9/16	*192*	1 9/16	*40*	88.00	*39.91*	–	–
8	*200*					9 11/16	*246*	1 3/4	*44*	81.00	*36.73*	–	–

To order reducing companion flanges, specify threaded or reduced size first, then the outside diameter of deisred flange. For instance, if a reducing flange is required to connect a 5 NPS *(125 DN)* pipe to an 8 NPS *(200 DN)* valve or fitting having a 13 1/2 inch *(338 DN)* OD flange, order 5 NPS x 13 1/2 inch *(125 x 338 DN)* reducing flange.

Note: See page 63 for pressure-temperature ratings.

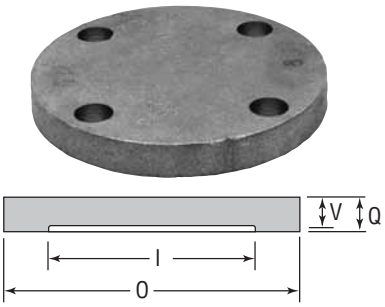
Iron Flanges

Class 125 (Standard)

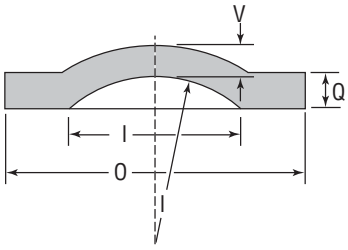
Class 125 (Standard) Iron Flanges are manufactured to American National Standard ASME B16.1.

FIGURE 1018
Blind Flange

10 x 16 (NPS) and smaller



12 x 19 (NPS) and larger



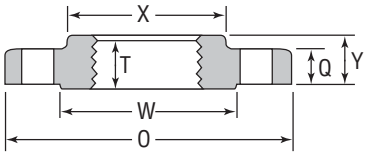
Pipe Size I		Diam. of Flange O		Min. Flange Thickness Q		Wall Thickness V		Unit Weight			
								Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1	*25*	4 1/4	*108*	7/16	*11*	3/8	*10*	2.00	*0.91*	2.00	*0.91*
1 1/4	*32*	4 5/8	*117*	1/2	*13*	7/16	*11*	2.25	*1.02*	2.25	*1.02*
1 1/2	*40*	5	*127*	9/16	*14*	1/2	*13*	3.75	*1.70*	–	–
2	*50*	6	*152*	5/8	*16*	9/16	*14*	4.00	*1.81*	4.00	*1.81*
2 1/2	*65*	7	*178*	11/16	*17*	5/8	*16*	6.75	*3.06*	–	–
3	*80*	7 1/2	*191*	3/4	*19*	11/16	*17*	8.00	*3.63*	8.00	*3.63*
3 1/2	*90*	8 1/2	*216*	13/16	*22*	3/4	*19*	11.00	*4.99*	–	–
4	*100*	9	*229*	15/16	*24*	7/8	*22*	14.00	*6.35*	14.00	*6.35*
5	*125*	10	*254*	15/16	*24*	7/8	*22*	18.00	*8.16*	18.00	*8.16*
6	*150*	11	*279*	1	*25*	15/16	*24*	23.00	*10.43*	23.00	*10.43*
8	*200*	13 1/2	*343*	1 1/8	*29*	1 1/16	*27*	40.00	*18.14*	40.00	*18.14*
10	*250*	16	*406*	1 3/16	*30*	1 1/8	*29*	59.00	*26.76*	–	–
12	*300*	19	*483*	1 1/4	*32*	13/16	*22*	88.00	*39.91*	–	–

All Class 125 cast iron standard flanges have a flat face. Blind Flange 12 x 19 NPS supplied dished with inside radius to the pipe diameter. When ordering blind flanges, always give the outside diameters.

Iron Flanges

Class 250 (Extra Heavy)

FIGURE 1025
Companion Flange



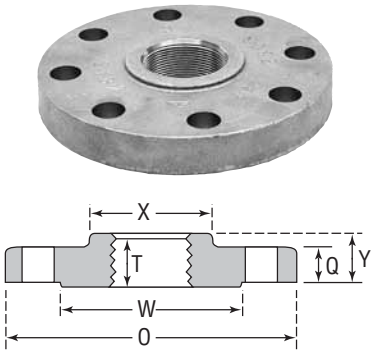
Pipe Size		Diam. of Flange O		Min. Flange Thickness Q		Min. Hub Diameter X		Min. Length Thru Hub Y		Min. Length of Threads T		Diam. of Raised Face W		Unit Weight			
														Black		Galv.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
1 1/4	*32*	5 1/4	*133*	3/4	*19*	2 1/2	*64*	1	*25*	0.76	*19*	3 1/16	*78*	3.75	*1.70*	–	–
1 1/2	*40*	6 1/8	*156*	13/16	*22*	2 3/4	*70*	1 1/8	*29*	0.87	*22*	3 9/16	*90*	5.75	*2.61*	–	–
2	*50*	6 1/2	*165*	7/8	*22*	3 5/16	*84*	1 1/4	*32*	1.00	*25*	4 3/16	*106*	6.50	*2.95*	6.50	*2.95*
2 1/2	*65*	7 1/2	*191*	1	*25*	3 15/16	*100*	1 7/16	*37*	1.14	*29*	4 15/16	*125*	9.50	*4.31*	9.50	*4.31*
3	*80*	8 1/4	*210*	1 1/8	*29*	4 5/8	*117*	1 9/16	*40*	1.20	*30*	5 11/16	*144*	12.33	*5.59*	12.33	*5.59*
4	*100*	10	*254*	1 1/4	*32*	5 3/4	*146*	1 3/4	*44*	1.30	*33*	6 15/16	*176*	20.00	*9.07*	20.00	*9.07*
5	*125*	11	*279*	1 3/8	*35*	7	*178*	1 7/8	*48*	1.41	*36*	8 5/16	*211*	24.00	*10.88*	–	–
6	*150*	12 1/2	*318*	1 7/16	*37*	8 1/8	*206*	1 15/16	*49*	1.51	*38*	9 11/16	*246*	32.00	*14.51*	–	–
8	*200*	15	*381*	1 5/8	*41*	10 1/4	*260*	2 3/16	*56*	1.71	*43*	11 15/16	*303*	51.00	*23.13*	–	–

Note: See page 63 for pressure-temperature ratings.

Iron Flanges

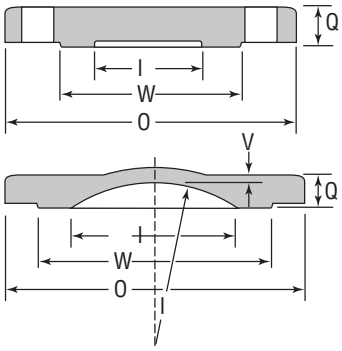
Class 250 (Extra Heavy)

FIGURE 1030
Reducing Flange



Pipe Size		Diam. of Flange O		Min. Flange Thickness Q		Min. Length Thru Hub Y		Min. Length of Threads T		Diam. of Raised Face W		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2	*50*	8 1/4	*210*	1 1/8	*29*	1 1/4	*32*	1.00	*25*	5 11/16	*144*	14.25	*6.46*
2 1/2	*65*	8 1/4	*210*	1 1/8	*29*	1 7/16	*37*	1.14	*29*	5 11/16	*144*	13.50	*6.12*
3	*80*	10	*254*	1 1/4	*32*	1 9/16	*40*	1.20	*30*	6 15/16	*176*	22.75	*10.32*
4	*100*	11	*279*	1 3/8	*35*	1 3/4	*44*	1.30	*33*	8 5/16	*211*	30.00	*13.61*

FIGURE 1021
Blind Flange



Pipe Size		Diam. of Flange O		Diam. of Port I		Min. Flange Thickness Q		Min. Metal Thickness V		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
1 1/2	*40*	6 1/8	*156*	1 1/2	*38*	1 3/16	*22*	–	–	5.30	*2.40*
2	*50*	6 1/2	*165*	2	*51*	7/8	*22*	–	–	7.00	*3.17*
2 1/2	*65*	7 1/2	*191*	2 1/2	*64*	1	*25*	–	–	11.00	*4.99*
3	*80*	8 1/4	*210*	3	*76*	1 1/8	*29*	–	–	14.00	*6.35*
4	*100*	10	*254*	4	*102*	1 1/4	*32*	–	–	23.00	*10.43*
5	*125*	11	*279*	5	*127*	1 3/8	*35*	–	–	31.00	*14.06*
6	*150*	12 1/2	*318*	6	*152*	1 7/16	*37*	–	–	42.00	*19.05*
8	*200*	15	*381*	8	*203*	1 5/8	*41*	–	–	70.00	*31.75*

High Hub Flanges for C.I. Pipe

FIGURE 1010T
Cast Iron Flanges for Cast Iron Pipe

Size		Flange OD		C.I. Pipe O.D.		Flange Thickness		Length thru hub		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
3	*80*	7 1/2	*191*	3.96	*101*	3/4	*19*	1 3/4	*44*	7.50	*3.40*
4	*100*	9	*229*	4.80	*122*	15/16	*24*	1 15/16	*49*	13.00	*5.90*
6	*150*	11	*279*	6.90	*175*	1	*25*	2 3/16	*56*	17.20	*7.80*
8	*200*	13 1/2	*343*	9.05	*230*	1 1/8	*29*	2 7/16	*62*	29.00	*13.15*
10	*250*	16	*406*	11.10	*282*	1 3/16	*30*	2 1/2	*64*	42.00	*19.05*
12	*300*	19	*483*	13.20	*335*	1 1/4	*32*	2 13/16	*73*	60.00	*27.21*

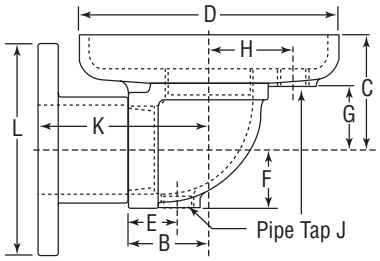
Flanges drilled to ASME B16.1. Class 125 Flanges furnished threaded, drilled and faced.

Note: See page 63 for pressure-temperature ratings.

Cast Iron Threaded Fittings

Safety Valve Discharge Elbows

FIGURE 1538
Screwed
Cast Iron



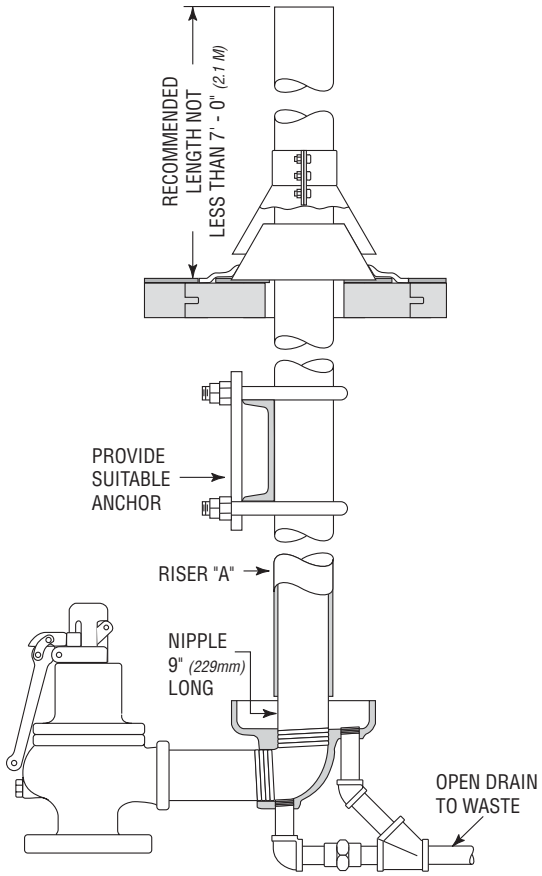
Elbow Pipe Size		Riser Pipe Size A		B		C		D		E		F		G		H		J		K		L		Unit Weight Black	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
2 1/2	*65*	3 1/2	*89*	2 11/16	*89*	4 5/16	*110*	8 1/2	*216*	1 5/8	*41*	1 15/16	*49*	2 1/8	*54*	2 3/4	*70*	3/4	*19*	–	–	–	–	12.00	*5.44*
3	*80*	4	*102*	3 1/8	*79*	4 7/8	*124*	9 1/2	*241*	1 5/8	*41*	2 5/16	*59*	2 9/16	*65*	3 1/8	*79*	3/4	*19*	–	–	–	–	15.00	*6.80*
4	*100*	5	*127*	3 3/4	*95*	5 3/4	*146*	11	*279*	1 3/4	*44*	2 15/16	*75*	3 3/16	*81*	3 3/4	*95*	3/4	*19*	–	–	–	–	27.00	*12.24*
6	*150*	8	*203*	5 1/8	*130*	7 5/8	*194*	13 3/4	*349*	2	*51*	4 3/16	*106*	4 9/16	*116*	5	*127*	3/4	*19*	–	–	–	–	53.00	*24.04*

Following are the advantages of Anvil safety valve discharge elbow for piping connections to safety valves when attached to boilers, etc.:

- Drip pan for removing condensate and rain water casts integral with elbow.
- Strains on safety valve minimized.
- Pipe tap J is standard.

With multiple pop safety valve, leakage of vapor at any discharge elbow indicates valve in operation.

Street elbows and flanged elbows furnished on order.



Note: See page 37 for pressure-temperature ratings.

Bolt Template

For Drilling Flanged Fittings

Bolt Template for Drilling Flanged Fittings																	
Pipe Size		Flange Dia.		Min. Flange Thickness		Bolt Circle Dia.		No of bolts	Bolt Hole Dia.		Dia. of Bolt		Length of Bolt		Ring Gasket I.D.		Ring Gasket O.D.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*		in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*
¾	*20*	3⅞	*98*	7/16	*11*	2¾	*70*	4	⅝	*16*	½	*13*	1¾	*44*	1 1/16	*27*	2¼	*57*
1	*25*	4¼	*108*	7/16	*11*	3⅛	*79*	4	⅝	*16*	½	*13*	1¾	*44*	1 5/16	*33*	2⅝	*67*
1¼	*32*	4⅝	*117*	½	*13*	3½	*89*	4	⅝	*16*	½	*13*	2	*51*	1 21/32	*42*	3	*76*
1½	*40*	5	*127*	9/16	*14*	3⅞	*98*	4	⅝	*16*	½	*13*	2	*51*	1 29/32	*48*	3⅜	*86*
2	*50*	6	*152*	⅝	*16*	4¾	*121*	4	¾	*19*	⅝	*16*	2¼	*57*	2⅜	*60*	4⅛	*105*
2½	*65*	7	*178*	11/16	*17*	5½	*140*	4	¾	*19*	⅝	*16*	2½	*64*	2⅞	*73*	4⅞	*124*
3	*80*	7½	*191*	¾	*19*	6	*152*	4	¾	*19*	⅝	*16*	2½	*64*	3½	*89*	5⅜	*137*
3½	*90*	8½	*216*	13/16	*22*	7	*178*	8	¾	*19*	⅝	*16*	2¾	*70*	4	*102*	6⅜	*162*
4	*100*	9	*229*	15/16	*24*	7½	*191*	8	¾	*19*	⅝	*16*	3	*76*	4½	*114*	6⅞	*175*
5	*125*	10	*254*	15/16	*24*	8½	*216*	8	⅞	*22*	¾	*19*	3	*76*	5 9/16	*141*	7¾	*197*
6	*150*	11	*279*	1	*25*	9½	*241*	8	⅞	*22*	¾	*19*	3¼	*83*	6⅝	*168*	8¾	*222*
8	*200*	13½	*343*	1⅛	*29*	11¾	*298*	8	⅞	*22*	¾	*19*	3½	*89*	8⅝	*219*	11	*279*
10	*250*	16	*406*	1 3/16	*30*	14¼	*362*	12	1	*25*	⅞	*22*	3¾	*95*	10¾	*273*	13⅜	*340*
12	*300*	19	*483*	1¼	*32*	17	*432*	12	1	*25*	⅞	*22*	3¾	*95*	12¾	*324*	16⅛	*410*
14 O.D.	*350 O.D.*	21	*533*	1⅜	*35*	18¾	*476*	12	1⅛	*29*	1	*25*	4¼	*108*	14	*356*	17¾	*451*
16 O.D.	*400 O.D.*	23½	*597*	1 7/16	*37*	21¼	*540*	16	1⅛	*29*	1	*25*	4½	*114*	16	*406*	20¼	*514*
18 O.D.	*450 O.D.*	25	*635*	1 9/16	*40*	22¾	*578*	16	1¼	*32*	1⅛	*29*	4¾	*121*	18	*457*	21⅝	*549*
20 O.D.	*500 O.D.*	27½	*699*	1 11/16	*43*	25	*635*	20	1¼	*32*	1⅛	*29*	5	*127*	20	*508*	23⅞	*606*
24 O.D.	*600 O.D.*	32	*813*	1⅞	*48*	29½	*749*	20	1⅜	*35*	1¼	*32*	5½	*140*	24	*610*	28¼	*718*

Drilling templates are in multiples of four, so that fittings may be made to face in any quarter. Bolt holes straddle the center line.

Note: See page 37 for pressure-temperature ratings.

Bolt Template

For Drilling Extra Heavy Flanged Fittings

Bolt Template for Drilling Extra Heavy Flanged Fittings																			
Pipe Size		Flange Dia.		Min. Flange Thickness		Dia. of Raised Face		Bolt Circle Dia.		No of bolts	Dia. of Bolt Holes		Bolt Dia.		Bolt Length		Gasket I.D.		Ring Gasket O.D.	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*		in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*
1	*25*	4 7/8	*124*	11/16	*17*	2 11/16	*68*	3 1/2	*89*	4	3/4	*19*	5/8	*16*	2 1/2	*64*	1 5/16	*33*	2 7/8	*51*
1 1/4	*32*	5 1/4	*133*	3/4	*19*	3 1/16	*78*	3 7/8	*98*	4	3/4	*19*	5/8	*16*	2 1/2	*64*	1 21/32	*42*	3 1/4	*83*
1 1/2	*40*	6 1/8	*156*	13/16	*22*	3 9/16	*90*	4 1/2	*114*	4	7/8	*22*	3/4	*19*	2 3/4	*70*	1 29/32	*48*	3 3/4	*95*
2	*50*	6 1/2	*165*	7/8	*22*	4 3/16	*106*	5	*127*	8	3/4	*19*	5/8	*16*	2 3/4	*70*	2 3/8	*60*	4 3/8	*111*
2 1/2	*65*	7 1/2	*191*	1	*25*	4 15/16	*125*	5 7/8	*149*	8	7/8	*22*	3/4	*19*	3 1/4	*83*	2 7/8	*73*	5 1/8	*130*
3	*80*	8 1/4	*210*	1 1/8	*29*	5 11/16	*144*	6 5/8	*168*	8	7/8	*22*	3/4	*19*	3 1/2	*89*	3 1/2	*89*	5 7/8	*149*
3 1/2	*90*	9	*229*	1 3/16	*30*	6 5/16	*160*	7 1/4	*184*	8	7/8	*22*	3/4	*19*	3 1/2	*89*	4	*102*	6 1/2	*165*
4	*100*	10	*254*	1 1/4	*32*	6 15/16	*176*	7 7/8	*200*	8	7/8	*22*	3/4	*19*	3 3/4	*95*	4 1/2	*114*	7 1/8	*181*
5	*125*	11	*279*	1 3/8	*35*	8 5/16	*211*	9 1/4	*235*	8	7/8	*22*	3/4	*19*	4	*102*	5 9/16	*141*	8 1/2	*216*
6	*150*	12 1/2	*318*	1 7/16	*37*	9 11/16	*246*	10 5/8	*270*	12	7/8	*22*	3/4	*19*	4	*102*	6 5/8	*168*	9 7/8	*251*
8	*200*	15	*381*	1 5/8	*41*	11 15/16	*303*	13	*330*	12	1	*25*	7/8	*22*	4 1/2	*114*	8 5/8	*219*	12 1/8	*308*
10	*250*	17 1/2	*445*	1 7/8	*48*	14 1/16	*357*	15 1/4	*387*	16	1 1/8	*29*	1	*25*	5 1/4	*133*	10 3/4	*273*	14 1/4	*362*
12	*300*	20 1/2	*521*	2	*51*	16 7/16	*418*	17 3/4	*451*	16	1 1/4	*32*	1 1/8	*29*	5 1/2	*140*	12 3/4	*324*	16 5/8	*422*

Drilling templates are in multiples of four, so that fittings may be made to face in any quarter. Bolt holes straddle the center line.

Note: See page 37 for pressure-temperature ratings.

NOTES

Steel Pipe Bushings & Plugs

Merchant Steel Bushings & Plugs

HEX BUSHINGS	Nominal Pipe Size		Overall Length		Width Across Flats		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	¼ x ⅛	*8 x 6*	0.625	*16*	0.625	*16*	0.02	*0.01*
	⅜ x ⅛	*10 x 6*	0.750	*19*	0.687	*17*	0.05	*0.02*
	⅜ x ¼	*10 x 8*	0.750	*19*	0.687	*17*	0.03	*0.01*
	½ x ⅛	*15 x 6*	0.875	*22*	0.875	*22*	0.11	*0.05*
	½ x ¼	*15 x 8*	0.875	*22*	0.875	*22*	0.05	*0.02*
	½ x ⅜	*15 x 10*	0.875	*22*	0.875	*22*	0.06	*0.03*
	¾ x ⅛	*20 x 6*	1.000	*25*	1.062	*27*	0.21	*0.10*
	¾ x ¼	*20 x 8*	1.000	*25*	1.062	*27*	0.18	*0.08*
	¾ x ⅜	*20 x 10*	1.000	*25*	1.062	*27*	0.15	*0.07*
	¾ x ½	*20 x 15*	1.000	*25*	1.062	*27*	0.10	*0.05*
	1 x ⅛	*25 x 6*	1.062	*27*	1.375	*35*	0.19	*0.09*
	1 x ¼	*25 x 8*	1.062	*27*	1.375	*35*	0.19	*0.09*
	1 x ⅜	*25 x 10*	1.062	*27*	1.375	*35*	0.19	*0.09*
	1 x ½	*25 x 15*	1.062	*27*	1.375	*35*	0.19	*0.09*
Canvil Product	1 x ¾	*25 x 20*	1.062	*27*	1.375	*35*	0.19	*0.09*

All sizes taper tapped ¾" per foot *(62.5mm per meter)* on diameter.

Finish or Coating:

- Black, dipped in rust resistant;
- Galvanized, zinc plated (inside and out). For sizes 1 ¼ *(32 DN)* and larger, see page 35, 50 and 51 for Malleable and Cast Iron and page 116 for Forged Steel.

COUNTERSUNK PLUGS
(Square and Hex Socket)

Nominal Pipe Size		Min. Thread Length		Min. Size of Socket				Metal Thickness Bottom Countersunk		Threads		Unit Weight			
				Square		Hex						Square		Hex	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
⅛	*6*	0.37	*9*	—	—	3/16	*5*	0.06	*0.06*	27	*686*	0.02	*0.01*	0.02	*0.01*
¼	*8*	0.44	*11*	¼	*6*	¼	*6*	0.09	*0.09*	18	*457*	0.04	*0.02*	0.04	*0.02*
⅜	*10*	0.48	*12*	5/16	*8*	5/16	*8*	0.13	*0.13*	18	*457*	0.06	*0.03*	0.06	*0.03*
½	*15*	0.56	*14*	⅜	*10*	⅜	*10*	0.16	*0.16*	14	*356*	0.12	*0.05*	0.12	*0.05*
¾	*20*	0.63	*16*	½	*8*	9/16	*14*	0.18	*0.18*	14	*356*	0.19	*0.09*	0.19	*0.09*
1	*25*	0.75	*19*	½	*8*	⅝	*16*	0.20	*0.20*	11½	*292*	0.22	*0.10*	0.21	*0.10*
1¼	*32*	0.80	*20*	¾	*19*	¾	*19*	0.22	*0.22*	11½	*292*	0.37	*0.17*	0.38	*0.17*
1½	*40*	0.83	*21*	¾	*19*	1	*25*	0.24	*0.24*	11½	*292*	0.47	*0.21*	0.44	*0.20*
2	*50*	0.88	*22*	⅞	*22*	1	*25*	0.26	*0.26*	11½	*292*	0.84	*0.38*	0.85	*0.39*

- All sizes taper tapped — ¾" per foot *(62.5mm per meter)* on diameter.

Finish or Coating:

- Black, dipped in rust resistant;
- Galvanized, zinc-plated (inside and out).

Steel Pipe Bushings, Caps & Plugs

Merchant Steel Bushings, Caps & Plugs

FLUSH BUSHINGS	Nominal Pipe Size		Length of External Thread, Min.		Length of Internal Thread, Min.		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	¼ x ⅛	*8 x 6*	0.440	*11*	0.260	*7*	0.01	*0.00*
	⅜ x ⅛	*10 x 6*	0.480	*12*	0.250	*6*	0.03	*0.01*
	⅜ x ¼	*10 x 8*	0.480	*12*	0.400	*10*	0.02	*0.01*
	½ x ¼	*15 x 8*	0.560	*14*	0.320	*8*	0.05	*0.02*
	½ x ⅜	*15 x 10*	0.560	*14*	0.410	*11*	0.03	*0.01*

CAPS	Nominal Pipe Size		Cap Length		Nominal Width Across Flats		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	⅛	*6*	0.563	*14*	0.560	*14*	0.02	*0.01*
	¼	*8*	0.844	*22*	0.625	*16*	0.03	*0.01*
	⅜	*10*	0.813	*21*	0.870	*22*	0.06	*0.03*
	½	*15*	1.063	*27*	1.062	*27*	0.11	*0.05*
	¾	*20*	1.114	*28*	1.183	*30*	0.14	*0.06*

SOLID SQUARE HEAD PLUGS	Nominal Pipe Size		Minimum Overall Plug Length		Nominal Width Across Flats		Threads		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
	⅛	*6*	0.625	*16*	9/32	*7*	27	*686*	0.02	*0.01*
	¼	*8*	0.687	*17*	⅜	*10*	18	*457*	0.04	*0.02*
	⅜	*10*	0.812	*21*	7/16	*11*	18	*457*	0.06	*0.03*
	½	*15*	0.937	*24*	9/16	*14*	14	*356*	0.12	*0.05*
	¾	*20*	1.062	*27*	⅝	*16*	14	*356*	0.19	*0.09*
	1	*25*	1.125	*29*	13/16	*22*	11½	*292*	0.34	*0.15*
	1¼	*32*	1.360	*35*	15/16	*24*	11½	*292*	0.55	*0.25*
	1½	*40*	1.450	*37*	1⅛	*29*	11½	*292*	0.82	*0.37*
	2	*50*	1.560	*40*	1 5/16	*34*	11½	*292*	1.35	*0.61*

Specification

Unless otherwise specified welded nipples ASTM A 53 are furnished on orders for steel nipples in standard and extra strong sizes 1/8" – 8" NPS *(6 – 200 DN)*.

Welded steel nipples (A 53 Type F or Type E) are available in standard and extra strong sizes 1/8" – 8" NPS *(6 – 200 DN)*, right hand threads, black or galvanized.

Seamless nipples manufactured for the U.S. and International markets are *not* phosphate coated. Seamless nipples manufactured for Canada *are* phosphate coated.

Seamless steel pressure tube nipples (ASTM A 106 Grade B) are available in standard and extra strong sizes 1/8" – 8" NPS *(6 – 200 DN)* with right hand threads, black only.

Right and left steel nipples are available in standard and extra heavy weight sizes 1/8" – 4" NPS *(8 – 50 DN)*, in 4" *(102mm)* and 6" *(152mm)* lengths.

Nipples are available from stock in 1/8" – 8" NPS *(6 – 200 DN)* diameter, close to 12 NPS *(300 DN)* in length. Sizes 13" – 24" NPS *(325 – 600 DN)*. (Prices on application.)

Steel pipe nipples meet ASTM A733.

Identification

Where possible, each seamless pipe nipple is identified with the following:

- A trade mark
- Seamless designation "SMLS"
- Pipe schedule STD, XS/XH, SCH 160 and XXS/XXH
- Material designation A106 B
- Heat number for traceablity

Seamless Pipe Nipples

Black & Galvanized, Std. Sch. 40, XH Sch. 80, Sch. 160, XXH

FIG. 320: Standard Black Sch. 40
FIG. 325: Extra Heavy Black Sch. 80
FIG. 326: 160 Black Sch. 160
FIG. 327: XXH Black
FIG. 330: Standard Galv. Sch. 40
FIG. 335: Extra Heavy Galv. Sch. 80
FIG. 333: 160 Galv. Sch. 160
FIG. 329: XXH Galvanized

Material

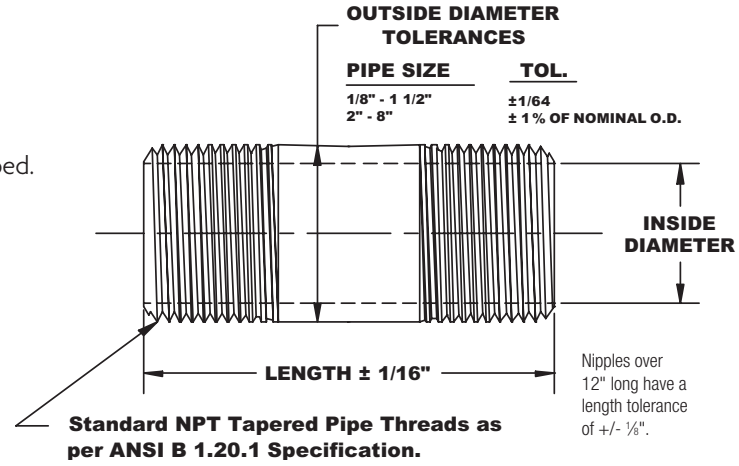
ASTM A106 Grade B Seamless Pipe
ASTM A333 Grade 6 Seamless Pipe (For Canada only)

Note: Galvanized nipples from Longview Texas plant are electroplated. Galvanized nipples from Beck plant are hot dipped.

Applicable Specification

ASTM A733
(Refer to the chart below for specific pipe dimensions.)

Note: Minimum wall thickness at any point to be not more than 10% over and 3 1/2% under nominal wall thickness specified for that size pipe.



Pipe Size	Pipe O.D.	Length Close	Pipe Nipple Lengths															
in	in	in																
1/8	0.405	3/4	1½	2	2½	3	3½	4	4½	5	5½	7	7	8	9	10	11	12
1/4	0.540	7/8	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
3/8	0.675	1	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
½	0.840	1 1/8	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
3/4	1.050	1 3/8	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
1	1.315	1½		2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
1¼	1.660	1 5/8		2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
1½	1.900	1¾		2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
2	2.375	2			2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
2½	2.875	2½				3	3½	4	4½	5	5½	6	7	8	9	10	11	12
3	3.500	2 5/8				3	3½	4	4½	5	5½	6	7	8	9	10	11	12
4	4.500	2 7/8						4	4½	5	5½	6	7	8	9	10	11	12
5	5.563	3							4½	5	5½	6	7	8	9	10	11	12
6	6.625	3 1/8							4½	5	5½	6	7	8	9	10	11	12

Note: Other lengths available.
8" Pipe Size available as POA - contact your Anvil Representative for details.

Welded Pipe Nipples

Black & Galvanized, Std. Sch. 40, XH Sch. 80

FIG. 339: Standard Black Schedule 40

FIG. 338: Extra Heavy Black Schedule 80

FIG. 343: Standard Galv. Schedule 40

FIG. 342: Extra Heavy Galv. Schedule 80

Material

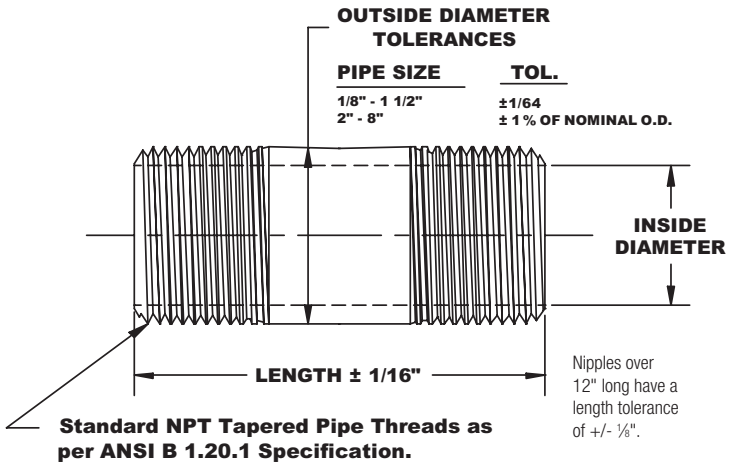
ASTM A53 Standard Specification for Pipe Steel, Black, Galvanized, Hot-Dipped, Zinc Coated, Welded.

Applicable specification

ASTM A733
(Refer to the chart below for specific pipe dimensions.)

Note: Minimum wall thickness at any point to be not more than +/- 10% nominal wall thickness specified for that size pipe.

Standard and Extra Heavy right and left nipples available in 1/8 – 4" diameter and 4" and 6" lengths.



Pipe Size	Pipe O.D.	Length Close	Pipe Nipple Lengths															
in	in	in																
1/8	0.405	3/4	1½	2	2½	3	3½	4	4½	5	5½	7	7	8	9	10	11	12
1/4	0.540	7/8	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
3/8	0.675	1	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
½	0.840	1⅛	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
¾	1.050	1⅜	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
1	1.315	1½		2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
1¼	1.660	1⅝		2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
1½	1.900	1¾		2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
2	2.375	2			2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
2½	2.875	2½				3	3½	4	4½	5	5½	6	7	8	9	10	11	12
3	3.500	2⅝				3	3½	4	4½	5	5½	6	7	8	9	10	11	12
4	4.500	2⅞						4	4½	5	5½	6	7	8	9	10	11	12
5	5.563	3							4½	5	5½	6	7	8	9	10	11	12
6	6.625	3⅛							4½	5	5½	6	7	8	9	10	11	12

Note: Other lengths available.
8" Pipe Size available as POA - contact your Anvil Representative for details.

Steel Pipe Nipples

Welded – Ready Cut Pipe Standard — Schedule 40

"A" ASSORTMENTS

Mixed Cartons (Black — Figure 339 & Galvanized — Figure 343)

Nom. Pipe Size	Close	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	No. of Pieces	Approx. Wt. Lbs.
½	4	3	3	3	2	2	2	1	2	1	2	25	5.00
½	20	10	15	10	10	5	10	5	5	5	5	100	18.00
¾	4	3	3	3	2	2	2	1	2	1	2	25	7.00
¾	20	10	15	10	10	5	10	5	5	5	5	100	24.00
1	15	-	15	10	12	5	5	4	3	3	3	75	24.00
1	5	-	5	3	2	2	2	1	2	1	2	25	10.00
1¼	5	-	5	3	2	2	2	1	2	1	2	25	12.00
1½	5	-	5	3	2	2	2	1	2	1	2	25	15.00
2	6	-	-	3	3	2	3	1	3	1	3	25	22.00

All items ship in bulk quantities.

"66" PACKS OR ASSORTED 6 CARTONS

Black — Figure 339 & Galvanized — Figure 343

Nom. Pipe Size	Close	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	No. of Pieces	Approx. Wt. Lbs.
⅛	6	6	6	6	6	6	6	6	6	6	6	66	6.00
¼	6	6	6	6	6	6	6	6	6	6	6	66	9.00
⅜	6	6	6	6	6	6	6	6	6	6	6	66	12.00
½	6	6	6	6	6	6	6	6	6	6	6	66	14.00
¾	6	6	6	6	6	6	6	6	6	6	6	66	19.00
1	6	-	6	6	6	6	6	6	6	6	6	60	26.00
1¼	6	-	6	6	6	6	6	6	6	6	6	60	33.00
1½	6	-	6	6	6	6	6	6	6	6	6	60	41.00
2	6	-	-	6	6	6	6	6	6	6	6	54	53.00

All items ship in bulk quantities.

HANDY PACK ASSORTMENTS

Mixed Cartons (Black — Figure 339 & Galvanized — Figure 343)

Nom. Pipe Size	Close	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	No. of Pieces	Approx. Wt. Lbs.
⅛	6	6	6	6	6	6	6	6	6	6	6	66	6.00
¼	6	6	6	6	6	6	6	6	6	6	6	66	9.00
⅜	6	6	6	6	6	6	6	6	6	6	6	66	12.00
½	6	6	6	6	6	6	6	6	6	6	6	66	14.00
¾	6	6	6	6	6	6	6	6	6	6	6	66	19.00
1	6	-	6	6	6	6	6	6	6	6	6	60	26.00
1¼	3	-	-	3	3	3	3	3	3	3	3	27	19.00
1½	3	-	-	3	3	3	3	3	3	3	3	27	23.00
2	3	-	-	3	3	3	3	3	3	3	3	27	30.00

All items ship in bulk quantities.

Steel Pipe Nipples

Welded – Ready Cut Pipe Standard — Schedule 40, XH Sch. 80

READY CUT PIPE

Black Extra Long— Figure 339 & Galvanized — Figure 343

Nom. Pipe Size	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"
⅛	5	5	5	5	5	5	5	5	5	5
¼	5	5	5	5	5	5	5	5	5	5
⅜	5	5	5	5	5	5	5	5	5	5
½	5	5	5	5	5	5	5	5	5	5
¾	5	5	5	5	5	5	5	5	5	5
1	3	3	3	3	3	3	3	3	3	3
1¼	3	3	3	3	3	3	3	3	3	3
1½	3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2	2

SINGLE RUN PACKS

Black — Figure 339 & Galvanized — Figure 343

Nom. Pipe Size	Close	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	No. of Pieces	Approx. Wt. Lbs.
⅛	1	1	1	1	1	1	1	1	1	1	1	11	1.00
¼	1	1	1	1	1	1	1	1	1	1	1	11	1.50
⅜	1	1	1	1	1	1	1	1	1	1	1	11	2.00
½	1	1	1	1	1	1	1	1	1	1	1	11	2.50
¾	1	1	1	1	1	1	1	1	1	1	1	11	3.50
1	1	-	1	1	1	1	1	1	1	1	1	10	5.00
1¼	1	-	1	1	1	1	1	1	1	1	1	10	7.00
1½	1	-	1	1	1	1	1	1	1	1	1	10	8.00
2	1	-	-	1	1	1	1	1	1	1	1	9	10.00
2½	1	-	-	-	1	1	1	1	1	1	1	8	13.30
3	1	-	-	-	1	1	1	1	1	1	1	8	15.80

All items ship in bulk quantities.

SINGLE RUN PACKS

Black Only Extra Heavy — Figure 338

Nom. Pipe Size	Close	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	No. of Pieces	Approx. Wt. Lbs.
½	1	1	1	1	1	1	1	1	1	1	1	11	3.20
¾	1	1	1	1	1	1	1	1	1	1	1	11	4.30
1	1	-	1	1	1	1	1	1	1	1	1	10	6.10
1¼	1	-	1	1	1	1	1	1	1	1	1	10	8.40
1½	1	-	1	1	1	1	1	1	1	1	1	10	10.30
2	1	-	-	1	1	1	1	1	1	1	1	9	13.90

All items ship in bulk quantities.

TRAVEL TRAYS (Black & Galvanized)

Nom. Pipe Size	Close	1½"	2"	2½"	3"	3½"	4"	4½"	5"	5½"	6"	No. of Pieces	Approx. Wt. Lbs.
½	6	6	6	6	6	6	6	6	6	6	6	66	15.00
¾	6	6	6	6	6	6	6	6	6	6	6	66	20.00
1	5	-	5	5	5	5	5	5	5	5	5	50	22.00

All items ship in bulk quantities.

Steel Pipe Nipples – Welded

TANK NIPPLES

Black — Figure 339 & Galvanized — Figure 343

Nom. Pipe Size	Length	Weight	Quantity
⅛	6	0.13	-
¼	6	0.20	-
⅜	6	0.28	-
½	6	0.40	-
¾	6	0.53	-
1	6	0.76	-
1¼	6	1.04	-
1½	6	1.28	-
2	6	1.56	-

Tank nipples are recommended for use as tank legs. One end has the standard tapered pipe thread and the other end has a straight running thread 4" long. All Tank Nipples ship in quantities of 25.

BUTT NIPPLES

Black — Figure. 339 & Galvanized — Fig. 343

Nom. Pipe Size	Weight	Quantity
⅛ x ½	0.02	-
¼ x ¾	0.03	-
⅜ x ¾	0.04	-
½ x ¾	0.04	-
¾ x 1	0.06	-
1 x 1	0.10	-
1¼ x 1	0.16	-
1½ x 1¼	0.17	-
2 x 1¼	0.28	-
2½ x 2	0.87	-
3 x 2	1.28	-
4 x 2¼	1.11	-

RIGHT & LEFT NIPPLES

Black — Figure 339 & Galvanized — Figure 343

Nom. Pipe Size	Length	Weight	Quantity
⅛	4" or 6"	0.09	-
¼	4" or 6"	0.13	-
⅜	4" or 6"	0.18	25
½	4" or 6"	0.25	25
¾	4" or 6"	0.35	25
1	4" or 6"	0.51	25
1¼	4" or 6"	0.68	25
1½	4" or 6"	0.80	25
2	4" or 6"	1.09	25
2½	4" or 6"	1.50	-
3	4" or 6"	2.00	-
3½	4" or 6"	2.80	-
4	4" or 6"	3.24	-

Specialty Fabrication

1. STEEL NIPPLES

a. NPT (TOE) x Plain end
b. NPT (TOE) x Plain end square cut
c. NPT (TOE) x Plain end square cut and deburred (Bevel, Ream?)
d. NPT (TOE) x Ream other end(ROE)
e. Plain end x Plain end (cut blank)(roller cut)(square cut) (B&O cut)
f. ROE x ROE (Ream x Ream)
g. NPT (TOE) x Bevel (Specify Bevel, ex. Weld Bevel, 45 degree bevel, etc.)
h. Bevel x Bevel (Specify Bevel)
i. NPT (TOE) x Straight Thd (Specify NPSL or NPSM) (depends on nipple length)(Straight thread length can be longer than normal thread length if necessary)
j. Straight Thd x Straight Thd (Specify NPSL or NPSM) (nipple length restrictions)
k. Straight Thread x British Standard Pipe Thread
l. NPT (TOE) x BPST
m. BSPT x BSPT
n. BSPT x Plain end square cut
o. BSPT x Plain end square cut and deburred
p. BSPT x ROE
q. BSPT x Groove
r. BSPT X Left Hand Thread
s. Right Hand Thread x Left Hand Thread
t. Left Hand Thread x Left Hand Thread
u. Left Hand x Plain end
v. LH x Plain end square cut
w. LH x Plain end square cut and deburred
x. LH x ROE
y. LH x Straight Thd (Specify NPSL or NPSM)
z. LH x Groove
aa. Grooving of nipples (grooving is outsourced)
bb. Sandblasting of nipples (length restrictions)
cc. Phosphate finish for nipples
dd. Vibra-Seal coated threads for nipples
ee. Yellow Di-chromate plating of nipples (length restrictions)
ff. Galvanized plating of threads for nipples (length restrictions)
gg. Chrome plating of Brass nipples (length restrictions)
hh. Any length of nipple from close to 120" in increments of $^{1}/_{16}$ of an inch
ii. Nipple w/NPT tapped hole on the side.
jj. Flat ream.
kk. Stamping.
ll. Stainless Steel Specification ASTM A312 Grade 316 & 304 (Sch. 40 & 80)
mm. Tank Nipples
nn. Butt Nipples
oo. Stainless Steel
pp. Individually Bar Coded product also available.

NPT National Pipe Thread
NPSL Straight Thread – Locknut
NPSM Straight Thread – Mechanical
BPST British Standard Thread

2. STEEL COUPLINGS

a. Phosphating
b. Special Lengths

Steel Pipe Couplings

Merchant Couplings

FIGURE 336
Standard, Full & Half

Size		Outside Diameter (Coupling)		Length				Threads		Unit Weight							
				Full		Half				Full				Half			
										Straight Tapped		Taper Tapped		Straight Tapped		Taper Tapped	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*	lbs	*kg*
⅛	*6*	0.563	*14*	13⁄16	*22*	11⁄32	*9*	27	*686*	0.03	*0.01*	0.03	*0.01*	0.01	*0.00*	0.01	*0.00*
¼	*8*	0.719	*18*	1 3⁄16	*30*	17⁄32	*13*	18	*457*	0.07	*0.03*	0.07	*0.03*	0.03	*0.01*	0.03	*0.01*
⅜	*10*	0.875	*22*	1 3⁄16	*30*	17⁄32	*13*	18	*457*	0.10	*0.05*	0.10	*0.05*	0.05	*0.02*	0.05	*0.02*
½	*15*	1.063	*27*	1 9⁄16	*40*	23⁄32	*18*	14	*356*	0.18	*0.08*	0.18	*0.08*	0.08	*0.04*	0.08	*0.04*
¾	*20*	1.313	*33*	1⅝	*41*	¾	*19*	14	*356*	0.26	*0.12*	0.26	*0.12*	0.12	*0.05*	0.12	*0.05*
1	*25*	1.576	*40*	2	*51*	15⁄16	*24*	11½	*292*	0.42	*0.19*	0.42	*0.19*	0.18	*0.08*	0.18	*0.08*
1¼	*32*	1.900	*48*	2 1⁄16	*52*	31⁄32	*25*	11½	*292*	0.50	*0.23*	0.50	*0.23*	0.23	*0.10*	0.23	*0.10*
1½	*40*	2.200	*56*	2 1⁄16	*52*	31⁄32	*25*	11½	*292*	0.67	*0.30*	0.67	*0.30*	0.32	*0.15*	0.32	*0.15*
2	*50*	2.750	*70*	2⅛	*54*	1	*25*	11½	*292*	1.03	*0.47*	1.03	*0.47*	0.47	*0.21*	0.47	*0.21*
2½	*65*	3.250	*83*	3⅛	*79*	1½	*38*	8	*203*	2.09	*0.95*	2.15	*0.98*	0.96	*0.44*	0.96	*0.44*
3	*80*	4.000	*102*	3¼	*83*	1 9⁄16	*40*	8	*203*	3.36	*1.52*	3.46	*1.57*	1.60	*0.73*	1.60	*0.73*
3½	*90*	4.625	*117*	3⅜	*86*	1⅝	*41*	8	*203*	4.82	*2.19*	5.18	*2.35*	2.22	*1.01*	2.22	*1.01*
4	*100*	5.000	*127*	3½	*89*	1 11⁄16	*43*	8	*203*	4.80	*2.18*	4.87	*2.21*	2.11	*0.96*	2.11	*0.96*
5	*125*	6.296	*160*	3¾	*95*	1 13⁄16	*46*	8	*203*	8.31	*3.77*	8.75	*3.97*	3.80	*1.72*	3.80	*1.72*
6	*150*	7.390	*188*	4	*102*	1 13⁄16	*46*	8	*203*	11.18	*5.07*	11.88	*5.39*	5.28	*2.39*	5.28	*2.39*

- Manufactured in accordance with ASTM specification A865 and A589.
- Merchant couplings in sizes 1⁄8" NPS *(6 DN)* through 2" NPS *(50 DN)* are normally supplied straight tapped. Sizes 2 1⁄2" NPS *(65 DN)* and larger are taper tapped.
- Taper tapped standard merchant couplings in sizes 1⁄8" NPS *(6 DN)* through 2" NPS *(50 DN)* are available upon request.
- API line pipe couplings are used in all sizes over 6" NPS *(150 DN)*.
- Couplings from 1⁄8" NPS *(6 DN)* through 6" NPS *(150 DN)* are dipped in rust preventative.
- Galvanized full couplings are also available.

Note

- Half couplings are chamfered on one end and squared on the other.

Steel Pipe Couplings

Merchant Couplings

FIGURE 337
Extra Strong (XS), Full & Half

Size		Outside Diameter (Coupling)		Length				Unit Weight			
				Full		Half		Non-Recessed			
								Full		Half	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*
⅛	*6*	0.563	*14*	1 1/16	*27*	15/32	*12*	0.04	*0.02*	0.02	*0.01*
¼	*8*	0.719	*18*	1⅝	*41*	¾	*19*	0.09	*0.04*	0.04	*0.02*
⅜	*10*	0.875	*22*	1⅝	*41*	¾	*19*	0.14	*0.06*	0.06	*0.03*
½	*15*	1.063	*27*	2⅛	*54*	1	*25*	0.25	*0.11*	0.11	*0.05*
¾	*20*	1.313	*33*	2⅛	*54*	1	*25*	0.36	*0.16*	0.17	*0.08*
1	*25*	1.576	*40*	2⅝	*67*	1¼	*32*	0.56	*0.25*	0.26	*0.12*
1¼	*32*	2.054	*52*	2¾	*70*	1 5/16	*33*	1.08	*0.49*	0.51	*0.23*
1½	*40*	2.200	*56*	2¾	*70*	1 5/16	*33*	0.98	*0.44*	0.61	*0.28*
2	*50*	2.875	*73*	2⅞	*73*	1⅜	*35*	2.01	*0.91*	0.92	*0.42*
2½	*65*	3.375	*86*	4⅛	*105*	2	*51*	3.53	*1.60*	1.72	*0.78*
3	*80*	4.000	*102*	4¼	*108*	2 1/16	*52*	4.61	*2.09*	2.12	*0.96*

- Manufactured in accordance with ASTM Specification A865.
- All sizes are taper tapped.
- Non-recessed couplings will be supplied for sizes under 6" NPS unless otherwise specified.
- Extra strong half couplings can be supplied in sizes under 6" NPS *(150 DN).*
- Couplings 1/8" – 6" NPS *(6 – 150 DN)* are dipped in rust preventative.
- Galvanized full couplings are also available.

Note

- Half couplings are chamfered on one end and squared on the other.

Steel Pipe Couplings

Merchant Couplings

BECK®

FIGURE 346 Standard, Right & Left	Size		Outside Diameter (Coupling)		Length		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	½	*15*	1.063	*27*	1 9/16	*40*	0.17	*0.08*
	¾	*20*	1.313	*33*	1 5/8	*41*	0.28	*0.13*
	1	*25*	1.576	*40*	2	*51*	0.43	*0.20*
	1¼	*32*	1.900	*48*	2 1/16	*52*	0.54	*0.24*
	1½	*40*	2.200	*56*	2 1/16	*52*	0.73	*0.33*
	2	*50*	2.750	*70*	2 1/8	*54*	1.11	*0.50*

Note

- The left hand threaded end of all right and left couplings is knurled for identification. All sizes of right and left couplings are taper tapped 3/4" per foot *(62.5mm per meter)* on the diameter and all are dipped in rust preventative.

FIGURE 347 Extra Strong (XS), Right & Left	Size		Outside Diameter (Coupling)		Length		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	½	*15*	1.063	*27*	2 1/8	*54*	0.25	*0.11*
	¾	*20*	1.313	*33*	2 1/8	*54*	0.36	*0.16*
	1	*25*	1.576	*40*	2 5/8	*67*	0.74	*0.34*
	1¼	*32*	2.054	*52*	2 3/4	*70*	1.08	*0.49*
	1½	*40*	2.200	*56*	2 3/4	*70*	0.95	*0.43*
	2	*50*	2.875	*73*	2 7/8	*73*	2.01	*0.91*

- The left hand threaded end of all right and left couplings is knurled for identification, and all are dipped in rust preventative.
- Extra strong right and left couplings are available on request.

Steel Pipe Couplings

FIGURE 348
API LIne Pipe Couplings

Size		Outside Diameter (Coupling)		Length		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.563	*14*	1 1/16	*27*	0.04	*0.02*
¼	*8*	0.719	*18*	1⅝	*41*	0.10	*0.05*
⅜	*10*	0.875	*22*	1⅝	*41*	0.13	*0.06*
½	*15*	1.063	*27*	2⅛	*54*	0.24	*0.11*
¾	*20*	1.313	*33*	2⅛	*54*	0.35	*0.16*
1	*25*	1.576	*40*	2⅝	*67*	0.52	*0.24*
1¼	*32*	2.054	*52*	2¾	*70*	1.00	*0.45*
1½	*40*	2.200	*56*	2¾	*70*	0.88	*0.40*
2	*50*	2.875	*73*	2⅞	*73*	1.83	*0.83*
2½	*65*	3.375	*86*	4⅛	*105*	3.28	*1.49*
3	*80*	4.000	*102*	4¼	*108*	4.09	*1.85*
3½	*90*	4.625	*117*	4⅜	*111*	5.92	*2.68*
4	*100*	5.200	*132*	4½	*114*	7.59	*3.44*
5	*125*	6.296	*160*	4⅝	*117*	10.00	*4.54*
6	*150*	7.390	*188*	4⅞	*124*	12.92	*5.86*
8	*200*	9.625	*244*	5¼	*133*	23.18	*10.51*
10	*250*	11.750	*298*	5¾	*146*	31.55	*14.31*
12	*300*	14.000	*356*	6⅛	*156*	49.27	*22.34*

- These couplings are manufactured in accordance with American Petroleum Institute Specification 5L.
- All sizes are taper tapped 3/4" per foot *(62.5mm per meter)* on the diameter.
- All couplings are phosphated unless galvanized.

Steel Pipe Couplings

BECK®

FIGURE 379 Shallow Well Couplings	Size		Outside Diameter (Coupling)		Length		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	1¼	*32*	2.054	*52*	2¾	*70*	1.03	*0.47*
	1½	*40*	2.200	*56*	2¾	*70*	0.90	*0.41*
	2	*50*	2.875	*73*	2⅞	*73*	1.86	*0.84*

- The 1 1/4" are Straight Tapped and recessed.
- The 1 1/2 and 2" are Taper Tapped 3/4" per foot on diameter and recessed.
- The 2" threads are electroplated.

FIGURE 380 Water Well Reamed & Drifted Couplings	Size		Outside Diameter (Coupling)		Length		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	1¼	*32*	1.900	*48*	2¾	*70*	0.60	*0.27*
	1½	*40*	2.200	*56*	2¾	*70*	0.84	*0.38*
	2	*50*	2.750	*70*	3⅜	*86*	1.58	*0.72*
	2½	*65*	3.250	*83*	3 15/16	*100*	2.32	*1.05*
	3	*80*	4.000	*102*	4 1/16	*103*	3.80	*1.72*
	3½	*90*	4.625	*117*	4 3/16	*106*	5.53	*2.51*
	4	*100*	5.200	*132*	4 5/16	*110*	7.14	*3.24*
	5	*125*	6.296	*160*	4½	*114*	9.57	*4.34*
	6	*150*	7.390	*188*	4 11/16	*119*	12.32	*5.59*
	8	*200*	9.625	*244*	5 1/16	*129*	22.35	*10.14*
	10	*250*	11.750	*298*	5 9/16	*141*	30.60	*13.88*
	12	*300*	14.000	*356*	5 15/16	*151*	48.00	*21.77*

- Manufactured in accordance with ASTM specification A589.
- All sizes are recessed Taper Tapped 3/4" per foot on diameter.
- Sizes over 2" have threads phosphated and outside painted light blue. The Galvanized have a light blue band around the center of the coupling.

FIGURE 381 #9 Drive Couplings	Size		Outside Diameter (Coupling)		Length		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	1¼	*32*	2.054	*52*	2¾	*70*	1.00	*0.45*
	1½	*40*	2.200	*56*	2¾	*70*	0.84	*0.38*
	2	*50*	2.875	*73*	3⅜	*86*	2.14	*0.97*

- All sizes are Taper Tapped 3/4" per foot on diameter.

Materials

The steel for Anvil Forged Carbon Steel Fittings consists of forging, bars, seamless pipe or tubes which conform to the requirements for melting process, chemical composition and mechanical properties of ASTM A105.

Design Basis

ASME B16.11 - Forged fittings, socket-weld and threaded

Dimensions

ASME B16.11, unless otherwise noted

Threads

ANSI/ASME B1.20.1 NPT Threads

Forged Steel Fittings

In accordance with ASME standard B16.11 - "Forged Fittings, Socket-Welding and Threaded" this table shows the schedule of pipe corresponding to each class of fitting for rating purposes.

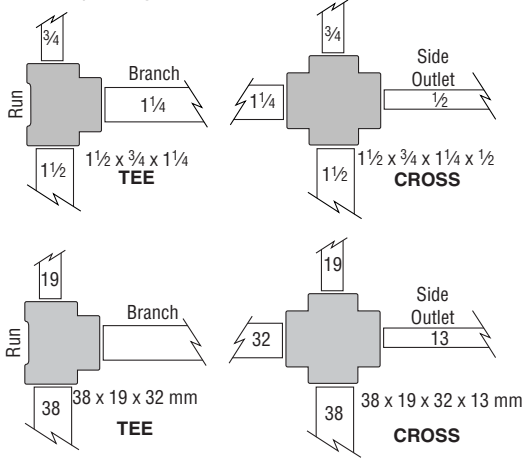
PRESSURE RATINGS		
Class	Schedule	
	N.P.T.	S.W.
2000	80	–
3000	160	80
6000	XXS/XXH	160

ASME B16.11 provides that the maximum allowable pressure of a fitting be computed in accordance with the applicable piping code or regulation for straight seamless pipe or for material of equivalent composition and mechanical properties to the fitting. Any corrosion or mechanical allowances and any reduction in allowable stress due to temperature or other service conditions must be applied to the pipe and fitting alike.

Reducing Fittings

Reducing elbows, tees and crosses are available in both threaded and socket-welding.

On reducing tees and crosses give the size of the largest run opening; then give the opposite opening. On a tee give the branch size last. On a cross give the largest side outlet third and the opposite opening last.



Forged Steel Fittings

Class 2000 Threaded

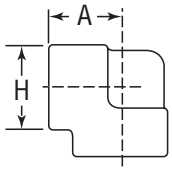
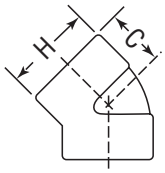
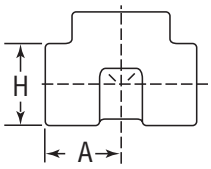
FIGURE 2101 90° Elbows	Size		A		H		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	¼	*8*	0.81	*21*	0.88	*22*	0.18	*0.08*
	⅜	*10*	0.97	*25*	1.00	*25*	0.28	*0.13*
	½	*15*	1.12	*28*	1.31	*33*	0.55	*0.25*
	¾	*20*	1.31	*33*	1.50	*38*	0.72	*0.33*
	1	*25*	1.50	*38*	1.81	*46*	1.22	*0.55*
	1¼	*32*	1.75	*44*	2.19	*56*	1.65	*0.75*
	1½	*40*	2.00	*51*	2.44	*62*	2.12	*0.96*
	2	*50*	2.38	*60*	2.97	*75*	3.78	*1.71*
	2½	*65*	3.00	*76*	3.62	*92*	6.50	*2.95*
	3	*80*	3.38	*86*	4.31	*109*	11.10	*5.03*
	4	*100*	4.19	*106*	5.75	*146*	22.30	*10.11*

FIGURE 2102 45° Elbows	Size		C		H		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
	¼	*8*	0.69	*17*	0.88	*22*	0.16	*0.07*
	⅜	*10*	0.75	*19*	1.00	*25*	0.25	*0.11*
	½	*15*	0.88	*22*	1.31	*33*	0.48	*0.22*
	¾	*20*	1.00	*25*	1.50	*38*	0.57	*0.26*
	1	*25*	1.12	*28*	1.81	*46*	0.88	*0.40*
	1¼	*32*	1.31	*33*	2.19	*56*	1.32	*0.60*
	1½	*40*	1.38	*35*	2.44	*62*	1.62	*0.73*
	2	*50*	1.69	*43*	2.97	*75*	2.83	*1.28*
	2½	*65*	2.06	*52*	3.62	*92*	7.70	*3.49*
	3	*80*	2.50	*64*	4.31	*109*	12.00	*5.44*

Forged Steel Fittings

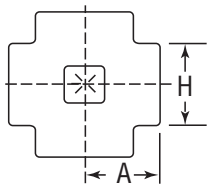
Class 2000 Threaded

FIGURE 2103
Tees



Size		A		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	0.81	*21*	0.88	*22*	0.25	*0.11*
⅜	*10*	0.97	*25*	1.00	*25*	0.37	*0.17*
½	*15*	1.12	*28*	1.31	*33*	0.62	*0.28*
¾	*20*	1.31	*33*	1.50	*38*	0.43	*0.20*
1	*25*	1.50	*38*	1.81	*46*	1.33	*0.60*
1¼	*32*	1.75	*44*	2.19	*56*	2.10	*0.95*
1½	*40*	2.00	*51*	2.44	*62*	2.80	*1.27*
2	*50*	2.38	*60*	2.97	*75*	4.50	*2.04*
2½	*65*	3.00	*76*	3.62	*92*	9.10	*4.13*
3	*80*	3.38	*86*	4.31	*109*	13.50	*6.12*
4	*100*	4.19	*106*	5.75	*146*	32.00	*14.51*

FIGURE 2104
Crosses

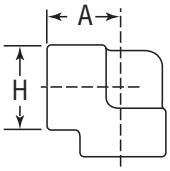


Size		A		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	0.81	*21*	0.88	*22*	0.50	*0.23*
⅜	*10*	0.97	*25*	1.00	*25*	0.40	*0.18*
½	*15*	1.12	*28*	1.31	*33*	0.85	*0.39*
¾	*20*	1.31	*33*	1.50	*38*	1.10	*0.50*
1	*25*	1.50	*38*	1.81	*46*	1.70	*0.77*
1¼	*32*	1.75	*44*	2.19	*56*	2.40	*1.09*
1½	*40*	2.00	*51*	2.44	*62*	3.20	*1.45*
2	*50*	2.38	*60*	2.97	*75*	5.20	*2.36*
2½	*65*	3.00	*76*	3.62	*92*	16.50	*7.48*
3	*80*	3.38	*86*	4.31	*109*	20.00	*9.07*

Forged Steel Fittings

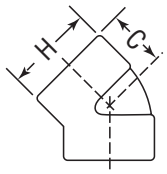
Class 3000 Threaded

FIGURE 2111
90° Elbows



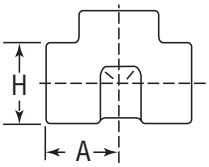
Size		A		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.81	*21*	0.88	*22*	0.23	*0.10*
¼	*8*	0.97	*25*	1.00	*25*	0.35	*0.16*
⅜	*10*	1.12	*28*	1.31	*33*	0.66	*0.30*
½	*15*	1.31	*33*	1.50	*38*	0.93	*0.42*
¾	*20*	1.50	*38*	1.81	*46*	1.48	*0.67*
1	*25*	1.75	*44*	2.19	*56*	2.30	*1.04*
1¼	*32*	2.00	*51*	2.44	*62*	2.68	*1.22*
1½	*40*	2.38	*60*	2.97	*75*	5.30	*2.40*
2	*50*	2.50	*64*	3.31	*84*	5.85	*2.65*
2½	*65*	3.25	*83*	4.00	*102*	10.00	*4.54*
3	*80*	3.75	*95*	4.75	*121*	17.20	*7.80*
4	*100*	4.50	*114*	6.00	*152*	29.30	*13.29*

FIGURE 2112
45° Elbows



Size		C		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.69	*17*	0.88	*22*	0.18	*0.08*
¼	*8*	0.75	*19*	1.00	*25*	0.25	*0.11*
⅜	*10*	0.88	*22*	1.31	*33*	0.53	*0.24*
½	*15*	1.00	*25*	1.50	*38*	0.78	*0.35*
¾	*20*	1.12	*28*	1.81	*46*	1.20	*0.54*
1	*25*	1.31	*33*	2.19	*56*	1.90	*0.86*
1¼	*32*	1.38	*35*	2.44	*62*	2.30	*1.04*
1½	*40*	1.69	*43*	2.97	*75*	4.16	*1.89*
2	*50*	1.72	*44*	3.31	*84*	5.12	*2.32*
2½	*65*	2.06	*52*	4.00	*102*	7.70	*3.49*
3	*80*	2.50	*64*	4.75	*121*	12.00	*5.44*
4	*100*	3.12	*79*	6.00	*152*	19.70	*8.93*

FIGURE 2114
Tees

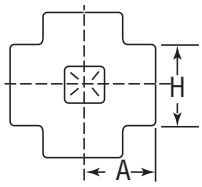


Size		A		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.81	*21*	0.88	*22*	0.31	*0.14*
¼	*8*	0.97	*25*	1.00	*25*	0.42	*0.19*
⅜	*10*	1.12	*28*	1.31	*33*	0.93	*0.42*
½	*15*	1.31	*33*	1.50	*38*	1.20	*0.54*
¾	*20*	1.50	*38*	1.81	*46*	1.84	*0.83*
1	*25*	1.75	*44*	2.19	*56*	3.05	*1.38*
1¼	*32*	2.00	*51*	2.44	*62*	3.62	*1.64*
1½	*40*	2.38	*60*	2.97	*75*	6.65	*3.02*
2	*50*	2.50	*64*	3.31	*84*	7.15	*3.24*
2½	*65*	3.25	*83*	4.00	*102*	13.70	*6.21*
3	*80*	3.75	*95*	4.75	*121*	21.00	*9.52*
4	*100*	4.50	*114*	6.00	*152*	38.00	*17.23*

Forged Steel Fittings

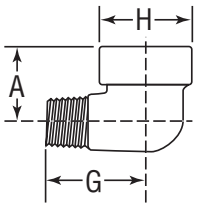
Class 3000 Threaded

FIGURE 2115
Crosses



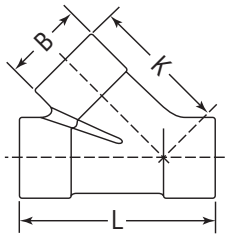
Size		A		H		Unit Weight	
NPS	DN	in	mm	in	mm	lbs	kg
⅛	6	0.81	21	0.88	22	–	–
¼	8	0.97	25	1.00	25	–	–
⅜	10	1.12	28	1.31	33	–	–
½	15	1.31	33	1.50	38	1.40	0.63
¾	20	1.50	38	1.81	46	2.10	0.95
1	25	1.75	44	2.19	56	3.50	1.59
1¼	32	2.00	51	2.44	62	4.30	1.95
1½	40	2.38	60	2.97	75	8.20	3.72
2	50	2.50	64	3.31	84	8.40	3.81
2½	65	3.25	83	4.00	102	17.10	7.76
3	80	3.75	95	4.75	121	20.00	9.07
4	100	4.50	114	6.00	152	32.00	14.51

FIGURE 2113
90° Street Elbows



Size		A		G		H		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
⅛	6	0.75	19	1.00	25	0.75	19	–	–
¼	8	0.88	22	1.25	32	1.00	25	0.23	0.10
⅜	10	1.00	25	1.50	38	1.25	32	0.38	0.17
½	15	1.12	28	1.62	41	1.50	38	0.53	0.24
¾	20	1.38	35	1.88	48	1.75	44	0.88	0.40
1	25	1.75	44	2.25	57	2.00	51	1.40	0.63
1¼	32	2.00	51	2.62	66	2.44	62	2.40	1.09
1½	40	2.12	54	2.81	71	2.75	70	2.90	1.32
2	50	2.50	64	3.31	84	3.31	84	5.00	2.27

FIGURE 2116
Laterals



Size		B		K		L		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
½	15	1.56	39.62	2.56	65.02	3.56	90.42	1.75	0.79
¾	20	1.84	46.74	3.00	76.20	4.13	104.90	2.75	1.24
1	25	2.22	56.39	3.50	88.90	4.81	122.17	4.65	2.09
1¼	32	2.50	63.50	3.94	100.08	5.38	136.65	5.50	2.48
1½	40	3.03	79.96	4.75	120.65	6.44	163.58	10.831	4.87
2	50	3.34	84.84	5.00	127.00	6.63	168.40	9.50	4.28

Forged Steel Fittings

Class 3000 Threaded

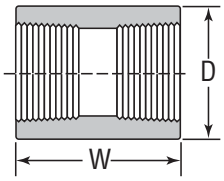
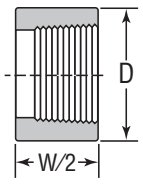
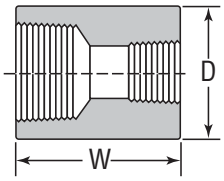
FIGURE 2117 Couplings	Size		D		W		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
 	⅛	*6*	0.62	*16*	1.25	*32*	0.14	*0.06*
	¼	*8*	0.75	*19*	1.38	*35*	0.10	*0.05*
	⅜	*10*	0.88	*22*	1.50	*38*	0.13	*0.06*
	½	*15*	1.12	*28*	1.88	*48*	0.28	*0.13*
	¾	*20*	1.38	*35*	2.00	*51*	0.44	*0.20*
	1	*25*	1.75	*44*	2.38	*60*	1.08	*0.49*
	1¼	*32*	2.25	*57*	2.62	*67*	1.68	*0.76*
	1½	*40*	2.50	*64*	3.12	*79*	2.17	*0.98*
	2	*50*	3.00	*76*	3.38	*86*	3.20	*1.45*
	2½	*65*	3.62	*92*	3.62	*92*	4.70	*2.13*
	3	*80*	4.25	*108*	4.25	*108*	6.80	*3.08*
	4	*100*	5.50	*140*	4.75	*121*	12.30	*5.58*

FIGURE 2119 Half Couplings	Size		D		W/2		Unit Weight	
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
 	⅛	*6*	0.62	*16*	1.25	*32*	0.05	*0.02*
	¼	*8*	0.75	*19*	1.38	*35*	0.04	*0.02*
	⅜	*10*	0.88	*22*	1.50	*38*	0.06	*0.03*
	½	*15*	1.12	*28*	1.88	*48*	0.12	*0.05*
	¾	*20*	1.38	*35*	2.00	*51*	0.21	*0.10*
	1	*25*	1.75	*44*	2.38	*60*	0.43	*0.20*
	1¼	*32*	2.25	*57*	2.62	*67*	0.76	*0.34*
	1½	*40*	2.50	*64*	3.12	*79*	1.14	*0.52*
	2	*50*	3.00	*76*	3.38	*86*	1.50	*0.68*
	2½	*65*	3.62	*92*	3.62	*92*	2.40	*1.09*
	3	*80*	4.25	*108*	4.25	*108*	3.25	*1.47*
	4	*100*	5.50	*140*	4.75	*121*	6.25	*2.83*

Forged Steel Fittings

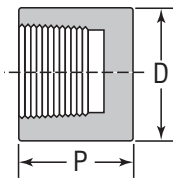
Class 3000 Threaded

FIGURE 2118
Reducing Couplings



Size				D		W		Unit Weight	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	⅛	*6*	0.75	*19*	1.38	*35*	0.10	*0.05*
⅜	*10*	⅛	*6*	0.88	*22*	1.50	*38*	0.15	*0.07*
½	*15*	⅛	*6*	1.12	*28*	1.88	*48*	0.35	*0.16*
¾	*20*	⅛	*6*	1.38	*35*	2.00	*51*	0.52	*0.24*
1	*25*	⅛	*6*	1.75	*44*	2.38	*60*	1.10	*0.50*
1¼	*32*	¼	*8*	2.25	*57*	2.62	*67*	2.08	*0.94*
1½	*40*	¼	*8*	2.50	*64*	3.12	*79*	2.93	*1.33*
2	*50*	¼	*8*	3.00	*76*	3.38	*86*	4.40	*2.00*
2½	*65*	¾	*20*	3.62	*92*	3.62	*92*	7.50	*3.40*
3	*80*	¾	*20*	4.25	*108*	4.25	*108*	11.00	*4.99*
4	*100*	1½	*40*	5.50	*140*	4.75	*121*	20.50	*9.30*

FIGURE 2120
Pipe Caps

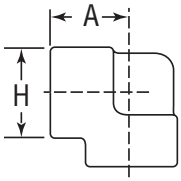


Size		D		P		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.62	*16*	0.75	*19*	0.07	*0.03*
¼	*8*	0.75	*19*	1.00	*25*	0.08	*0.04*
⅜	*10*	0.88	*22*	1.00	*25*	0.11	*0.05*
½	*15*	1.12	*28*	1.25	*32*	0.23	*0.10*
¾	*20*	1.38	*35*	1.44	*37*	0.40	*0.18*
1	*25*	1.75	*44*	1.62	*41*	0.79	*0.36*
1¼	*32*	2.25	*57*	1.75	*44*	1.21	*0.55*
1½	*40*	2.50	*64*	1.75	*44*	1.75	*0.79*
2	*50*	3.00	*76*	1.88	*48*	2.46	*1.12*
2½	*65*	3.62	*92*	2.38	*60*	4.37	*1.98*
3	*80*	4.25	*108*	2.56	*65*	6.50	*2.95*
4	*100*	5.50	*140*	2.69	*68*	11.30	*5.12*

Forged Steel Fittings

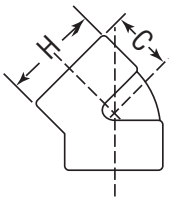
Class 6000 Threaded

FIGURE 2131
90° Elbows



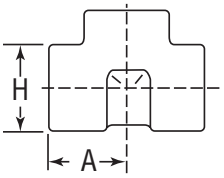
Size		A		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.97	*25*	1.00	*25*	–	–
¼	*8*	1.12	*28*	1.31	*33*	–	–
⅜	*10*	1.31	*33*	1.50	*38*	–	–
½	*15*	1.50	*38*	1.81	*46*	1.50	*0.68*
¾	*20*	1.75	*44*	2.19	*56*	2.60	*1.18*
1	*25*	2.00	*51*	2.44	*62*	3.50	*1.59*
1¼	*32*	2.38	*60*	2.97	*75*	6.00	*2.72*
1½	*40*	2.50	*64*	3.31	*84*	8.00	*3.63*
2	*50*	3.25	*83*	4.00	*102*	13.00	*5.90*
2½	*65*	3.75	*95*	4.75	*121*	22.30	*10.11*
3	*80*	4.19	*106*	5.75	*146*	36.00	*16.33*
4	*100*	4.50	*114*	6.00	*152*	–	–

FIGURE 2132
45° Elbows



Size		C		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.75	*19*	1.00	*25*	–	–
¼	*8*	0.88	*22*	1.31	*33*	–	–
⅜	*10*	1.00	*25*	1.50	*38*	–	–
½	*15*	1.12	*28*	1.81	*46*	2.25	*1.02*
¾	*20*	1.31	*33*	2.19	*56*	2.30	*1.04*
1	*25*	1.38	*35*	2.44	*62*	2.69	*1.22*
1¼	*32*	1.69	*43*	2.97	*75*	4.69	*2.13*
1½	*40*	1.72	*44*	3.31	*84*	5.60	*2.54*
2	*50*	2.06	*52*	4.00	*102*	9.50	*4.31*
2½	*65*	2.50	*64*	4.75	*121*	15.50	*7.03*
3	*80*	3.12	*79*	5.75	*146*	31.00	*14.06*
4	*100*	3.12	*79*	6.00	*152*	–	–

FIGURE 2134
Tees



Size		A		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.97	*25*	1.00	*25*	–	–
¼	*8*	1.12	*28*	1.31	*33*	–	–
⅜	*10*	1.31	*33*	1.50	*38*	–	–
½	*15*	1.50	*38*	1.81	*46*	2.25	*1.02*
¾	*20*	1.75	*44*	2.19	*56*	2.30	*1.04*
1	*25*	2.00	*51*	2.44	*62*	2.69	*1.22*
1¼	*32*	2.38	*60*	2.97	*75*	4.69	*2.13*
1½	*40*	2.50	*64*	3.31	*84*	5.60	*2.54*
2	*50*	3.25	*83*	4.00	*102*	9.50	*4.31*
2½	*65*	3.75	*95*	4.75	*121*	15.50	*7.03*
3	*80*	4.19	*106*	5.75	*146*	31.00	*14.06*
4	*100*	4.50	*114*	6.00	*152*	–	–

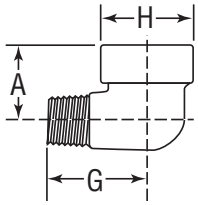
Forged Steel Fittings

Class 6000 Threaded

FIGURE 2135
Crosses

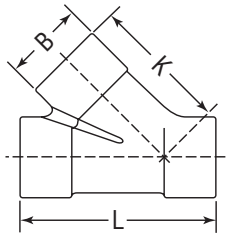
Size		A		H		Unit Weight	
NPS	DN	in	mm	in	mm	lbs	kg
⅛	6	0.97	25	1.00	25	0.56	0.25
¼	8	1.12	28	1.31	33	1.19	0.54
⅜	10	1.31	33	1.50	38	1.50	0.68
½	15	1.50	38	1.81	46	2.60	1.18
¾	20	1.75	44	2.19	56	4.30	1.95
1	25	2.00	51	2.44	62	5.70	2.59
1¼	32	2.38	60	2.97	75	9.60	4.35
1½	40	2.50	64	3.31	84	11.40	5.17
2	50	3.25	83	4.00	102	21.40	9.71
2½	65	3.75	95	4.75	121	28.30	12.83
3	80	4.19	106	5.75	146	59.00	26.76
4	100	4.50	114	6.00	152	43.50	19.73

FIGURE 2133
90° Street Elbows



Size		A		G		H		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
⅛	6	0.88	22	1.25	32	1.00	25	–	–
¼	8	1.00	25	1.50	38	1.25	32	0.38	0.17
⅜	10	1.12	28	1.62	41	1.50	38	0.44	0.20
½	15	1.38	35	1.88	48	1.75	44	1.10	0.50
¾	20	1.75	44	2.25	57	2.00	51	1.62	0.73
1	25	2.00	51	2.62	66	2.44	62	2.80	1.27
1¼	32	2.12	54	2.81	71	2.75	70	3.80	1.72
1½	40	2.50	64	3.31	84	3.31	84	7.20	3.27

FIGURE 2136
Laterals

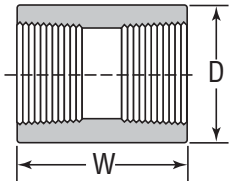


Size		B		K		L		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
½	15	1.84	46.74	3.00	76.20	4.13	104.90	3.25	1.46
¾	20	2.22	56.39	3.50	88.90	4.81	122.17	5.44	2.45
1	25	2.50	63.5	3.94	100.08	5.38	136.65	7.19	3.23
1¼	32	3.03	76.96	4.75	120.65	6.44	163.58	12.31	5.54
1½	40	3.34	84.84	5.00	127.00	6.63	168.40	–	–

Forged Steel Fittings

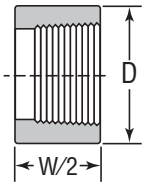
Class 6000 Threaded

FIGURE 2137
Couplings



Size		D		W		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.88	*22*	1.25	*32*	0.17	*0.08*
¼	*8*	1.00	*25*	1.38	*35*	0.30	*0.14*
⅜	*10*	1.25	*32*	1.50	*38*	0.45	*0.20*
½	*15*	1.50	*38*	1.88	*48*	0.70	*0.32*
¾	*20*	1.75	*44*	2.00	*51*	1.15	*0.52*
1	*25*	2.25	*57*	2.38	*60*	1.83	*0.83*
1¼	*32*	2.50	*64*	2.62	*67*	2.08	*0.94*
1½	*40*	3.00	*76*	3.12	*79*	3.95	*1.79*
2	*50*	3.62	*92*	3.38	*86*	6.50	*2.95*
2½	*65*	4.25	*108*	3.62	*92*	–	–
3	*80*	5.00	*127*	4.25	*108*	–	–
4	*100*	6.25	*159*	4.75	*121*	–	–

FIGURE 2141
Half Couplings

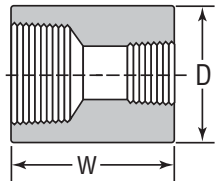


Size		D		W/2		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.88	*22*	1.25	*32*	0.08	*0.04*
¼	*8*	1.00	*25*	1.38	*35*	0.13	*0.06*
⅜	*10*	1.25	*32*	1.50	*38*	0.22	*0.10*
½	*15*	1.50	*38*	1.88	*48*	0.35	*0.16*
¾	*20*	1.75	*44*	2.00	*51*	0.46	*0.21*
1	*25*	2.25	*57*	2.38	*60*	0.95	*0.43*
1¼	*32*	2.50	*64*	2.62	*67*	1.10	*0.50*
1½	*40*	3.00	*76*	3.12	*79*	2.12	*0.96*
2	*50*	3.62	*92*	3.38	*86*	3.00	*1.36*
2½	*65*	4.25	*108*	3.62	*92*	–	–
3	*80*	5.00	*127*	4.25	*108*	–	–
4	*100*	6.25	*159*	4.75	*121*	–	–

Forged Steel Fittings

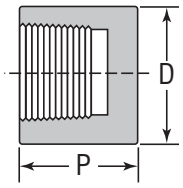
Class 6000 Threaded

FIGURE 2138
Reducing Couplings



Size				D		W		Unit Weight	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	⅛	*6*	1.00	*25*	1.38	*35*	–	–
⅜	*10*	⅛	*6*	1.25	*32*	1.50	*38*	–	–
½	*15*	⅛	*6*	1.50	*38*	1.88	*48*	0.78	*0.35*
¾	*20*	¼	*8*	1.75	*44*	2.00	*51*	1.16	*0.53*
1	*25*	¼	*8*	2.25	*57*	2.38	*60*	2.03	*0.92*
1¼	*32*	½	*15*	2.50	*64*	2.62	*67*	2.73	*1.24*
1½	*40*	¾	*20*	3.00	*76*	3.12	*79*	4.70	*2.13*
2	*50*	¾	*20*	3.62	*92*	3.38	*86*	7.50	*3.40*
2½	*65*	1¼	*32*	4.25	*108*	3.62	*92*	–	–
3	*80*	1½	*40*	5.00	*127*	4.25	*108*	–	–
4	*100*	2	*50*	6.25	*159*	4.75	*121*	–	–

FIGURE 2143
Pipe Caps

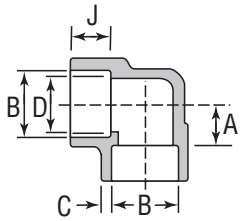


Size		D		P		Unit Weight	
NPS	*DN*	in	mm	in	*mm*	lbs	*kg*
⅛	*6*	0.88	*22*	1.00	*25*	0.01	*0.00*
¼	*8*	1.00	*25*	1.06	*27*	0.01	*0.00*
⅜	*10*	1.25	*32*	1.06	*27*	0.01	*0.00*
½	*15*	1.50	*38*	1.31	*33*	0.41	*0.19*
¾	*20*	1.75	*44*	1.50	*38*	0.57	*0.26*
1	*25*	2.25	*57*	1.69	*43*	1.17	*0.53*
1¼	*32*	2.50	*64*	1.81	*46*	1.42	*0.64*
1½	*40*	3.00	*76*	1.88	*48*	2.17	*0.98*
2	*50*	3.62	*92*	2.00	*51*	3.66	*1.66*
2½	*65*	4.25	*108*	2.50	*64*	4.94	*2.24*
3	*80*	5.00	*127*	2.69	*68*	7.66	*3.47*
4	*100*	6.25	*159*	2.94	*75*	14.53	*6.59*

Forged Steel Fittings

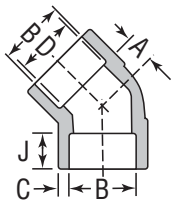
Class 3000 Socket Weld

FIGURE 2150
90° Elbows



Size		A Nominal		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
⅛	6	0.44	11.0	.440 .420	11.2 10.8	0.125	3.18	.299 .239	7.6 6.1	0.38	9.5	0.25	0.11
¼	8	0.44	11.0	.575 .555	14.6 14.2	0.130	3.30	.394 .334	10.0 8.5	0.38	9.5	0.31	0.14
⅜	10	0.53	13.5	.710 .690	18.0 17.6	0.138	3.50	.523 .463	13.3 11.8	0.38	9.5	0.31	0.14
½	15	0.62	15.5	.875 .855	22.2 21.8	0.161	4.09	.652 .592	16.6 15.0	0.38	9.5	0.53	0.24
¾	20	0.75	19.0	1.085 1.065	27.6 27.2	0.168	4.27	.854 .794	21.7 20.2	0.50	12.5	0.64	0.29
1	25	0.88	22.5	1.350 1.330	34.3 33.9	0.196	4.98	1.079 1.019	27.4 25.9	0.50	12.5	0.95	0.43
1¼	32	1.06	27.0	1.695 1.675	43.1 42.7	0.208	5.28	1.410 1.350	35.8 34.3	0.50	12.5	1.60	0.73
1½	40	1.25	32.0	1.935 1.915	49.2 48.8	0.218	5.54	1.640 1.580	41.6 40.1	0.50	12.5	2.12	0.96
2	50	1.50	38.0	2.426 2.406	61.7 61.2	0.238	6.04	2.097 2.037	53.3 51.7	0.62	16.0	3.66	1.66
2½	65	1.62	41.0	2.931 2.906	74.4 73.9	0.302	7.67	2.529 2.409	64.2 61.2	0.62	16.0	6.10	2.77
3	80	2.25	57.0	3.560 3.535	90.3 89.8	0.327	8.30	3.128 3.008	79.4 76.4	0.62	16.0	9.70	4.40
4	100	2.62	66.5	4.570 4.545	115.7 115.2	0.368	9.35	4.086 3.966	103.8 100.7	0.75	19.0	23.00	10.43

FIGURE 2151
45° Elbows



Size		A Nominal		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
⅛	6	0.31	8.0	.440 .420	11.2 10.8	0.125	3.18	.299 .239	7.6 6.1	0.38	9.5	0.18	0.08
¼	8	0.31	8.0	.575 .555	14.6 14.2	0.130	3.30	.394 .334	10.0 8.5	0.38	9.5	0.16	0.07
⅜	10	0.31	8.0	.710 .690	18.0 17.6	0.138	3.50	.523 .463	13.3 11.8	0.38	9.5	0.18	0.08
½	15	0.44	11.0	.875 .855	22.2 21.8	0.161	4.09	.652 .592	16.6 15.0	0.38	9.5	0.43	0.20
¾	20	0.50	13.0	1.085 1.065	27.6 27.2	0.168	4.27	.854 .794	21.7 20.2	0.50	12.5	0.58	0.26
1	25	0.56	14.0	1.350 1.330	34.3 33.9	0.196	4.98	1.079 1.019	27.4 25.9	0.50	12.5	0.90	0.41
1¼	32	0.69	17.5	1.695 1.675	43.1 42.7	0.208	5.28	1.410 1.350	35.8 34.3	0.50	12.5	1.30	0.59
1½	40	0.81	20.5	1.935 1.915	49.2 48.8	0.218	5.54	1.640 1.580	41.6 40.1	0.50	12.5	1.57	0.71
2	50	1.00	25.5	2.426 2.406	61.7 61.2	0.238	6.04	2.097 2.037	53.3 51.7	0.62	16.0	2.73	1.24
2½	65	1.12	28.5	2.931 2.906	74.4 73.9	0.302	7.67	2.529 2.409	64.2 61.2	0.62	16.0	7.50	3.40
3	80	1.25	32.0	3.560 3.535	90.3 89.8	0.327	8.30	3.128 3.008	79.4 76.4	0.62	16.0	10.40	4.72
4	100	1.62	41.0	4.570 4.545	115.7 115.2	0.368	9.35	4.086 3.966	103.8 100.7	0.75	19.0	19.80	8.98

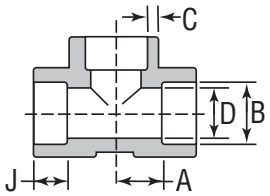
Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

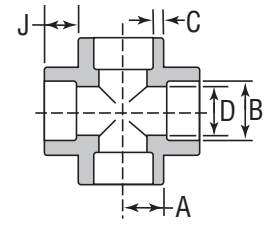
Class 3000 Socket Weld

FIGURE 2152
Tees



Size		A Nominal		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
⅛	6	0.44	11.0	.440 .420	11.2 10.8	0.125	3.18	.299 .239	7.6 6.1	0.38	9.5	0.28	0.13
¼	8	0.44	11.0	.575 .555	14.6 14.2	0.130	3.30	.394 .334	10.0 8.5	0.38	9.5	0.24	0.11
⅜	10	0.53	13.5	.710 .690	18.0 17.6	0.138	3.50	.523 .463	13.3 11.8	0.38	9.5	0.38	0.17
½	15	0.62	15.5	.875 .855	22.2 21.8	0.161	4.09	.652 .592	16.6 15.0	0.38	9.5	0.65	0.29
¾	20	0.75	19.0	1.085 1.065	27.6 27.2	0.168	4.27	.854 .794	21.7 20.2	0.50	12.5	0.86	0.39
1	25	0.88	22.5	1.350 1.330	34.3 33.9	0.196	4.98	1.079 1.019	27.4 25.9	0.50	12.5	1.37	0.62
1¼	32	1.06	27.0	1.695 1.675	43.1 42.7	0.208	5.28	1.410 1.350	35.8 34.3	0.50	12.5	2.00	0.91
1½	40	1.25	32.0	1.935 1.915	49.2 48.8	0.218	5.54	1.640 1.580	41.6 40.1	0.50	12.5	2.80	1.27
2	50	1.50	38.0	2.426 2.406	61.7 61.2	0.238	6.04	2.097 2.037	53.3 51.7	0.62	16.0	3.85	1.75
2½	65	1.62	41.0	2.931 2.906	74.4 73.9	0.302	7.67	2.529 2.409	64.2 61.2	0.62	16.0	8.20	3.72
3	80	2.25	57.0	3.560 3.535	90.3 89.8	0.327	8.30	3.128 3.008	79.4 76.4	0.62	16.0	12.00	5.44
4	100	2.62	66.5	4.570 4.545	115.7 115.2	0.368	9.35	4.086 3.966	103.8 100.7	0.75	19.0	29.00	13.15

FIGURE 2153
Crosses



Size		A Nominal		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
⅛	6	0.44	11.0	.440 .420	11.2 10.8	0.125	3.18	.299 .239	7.6 6.1	0.38	9.5	0.45	0.20
¼	8	0.44	11.0	.575 .555	14.6 14.2	0.130	3.30	.394 .334	10.0 8.5	0.38	9.5	0.38	0.17
⅜	10	0.53	13.5	.710 .690	18.0 17.6	0.138	3.50	.523 .463	13.3 11.8	0.38	9.5	0.32	0.15
½	15	0.62	15.5	.875 .855	22.2 21.8	0.161	4.09	.652 .592	16.6 15.0	0.38	9.5	0.81	0.37
¾	20	0.75	19.0	1.085 1.065	27.6 27.2	0.168	4.27	.854 .794	21.7 20.2	0.50	12.5	1.10	0.50
1	25	0.88	22.5	1.350 1.330	34.3 33.9	0.196	4.98	1.079 1.019	27.4 25.9	0.50	12.5	1.56	0.71
1¼	32	1.06	27.0	1.695 1.675	43.1 42.7	0.208	5.28	1.410 1.350	35.8 34.3	0.50	12.5	2.44	1.11
1½	40	1.25	32.0	1.935 1.915	49.2 48.8	0.218	5.54	1.640 1.580	41.6 40.1	0.50	12.5	3.25	1.47
2	50	1.50	38.0	2.426 2.406	61.7 61.2	0.238	6.04	2.097 2.037	53.3 51.7	0.62	16.0	5.20	2.36
2½	65	1.62	41.0	2.931 2.906	74.4 73.9	0.302	7.67	2.529 2.409	64.2 61.2	0.62	16.0	13.40	6.08
3	80	2.25	57.0	3.560 3.535	90.3 89.8	0.327	8.30	3.128 3.008	79.4 76.4	0.62	16.0	20.00	9.07
4	100	2.62	66.5	4.570 4.545	115.7 115.2	0.368	9.35	4.086 3.966	103.8 100.7	0.75	19.0	–	–

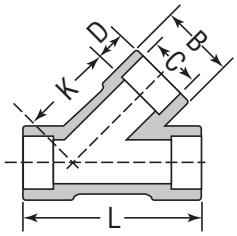
Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

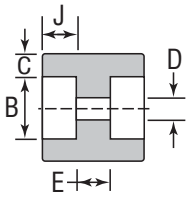
Class 3000 Socket Weld

FIGURE 2158
Laterals



Size		B		C		D		K		L		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	1.31	*33.27*	0.855	*21.72*	0.375	*8.89*	2.125	*54.66*	3.000	*76.20*	1.00	*0.45*
¾	*20*	1.56	*39.62*	1.065	*27.05*	0.500	*12.70*	2.563	*65.10*	3.563	*90.50*	1.50	*0.68*
1	*25*	1.84	*46.74*	1.330	*33.78*	0.500	*12.70*	3.000	*76.2*	4.125	*104.78*	2.38	*1.07*
1¼	*32*	2.22	*56.39*	1.675	*41.91*	0.500	*12.70*	3.500	*88.90*	4.810	*122.17*	3.75	*1.69*
1½	*40*	2.50	*63.50*	1.915	*49.53*	0.500	*12.70*	3.940	*100.08*	5.375	*135.89*	4.13	*1.91*
2	*50*	3.03	*79.96*	2.406	*61.11*	0.625	*16.51*	4.750	*120.65*	6.440	*163.58*	6.29	*2.83*

FIGURE 2154
Couplings



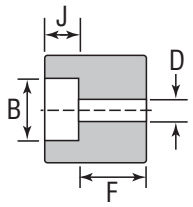
Size		B *Socket Dia.*		C *Minimum*		D *Bore Dia.*		E		J *Socket Depth Minimum*		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	.440 .420	*11.2* *10.8*	0.125	*3.18*	.299 .239	*7.6* *6.1*	0.25	*6.5*	0.38	*9.5*	0.08	*0.04*
¼	*8*	.575 .555	*14.6* *14.2*	0.130	*3.30*	.394 .334	*10.0* *8.5*	0.25	*6.5*	0.38	*9.5*	0.10	*0.05*
⅜	*10*	.710 .690	*18.0* *17.6*	0.138	*3.50*	.523 .463	*13.3* *11.8*	0.25	*6.5*	0.38	*9.5*	0.16	*0.07*
½	*15*	.875 .855	*22.2* *21.8*	0.161	*4.09*	.652 .592	*16.6* *15.0*	0.38	*9.5*	0.38	*9.5*	0.21	*0.10*
¾	*20*	1.085 1.065	*27.6* *27.2*	0.168	*4.27*	.854 .794	*21.7* *20.2*	0.38	*9.5*	0.50	*12.5*	0.40	*0.18*
1	*25*	1.350 1.330	*34.3* *33.9*	0.196	*4.98*	1.079 1.019	*27.4* *25.9*	0.50	*12.5*	0.50	*12.5*	0.55	*0.25*
1¼	*32*	1.695 1.675	*43.1* *42.7*	0.208	*5.28*	1.410 1.350	*35.8* *34.3*	0.50	*12.5*	0.50	*12.5*	0.75	*0.34*
1½	*40*	1.935 1.915	*49.2* *48.8*	0.218	*5.54*	1.640 1.580	*41.6* *40.1*	0.50	*12.5*	0.50	*12.5*	1.10	*0.50*
2	*50*	2.426 2.406	*61.7* *61.2*	0.238	*6.04*	2.097 2.037	*53.3* *51.7*	0.75	*19.0*	0.62	*16.0*	1.65	*0.75*
2½	*65*	2.931 2.906	*74.4* *73.9*	0.302	*7.67*	2.529 2.409	*64.2* *61.2*	0.75	*19.0*	0.62	*16.0*	3.25	*1.47*
3	*80*	3.560 3.535	*90.3* *89.8*	0.327	*8.30*	3.128 3.008	*79.4* *76.4*	0.75	*19.0*	0.62	*16.0*	5.10	*2.31*
4	*100*	4.570 4.545	*115.7* *115.2*	0.368	*9.35*	4.086 3.966	*103.8* *100.7*	0.75	*19.0*	0.75	*19.0*	7.50	*3.40*

Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.
Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

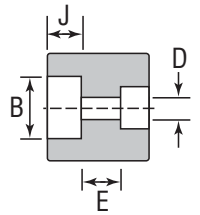
Class 3000 Socket Weld

FIGURE 2155
Half Couplings



Size		B Socket Dia.		D Bore Dia.		F		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
⅛	6	.440 .420	11.2 10.8	.299 .239	7.6 6.1	0.62	16.0	0.38	9.5	0.09	0.04
¼	8	.575 .555	14.6 14.2	.394 .334	10.0 8.5	0.62	16.0	0.38	9.5	0.12	0.05
⅜	10	.710 .690	18.0 17.6	.523 .463	13.3 11.8	0.69	17.5	0.38	9.5	0.23	0.10
½	15	.875 .855	22.2 21.8	.652 .592	16.6 15.0	0.88	22.5	0.38	9.5	0.28	0.13
¾	20	1.085 1.065	27.6 27.2	.854 .794	21.7 20.2	0.94	24.0	0.50	12.5	0.43	0.20
1	25	1.350 1.330	34.3 33.9	1.079 1.019	27.4 25.9	1.12	28.5	0.50	12.5	0.66	0.30
1¼	32	1.695 1.675	43.1 42.7	1.410 1.350	35.8 34.3	1.19	30.0	0.50	12.5	1.10	0.50
1½	40	1.935 1.915	49.2 48.8	1.640 1.580	41.6 40.1	1.25	32.0	0.50	12.5	1.06	0.48
2	50	2.426 2.406	61.7 61.2	2.097 2.037	53.3 51.7	1.62	41.0	0.62	16.0	2.15	0.98
2½	65	2.931 2.906	74.4 73.9	2.529 2.409	64.2 61.2	1.69	43.0	0.62	16.0	3.70	1.68
3	80	3.560 3.535	90.3 89.8	3.128 3.008	79.4 76.4	1.75	44.5	0.62	16.0	6.00	2.72
4	100	4.570 4.545	115.7 115.2	4.086 3.966	103.8 100.7	1.88	48.0	0.75	19.0	8.00	3.63

FIGURE 2156
Reducing Couplings



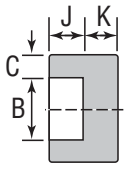
Size				B Socket Dia.		D Bore Dia.		E		J Socket Depth Minimum		Unit Weight	
		Lowest Reduction											
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
¼	8	⅛	6	.575 .555	14.6 14.2	0.130	3.30	.394 .334	10.0 8.5	0.25	6.5	0.38	9.5
⅜	10	⅛	6	.710 .690	18.0 17.6	0.138	3.50	.523 .463	13.3 11.8	0.25	6.5	0.38	9.5
½	15	⅛	6	.875 .855	22.2 21.8	0.161	4.09	.652 .592	16.6 15.0	0.38	9.5	0.38	9.5
¾	20	⅛	6	1.085 1.065	27.6 27.2	0.168	4.27	.854 .794	21.7 20.2	0.38	9.5	0.50	12.5
1	25	⅛	6	1.350 1.330	34.3 33.9	0.196	4.98	1.079 1.019	27.4 25.9	0.50	12.5	0.50	12.5
1¼	32	¼	8	1.695 1.675	43.1 42.7	0.208	5.28	1.410 1.350	35.8 34.3	0.50	12.5	0.50	12.5
1½	40	¼	8	1.935 1.915	49.2 48.8	0.218	5.54	1.640 1.580	41.6 40.1	0.50	12.5	0.50	12.5
2	50	½	15	2.426 2.406	61.7 61.2	0.238	6.04	2.097 2.037	53.3 51.7	0.75	19.0	0.62	16.0
2½	65	½	15	2.931 2.906	74.4 73.9	0.302	7.67	2.529 2.409	64.2 61.2	0.75	19.0	0.62	16.0
3	80	1½	40	3.560 3.535	90.3 89.8	0.327	8.30	3.128 3.008	79.4 76.4	0.75	19.0	0.62	16.0
4	100	2	50	4.570 4.545	115.7 115.2	0.368	9.35	4.086 3.966	103.8 100.7	0.75	19.0	0.75	19.0

Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.
Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

Class 3000 Socket Weld

FIGURE 2157
Pipe Caps



Size		B Socket Dia.		C Minimum		J Socket Depth Minimum		K		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	.440 .420	*11.2* *10.8*	0.125	*3.18*	0.38	*9.5*	0.19	*4.8*	0.07	*0.03*
¼	*8*	.575 .555	*14.6* *14.2*	0.130	*3.30*	0.38	*9.5*	0.19	*4.8*	0.09	*0.04*
⅜	*10*	.710 .690	*18.0* *17.6*	0.138	*3.50*	0.38	*9.5*	0.19	*4.8*	0.17	*0.08*
½	*15*	.875 .855	*22.2* *21.8*	0.161	*4.09*	0.38	*9.5*	0.25	*6.4*	0.30	*0.14*
¾	*20*	1.085 1.065	*27.6* *27.2*	0.168	*4.27*	0.50	*12.5*	0.25	*6.4*	0.37	*0.17*
1	*25*	1.350 1.330	*34.3* *33.9*	0.196	*4.98*	0.50	*12.5*	0.38	*9.6*	0.60	*0.27*
1¼	*32*	1.695 1.675	*43.1* *42.7*	0.208	*5.28*	0.50	*12.5*	0.38	*9.6*	0.96	*0.44*
1½	*40*	1.935 1.915	*49.2* *48.8*	0.218	*5.54*	0.50	*12.5*	0.44	*11.2*	1.20	*0.54*
2	*50*	2.426 2.406	*61.7* *61.2*	0.238	*6.04*	0.62	*16.0*	0.50	*12.7*	2.00	*0.91*
2½	*65*	2.931 2.906	*74.4* *73.9*	0.302	*7.67*	0.62	*16.0*	0.62	*15.7*	2.75	*1.25*
3	*80*	3.560 3.535	*90.3* *89.8*	0.327	*8.30*	0.62	*16.0*	0.75	*19.0*	5.00	*2.27*
4	*100*	4.570 4.545	*115.7* *115.2*	0.368	*9.35*	0.75	*19.0*	0.88	*22.4*	8.25	*3.74*

Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

Class 6000 Socket Weld

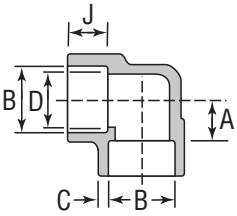
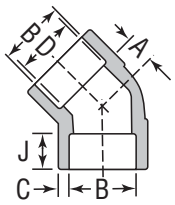
FIGURE 2170 90° Elbows	Size		A Nominal		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
	½	15	0.75	19.0	.875 .855	22.2 21.8	0.204	5.18	.494 .434	12.5 11.0	0.38	9.5	0.90	0.41
	¾	20	0.88	22.5	1.085 1.065	27.6 27.2	0.238	6.04	.642 .582	16.3 14.8	0.50	12.5	1.50	0.68
	1	25	1.06	27.0	1.350 1.330	34.3 33.9	0.273	6.93	.845 .785	21.5 19.9	0.50	12.5	2.32	1.05
	1¼	32	1.25	32.0	1.695 1.675	43.1 42.7	0.273	6.93	1.190 1.130	30.2 28.7	0.50	12.5	3.00	1.36
	1½	40	1.50	38.0	1.935 1.915	49.2 48.8	0.307	7.80	1.368 1.308	34.7 33.2	0.50	12.5	5.50	2.49
	2	50	1.62	41.0	2.426 2.406	61.7 61.2	0.374	9.50	1.717 1.657	43.6 42.1	0.62	16.0	6.50	2.95
	2½	65	2.25	57.1	2.931 2.906	74.4 73.9	0.41	10.41	2.185 2.065	55.5 52.5	0.62	16.0	12.00	5.44
	3	80	2.50	63.5	3.560 3.535	90.3 89.8	0.48	12.19	2.684 2.564	68.2 65.1	0.62	16.0	19.60	8.89
	4	100	2.62	66.5	4.570 4.545	115.7 115.2	0.58	14.73	3.498 3.378	88.8 85.8	0.75	19.0	36.40	16.51

FIGURE 2171 45° Elbows	Size		A		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
	NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
	½	15	0.50	12.5	.875 .855	22.2 21.8	0.204	5.18	.494 .434	12.5 11.0	0.38	9.5	0.90	0.41
	¾	20	0.56	14.0	1.085 1.065	27.6 27.2	0.238	6.04	.642 .582	16.3 14.8	0.50	12.5	1.50	0.68
	1	25	0.69	17.5	1.350 1.330	34.3 33.9	0.273	6.93	.845 .785	21.5 19.9	0.50	12.5	2.32	1.05
	1¼	32	0.81	20.5	1.695 1.675	43.1 42.7	0.273	6.93	1.190 1.130	30.2 28.7	0.50	12.5	3.00	1.36
	1½	40	1.00	25.5	1.935 1.915	49.2 48.8	0.307	7.80	1.368 1.308	34.7 33.2	0.50	12.5	5.50	2.49
	2	50	1.12	28.5	2.426 2.406	61.7 61.2	0.374	9.50	1.717 1.657	43.6 42.1	0.62	16.0	6.50	2.95
	2½	65	1.25	31.8	2.931 2.906	74.4 73.9	0.41	10.41	2.185 2.065	55.5 52.5	0.62	16.0	12.00	5.44
	3	80	1.38	35.1	3.560 3.535	90.3 89.8	0.48	12.19	2.684 2.564	68.2 65.1	0.62	16.0	19.60	8.89
	4	100	1.58	40.1	4.570 4.545	115.7 115.2	0.58	14.73	3.498 3.378	88.8 85.8	0.75	19.0	36.40	16.51

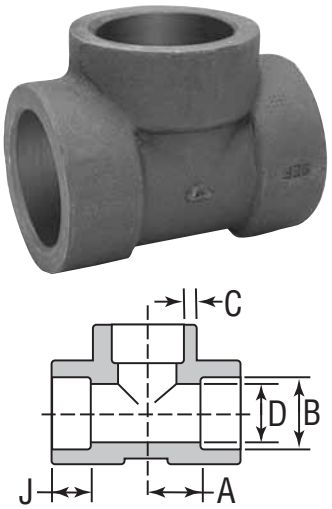
Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

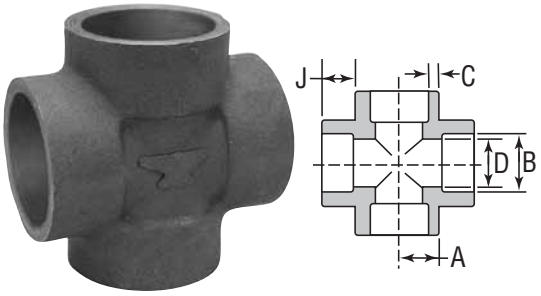
Class 6000 Socket Weld

FIGURE 2172
Tees



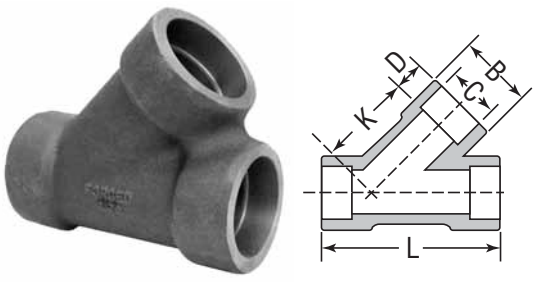
Size		A		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	0.75	19.0	.875 .855	22.2 21.8	0.204	5.18	.494 .434	12.5 11.0	0.38	9.5	1.16	0.53
¾	20	0.88	22.5	1.085 1.065	27.6 27.2	0.238	6.04	.642 .582	16.3 14.8	0.50	12.5	2.00	0.91
1	25	1.06	27.0	1.350 1.330	34.3 33.9	0.273	6.93	.845 .785	21.5 19.9	0.50	12.5	3.16	1.43
1¼	32	1.25	32.0	1.695 1.675	43.1 42.7	0.273	6.93	1.190 1.130	30.2 28.7	0.50	12.5	3.62	1.64
1½	40	1.50	38.0	1.935 1.915	49.2 48.8	0.307	7.80	1.368 1.308	34.7 33.2	0.50	12.5	7.10	3.22
2	50	1.62	41.0	2.426 2.406	61.7 61.2	0.374	9.50	1.717 1.657	43.6 42.1	0.62	16.0	8.90	4.04
2½	65	2.25	57.1	2.931 2.906	74.4 73.9	0.41	10.41	2.185 2.065	55.5 52.5	0.62	16.0	16.63	7.54
3	80	2.50	63.5	3.560 3.535	90.3 89.8	0.48	12.19	2.684 2.564	68.2 65.1	0.62	16.0	23.80	10.79
4	100	2.62	66.5	4.570 4.545	115.7 115.2	0.58	14.73	3.498 3.378	88.8 85.8	0.75	19.0	45.32	20.55

FIGURE 2173
Crosses



Size		A		B Socket Dia.		C Minimum		D Bore Dia.		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	0.75	19.0	.875 .855	22.2 21.8	0.204	5.18	.494 .434	12.5 11.0	0.38	9.5	1.40	0.63
¾	20	0.88	22.5	1.085 1.065	27.6 27.2	0.238	6.04	.642 .582	16.3 14.8	0.50	12.5	2.30	1.04
1	25	1.06	27.0	1.350 1.330	34.3 33.9	0.273	6.93	.845 .785	21.5 19.9	0.50	12.5	3.80	1.72
1¼	32	1.25	32.0	1.695 1.675	43.1 42.7	0.273	6.93	1.190 1.130	30.2 28.7	0.50	12.5	4.70	2.13
1½	40	1.50	38.0	1.935 1.915	49.2 48.8	0.307	7.80	1.368 1.308	34.7 33.2	0.50	12.5	8.70	3.95
2	50	1.62	41.0	2.426 2.406	61.7 61.2	0.374	9.50	1.717 1.657	43.6 42.1	0.62	16.0	9.30	4.22

FIGURE 2178
Laterals



Size		B		C		D		K		L		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	1.31	33.27	0.855	21.72	0.375	8.89	2.125	54.66	3.000	76.20	1.00	0.45
¾	20	1.56	39.62	1.065	27.05	0.500	12.70	2.563	65.10	3.563	90.50	1.50	0.68
1	25	1.84	46.74	1.330	33.78	0.500	12.70	3.000	76.2	4.125	104.78	2.38	1.07
1¼	32	2.22	56.39	1.675	41.91	0.500	12.70	3.500	88.90	4.810	122.17	3.75	1.69
1½	40	2.50	63.50	1.915	49.53	0.500	12.70	3.940	100.08	5.375	135.89	4.13	1.91

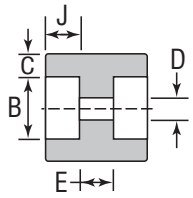
Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

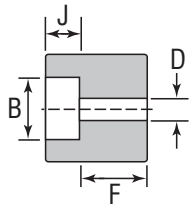
Class 6000 Socket Weld

FIGURE 2174
Couplings



Size		B Socket Dia.		C Minimum		D Bore Dia.		E		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	.875 .855	22.2 21.8	0.204	5.18	.494 .434	12.5 11.0	0.38	9.5	0.38	9.5	0.53	0.24
¾	20	1.085 1.065	27.6 27.2	0.238	6.04	.642 .582	16.3 14.8	0.38	9.5	0.50	12.5	0.56	0.25
1	25	1.350 1.330	34.3 33.9	0.273	6.93	.845 .785	21.5 19.9	0.50	12.5	0.50	12.5	0.92	0.42
1¼	32	1.695 1.675	43.1 42.7	0.273	6.93	1.190 1.130	30.2 28.7	0.50	12.5	0.50	12.5	1.16	0.53
1½	40	1.935 1.915	49.2 48.8	0.307	7.80	1.368 1.308	34.7 33.2	0.50	12.5	0.50	12.5	2.57	1.17
2	50	2.426 2.406	61.7 61.2	0.374	9.50	1.717 1.657	43.6 42.1	0.75	19.0	0.62	16.0	4.75	2.15
2½	65	2.931 2.906	74.4 73.9	0.410	10.41	2.185 2.065	55.5 52.5	0.75	19.0	0.62	16.0	–	–
3	80	3.560 3.535	90.3 89.8	0.480	12.19	2.684 2.564	68.2 65.1	0.75	19.0	0.62	16.0	–	–
4	100	4.570 4.545	115.7 115.2	0.580	14.73	3.498 3.378	88.8 85.8	0.75	19.0	0.75	19.0	–	–

FIGURE 2175
Half Couplings



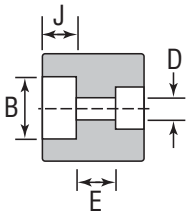
Size		B Socket Dia.		D Bore Dia.		F		J Socket Depth Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	.875 .855	22.2 21.8	.494 .434	12.5 11.0	0.88	22.5	0.38	9.5	0.56	0.25
¾	20	1.085 1.065	27.6 27.2	.642 .582	16.3 14.8	0.94	24.0	0.50	12.5	0.95	0.43
1	25	1.350 1.330	34.3 33.9	.845 .785	21.5 19.9	1.12	28.5	0.50	12.5	1.12	0.51
1¼	32	1.695 1.675	43.1 42.7	1.190 1.130	30.2 28.7	1.19	30.0	0.50	12.5	1.87	0.85
1½	40	1.935 1.915	49.2 48.8	1.368 1.308	34.7 33.2	1.25	32.0	0.50	12.5	2.87	1.30
2	50	2.426 2.406	61.7 61.2	1.717 1.657	43.6 42.1	1.62	41.0	0.62	16.0	3.62	1.64
2½	65	2.931 2.906	74.4 73.9	2.185 2.065	55.5 52.5	1.69	43.0	0.62	16.0	–	–
3	80	3.560 3.535	90.3 89.8	2.684 2.564	68.2 65.1	1.75	44.5	0.62	16.0	–	–
4	100	4.570 4.545	115.7 115.2	3.498 3.378	88.8 85.8	1.88	48.0	0.75	19.0	–	–

Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.
Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

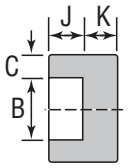
Class 6000 Socket Weld

FIGURE 2176
Reducing Couplings



Size				B Socket Dia.		D Bore Dia.		E		J Socket Depth Minimum		Unit Weight	
		Lowest Reduction											
NPS	DN	NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	¼	8	.875 .855	22.2 21.8	.494 .434	12.5 11.0	0.38	9.5	0.38	9.5	–	–
¾	20	⅜	10	1.085 1.065	27.6 27.2	.642 .582	16.3 14.8	0.38	9.5	0.50	12.5	0.81	0.37
1	25	⅜	10	1.350 1.330	34.3 33.9	.845 .785	21.5 19.9	0.50	12.5	0.50	12.5	1.80	0.82
1¼	32	½	15	1.695 1.675	43.1 42.7	1.190 1.130	30.2 28.7	0.50	12.5	0.50	12.5	2.00	0.91
1½	40	½	15	1.935 1.915	49.2 48.8	1.368 1.308	34.7 33.2	0.50	12.5	0.50	12.5	3.20	1.45
2	50	¾	20	2.426 2.406	61.7 61.2	1.717 1.657	43.6 42.1	0.75	19.0	0.62	16.0	5.40	2.45
2½	65	1¼	32	2.931 2.906	74.4 73.9	2.185 2.065	55.5 52.5	0.75	19.0	0.62	16.0	–	–
3	80	1½	40	3.560 3.535	90.3 89.8	2.684 2.564	68.2 65.1	0.75	19.0	0.62	16.0	–	–
4	100	2	50	4.570 4.545	115.7 115.2	3.498 3.378	88.8 85.8	0.75	19.0	0.75	19.0	–	–

FIGURE 2177
Pipe Caps



Size		B Socket Dia.		C Minimum		J Socket Depth Minimum		K Minimum		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
½	15	.875 .855	22.2 21.8	0.204	5.18	0.38	9.5	0.31	7.9	0.42	0.19
¾	20	1.085 1.065	27.6 27.2	0.238	6.04	0.50	12.5	0.31	7.9	0.58	0.26
1	25	1.350 1.330	34.3 33.9	0.273	6.93	0.50	12.5	0.44	11.2	1.21	0.55
1¼	32	1.695 1.675	43.1 42.7	0.273	6.93	0.50	12.5	0.44	11.2	1.00	0.45
1½	40	1.935 1.915	49.2 48.8	0.307	7.80	0.50	12.5	0.50	12.7	2.12	0.96
2	50	2.426 2.406	61.7 61.2	0.374	9.50	0.62	16.0	0.62	15.7	4.87	2.21
2½	65	2.931 2.906	74.4 73.9	0.41	10.41	0.62	16.0	0.75	19.0	–	–
3	80	3.560 3.535	90.3 89.8	0.48	12.19	0.62	16.0	0.88	22.4	–	–
4	100	4.570 4.545	115.7 115.2	0.58	14.73	0.75	19.0	1.12	28.4	–	–

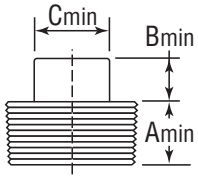
Note: When the pipe is seated against the bottom of the socket prior to welding, to prevent possible cracking of the fillet welds, it is recommended that the pipe be withdrawn approximately 1/16 in *(1.6mm)* away from contact with the bottom of the socket before starting the weld.

Average of socket wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized areas.

Forged Steel Fittings

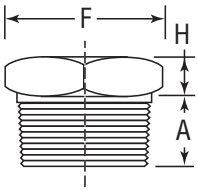
High Pressure Plugs

FIGURE 2122
Square Head Plugs



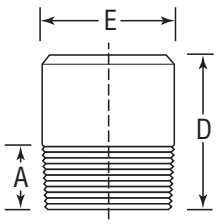
Size		A		B		C		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.38	*10*	0.25	*6*	0.28	*7*	0.02	*0.01*
¼	*8*	0.44	*11*	0.25	*6*	0.38	*10*	0.03	*0.01*
⅜	*10*	0.50	*13*	0.31	*8*	0.44	*11*	0.06	*0.03*
½	*15*	0.56	*14*	0.38	*10*	0.56	*14*	0.10	*0.05*
¾	*20*	0.62	*16*	0.44	*11*	0.62	*16*	0.18	*0.08*
1	*25*	0.75	*19*	0.50	*13*	0.81	*21*	0.38	*0.17*
1¼	*32*	0.81	*21*	0.56	*14*	0.94	*24*	0.62	*0.28*
1½	*40*	0.81	*21*	0.62	*16*	1.12	*28*	0.88	*0.40*
2	*50*	0.88	*22*	0.69	*18*	1.31	*32*	1.40	*0.63*
2½	*65*	1.06	*27*	0.75	*19*	1.50	*36*	2.20	*1.00*
3	*80*	1.12	*28*	0.81	*21*	1.69	*41*	3.40	*1.54*
4	*100*	1.25	*32*	1.00	*25*	2.50	*65*	8.50	*3.85*

FIGURE 2142
Hex Head Plugs



Size		A		F *Across Flats*		H		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.38	*10*	0.44	*11*	0.25	*6*	0.03	*0.01*
¼	*8*	0.44	*11*	0.62	*16*	0.25	*6*	0.05	*0.02*
⅜	*10*	0.50	*13*	0.69	*18*	0.31	*8*	0.09	*0.04*
½	*15*	0.56	*14*	0.88	*22*	0.31	*8*	0.13	*0.06*
¾	*20*	0.62	*16*	1.06	*27*	0.38	*10*	0.27	*0.12*
1	*25*	0.75	*19*	1.38	*36*	0.38	*10*	0.48	*0.22*
1¼	*32*	0.81	*21*	1.75	*46*	0.56	*14*	0.94	*0.43*
1½	*40*	0.81	*21*	2.00	*50*	0.62	*16*	1.20	*0.54*
2	*50*	0.88	*22*	2.50	*65*	0.69	*18*	2.40	*1.09*
2½	*65*	1.06	*27*	3.00	*75*	0.75	*19*	3.80	*1.72*
3	*80*	1.12	*28*	3.50	*90*	0.81	*21*	4.80	*2.18*
4	*100*	1.25	*32*	4.62	*115*	1.00	*25*	13.00	*5.90*

FIGURE 2121
Round Head Plugs



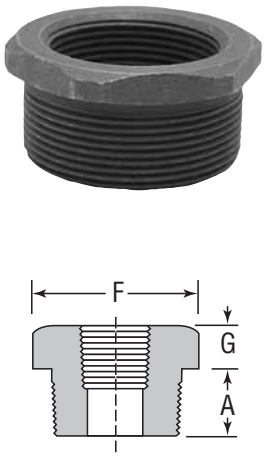
Size		A		D		E		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	0.38	*10*	1.38	*35*	0.41	*10*	0.05	*0.02*
¼	*8*	0.44	*11*	1.62	*41*	0.53	*13*	0.10	*0.05*
⅜	*10*	0.50	*13*	1.62	*41*	0.69	*18*	0.16	*0.07*
½	*15*	0.56	*14*	1.75	*44*	0.84	*21*	0.28	*0.13*
¾	*20*	0.62	*16*	1.75	*44*	1.06	*27*	0.42	*0.19*
1	*25*	0.75	*19*	2.00	*51*	1.31	*33*	0.82	*0.37*
1¼	*32*	0.81	*21*	2.00	*51*	1.69	*43*	1.20	*0.54*
1½	*40*	0.81	*21*	2.00	*51*	1.91	*49*	1.50	*0.68*
2	*50*	0.88	*22*	2.50	*64*	2.38	*60*	3.20	*1.45*
2½	*65*	1.06	*27*	2.75	*70*	2.88	*73*	–	–
3	*80*	1.12	*28*	2.75	*70*	3.50	*89*	–	–
4	*100*	1.25	*32*	3.00	*76*	4.50	*114*	–	–

Note: Plugs and bushings are not identified by Pressure Class. They may be used for ratings up to Pressure Class 6000 (per ASME B16.11)

Forged Steel Fittings

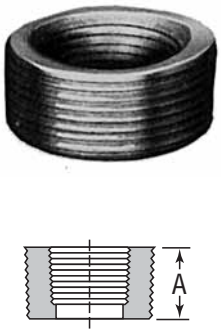
High Pressure Bushings

FIGURE 2139
Hex Head Bushings



Size				A		F		G		Unit Weight	
		Lowest Reduction									
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	⅛	*6*	0.44	*11*	0.62	*16*	0.12	*3*	0.02	*0.01*
⅜	*10*	⅛	*6*	0.50	*13*	0.69	*18*	0.16	*4*	0.03	*0.01*
½	*15*	⅛	*6*	0.56	*14*	0.88	*22*	0.19	*5*	0.06	*0.03*
¾	*20*	⅛	*6*	0.62	*16*	1.06	*27*	0.22	*6*	0.11	*0.05*
1	*25*	⅛	*6*	0.75	*19*	1.38	*36*	0.25	*6*	0.20	*0.09*
1¼	*32*	⅛	*6*	0.81	*21*	1.75	*46*	0.28	*7*	0.40	*0.18*
1½	*40*	¼	*8*	0.81	*21*	2.00	*50*	0.31	*8*	0.50	*0.23*
2	*50*	¼	*8*	0.88	*22*	2.50	*65*	0.34	*9*	0.85	*0.39*
2½	*65*	½	*15*	1.06	*27*	3.00	*75*	0.38	*10*	1.20	*0.54*
3	*80*	½	*15*	1.12	*28*	3.50	*90*	0.41	*10*	2.60	*1.18*
4	*100*	1½	*40*	1.25	*32*	4.62	*115*	0.50	*13*	7.00	*3.17*

FIGURE 2140
Flush Bushings

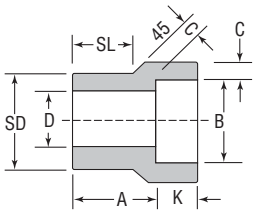


Size				A		Unit Weight	
		Lowest Reduction					
NPS	*DN*	NPS	*DN*	in	*mm*	lbs	*kg*
¼	*8*	⅛	*6*	0.44	*11*	0.03	*0.01*
⅜	*10*	⅛	*6*	0.50	*13*	0.03	*0.01*
½	*15*	⅛	*6*	0.56	*14*	0.06	*0.03*
¾	*20*	⅛	*6*	0.62	*16*	0.09	*0.04*
1	*25*	⅛	*6*	0.75	*19*	0.12	*0.05*
1¼	*32*	⅛	*6*	0.81	*21*	0.15	*0.07*
1½	*40*	¼	*8*	0.81	*21*	0.20	*0.09*
2	*50*	¼	*8*	0.88	*22*	0.35	*0.16*

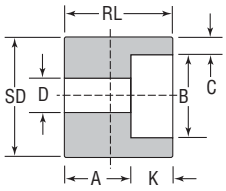
Note: Plugs and bushings are not identified by Pressure Class. They may be used for ratings up to Pressure Class 6000 (per ASME B16.11)

Forged Steel Fittings

Socket-Weld Reducer Inserts



Type 1 - Reducer Insert
Fig. 2159



Type 2 - Reducer Insert
Fig. 2179

CLASS 3000

For use with Schedule 40 and 80 Pipe

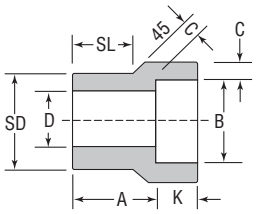
Reducer inserts comply with MSS standard SP-79. They enable standard socket-weld fittings to be used for making any combination of pipe line reductions quickly and economically. Socket-weld reducer inserts serve SD D the same purpose as threaded reducing bushings with threaded fittings.

Size				Class 3000 – For use with Schedule 40 and 80 Pipe											
				A		D		C Min.		SL		RL Min.		Unit Weight	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	¼	*8*	0.81	*20.57*	0.364	*9.25*	0.149	*3.78*	0.62	*15.75*	–	–	0.18	*0.08*
		⅜	*10*	0.81	*20.57*	0.493	*12.52*	0.158	*4.00*	0.62	*15.75*	–	–		
¾	*20*	¼	*8*	0.69	*17.53*	0.364	*9.25*	0.149	*3.78*	–	–	1.06	*27*	0.25	*0.11*
		⅜	*10*	0.62	*15.75*	0.493	*12.52*	0.158	*4.00*	–	–	1.06	*27*		
		½	*15*	0.88	*22.35*	0.622	*15.80*	0.184	*4.67*	0.69	*17.53*	–	–		
1	*25*	¼	*8*	0.75	*19.05*	0.364	*9.25*	0.149	*3.78*	–	–	1.12	*28*	0.35	*0.16*
		⅜	*10*	0.69	*17.53*	0.493	*12.52*	0.158	*4.00*	–	–	1.12	*28*		
		½	*15*	0.62	*15.75*	0.622	*15.80*	0.184	*4.67*	–	–	1.12	*28*		
		¾	*20*	0.94	*23.88*	0.824	*20.93*	0.193	*4.90*	0.75	*19.05*	–	–		
1¼	*32*	¼	*8*	0.88	*22.35*	0.364	*9.25*	0.149	*3.78*	–	–	1.25	*32*	0.35	*0.25*
		⅜	*10*	0.81	*20.57*	0.493	*12.52*	0.158	*4.00*	–	–	1.25	*32*		
		½	*15*	0.75	*19.05*	0.622	*15.80*	0.184	*4.67*	–	–	1.25	*32*		
		¾	*20*	0.69	*17.53*	0.824	*20.93*	0.193	*4.90*	–	–	1.25	*32*		
		1	*25*	1.00	*25.40*	1.049	*26.65*	0.224	*5.69*	0.81	*20.57*	–	–		
1½	*40*	⅜	*10*	0.88	*22.35*	0.493	*12.52*	0.158	*4.00*	–	–	1.31	*33*	0.62	*0.28*
		½	*15*	0.81	*20.57*	0.622	*15.80*	0.184	*4.67*	–	–	1.31	*33*		
		¾	*20*	0.75	*19.05*	0.824	*20.93*	0.193	*4.90*	–	–	1.31	*33*		
		1	*25*	0.69	*17.53*	1.049	*26.65*	0.224	*5.69*	–	–	1.31	*33*		
		1¼	*32*	1.12	*28.45*	1.380	*35.05*	0.239	*6.00*	0.88	*22.35*	–	–		
2	*50*	½	*15*	1.00	*25.40*	0.622	*15.80*	0.184	*4.67*	–	–	1.50	*38*	1.50	*0.68*
		¾	*20*	0.94	*23.88*	0.824	*20.93*	0.193	*4.90*	–	–	1.50	*38*		
		1	*25*	0.88	*22.35*	1.049	*26.65*	0.224	*5.69*	–	–	1.50	*38*		
		1¼	*32*	0.81	*20.57*	1.380	*35.05*	0.239	*6.00*	–	–	1.50	*38*		
		1½	*40*	1.25	*31.75*	1.610	*40.64*	0.250	*6.35*	1.00	*25.40*	–	–		
2½	*65*	¾	*20*	1.56	*39.62*	0.824	*20.93*	0.193	*4.90*	–	–	2.12	*54*	3.00	*1.36*
		1	*25*	1.50	*38.10*	1.049	*26.65*	0.224	*5.69*	–	–	2.12	*54*		
		1¼	*32*	1.44	*36.58*	1.380	*35.05*	0.239	*6.00*	–	–	2.12	*54*		
		1½	*40*	1.38	*35.05*	1.610	*40.64*	0.250	*6.35*	–	–	2.12	*54*		
		2	*50*	1.81	*46.00*	2.067	*52.50*	0.273	*6.93*	1.50	*38.10*	–	–		
3	*80*	1	*25*	1.25	*31.75*	1.049	*26.65*	0.224	*5.69*	–	–	1.87	*47*	4.40	*2.00*
		1¼	*32*	1.19	*30.23*	1.380	*35.05*	0.239	*6.00*	–	–	1.87	*47*		
		1½	*40*	1.12	*28.45*	1.610	*40.64*	0.250	*6.35*	–	–	1.87	*47*		
		2	*50*	1.00	*25.40*	2.067	*52.50*	0.273	*6.93*	–	–	1.87	*47*		
		2½	*65*	1.50	*38.10*	2.469	*62.71*	0.345	*8.76*	1.25	*31.75*	–	–		

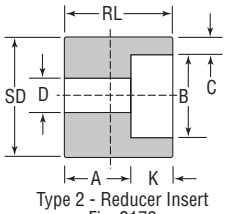
To minimize the possibility of cracking of the fillet welds, it is recommended that the shank portion of the reducer be withdrawn approximately .0625 in. *(1.6 mm)* away from the contact with the bottom of the socket before starting the weld. Likewise, the pipe is to be kept away from contacting the bottom of the reducer socket before welding.

Forged Steel Fittings

Socket-Weld Reducer Inserts



Type 1 - Reducer Insert
Fig. 2159



Type 2 - Reducer Insert
Fig. 2179

CLASS 6000
For use with Schedule 160 Pipe

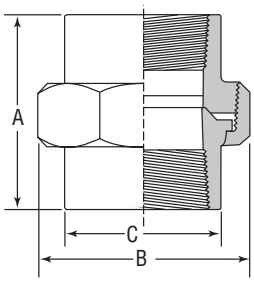
Reducer inserts comply with MSS standard SP-79. They enable standard socket-weld fittings to be used for making any combination of pipe line reductions quickly and economically. Socket-weld reducer inserts serve SD D the same purpose as threaded reducing bushings with threaded fittings.

Size				Class 6000 – For use with Schedule 160 Pipe											
				Type	A		D		C Min.		SL		RL Min.		Unit Weight	
NPS	*DN*	NPS	*DN*		in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
¾	*20*	¼	*8*	2	0.88	*22.35*	0.250	*6.35*	0.181	*4.60*	–	–	–	*32*	0.81	*0.37*
		⅜	*10*	1	0.88	*22.35*	0.359	*9.12*	0.198	*5.00*	0.75	*19.05*	1.26	–		
		½	*15*	1	1.00	*25.40*	0.464	*11.79*	0.235	*6.00*	0.75	*19.05*	–	–		
1	*25*	¼	*8*	2	0.94	*23.88*	0.250	*6.35*	0.181	*4.60*	–	–	1.31	*33*	1.80	*0.82*
		⅜	*10*	2	0.88	*22.35*	0.359	*9.12*	0.198	*5.00*	–	–	1.31	*33*		
		½	*15*	1	1.12	*28.45*	0.464	*11.79*	0.235	*6.00*	0.81	*20.57*	–	–		
		¾	*20*	1	1.12	*28.45*	0.612	*15.49*	0.274	*6.96*	0.81	*20.57*	–	–		
1¼	*32*	¼	*8*	2	1.00	*25.40*	0.250	*6.35*	0.181	*4.60*	–	–	1.37	*35*	2.00	*0.91*
		⅜	*10*	2	0.94	*23.88*	0.359	*9.12*	0.198	*5.00*	–	–	1.37	*35*		
		½	*15*	2	0.88	*22.35*	0.464	*11.79*	0.235	*6.00*	–	–	1.37	*35*		
		¾	*20*	2	0.81	*20.57*	0.612	*15.49*	0.274	*6.96*	–	–	1.37	*35*		
		1	*25*	1	1.19	*30.23*	0.815	*20.70*	0.312	*7.92*	0.88	*22.35*	–	–		
1½	*40*	⅜	*10*	2	1.12	*28.45*	0.359	*9.12*	0.198	*5.00*	–	–	1.56	*40*	3.20	*1.45*
		½	*15*	2	1.06	*26.92*	0.464	*11.79*	0.235	*6.00*	–	–	1.56	*40*		
		¾	*20*	2	1.00	*25.40*	0.612	*15.49*	0.274	*6.96*	–	–	1.56	*40*		
		1	*25*	1	1.15	*29.21*	0.815	*20.70*	0.312	*7.92*	1.00	*25.40*	–	–		
		1¼	*32*	1	1.38	*35.05*	1.160	*29.46*	0.312	*7.92*	1.00	*25.40*	–	–		
2	*50*	½	*15*	2	1.12	*28.45*	0.464	*11.79*	0.235	*6.00*	–	–	1.62	*41*	5.40	*2.45*
		¾	*20*	2	1.06	*26.92*	0.612	*15.49*	0.274	*6.96*	–	–	1.62	*41*		
		1	*25*	2	1.00	*25.40*	0.815	*20.70*	0.312	*7.92*	–	–	1.62	*41*		
		1¼	*32*	2	0.94	*23.88*	1.160	*29.46*	0.312	*7.92*	–	–	1.62	*41*		

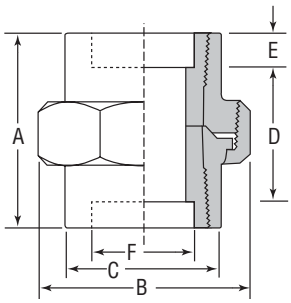
To minimize the possibility of cracking of the fillet welds, it is recommended that the shank portion of the reducer be withdrawn approximately .0625 in. *(1.6 mm)* away from the contact with the bottom of the socket before starting the weld. Likewise, the pipe is to be kept away from contacting the bottom of the reducer socket before welding.

Forged Steel Unions

Class 3000 Threaded & Socket-Weld



Threaded



Socket-Weld

Manufactured to MSS standard practice SP83
(Class 6000 by method of MSS SP83)

FIGURE 2125: Threaded Union

Size		A		B		C*		D		E		F		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
¼	8	1 11/16	43	1 31/64	38	53/64	21	25/32	20	7/16	11	0.555 0.575	14 15	0.30	0.14
⅜	10	1 27/32	47	1 11/16	43	1	25	31/32	25	7/16	11	0.690 0.710	18 18	0.50	0.23
½	15	2	51	1 15/16	49	1 3/16	30	1 3/32	28	7/16	11	0.855 0.875	22 22	0.70	0.32
¾	20	2 5/16	59	2 3/8	60	1 15/32	37	1 5/32	29	9/16	14	1.065 1.085	27 28	1.20	0.54
1	25	2 7/16	62	2 25/32	71	1 25/32	45	1 3/8	35	9/16	14	1.330 1.350	34 34	1.70	0.77
1¼	32	2 7/8	73	3 23/64	85	2 7/32	686	1 45/64	43	9/16	14	1.675 1.695	43 43	2.50	1.13
1½	40	3	76	3 23/64	85	2 35/64	65	1 7/8	48	9/16	14	1.915 1.935	49 49	3.30	1.50
2	50	3½	89	4 27/64	112	3 1/16	78	2 1/16	52	11/16	17	2.406 2.426	61 62	5.30	2.40
2½	65	4¼	108	5 15/64	133	3 9/16	90	2 3/8	60	7/8	22	2.906 2.931	74 74	8.60	3.90
3	80	4 7/16	113	6 5/32	156	4 9/32	109	2 7/16	62	1	25	3.535 3.560	90 90	12.70	5.76

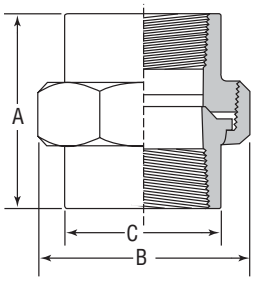
FIGURE 2126: Socket-Weld Union

Size		A		B		C*		D		E		F		Unit Weight	
NPS	DN	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
¼	8	1 11/16	43	1 31/64	38	53/64	21	25/32	20	7/16	11	0.555 0.575	14 15	0.30	0.14
⅜	10	1 27/32	47	1 11/16	43	1	25	31/32	25	7/16	11	0.690 0.710	18 18	0.50	0.23
½	15	2	51	1 15/16	49	1 3/16	30	1 3/32	28	7/16	11	0.855 0.875	22 22	0.70	0.32
¾	20	2 5/16	59	2 3/8	60	1 15/32	37	1 5/32	29	9/16	14	1.065 1.085	27 28	1.20	0.54
1	25	2 7/16	62	2 25/32	71	1 25/32	45	1 3/8	35	9/16	14	1.330 1.350	34 34	1.70	0.77
1¼	32	2 7/8	73	3 23/64	85	2 7/32	686	1 45/64	43	9/16	14	1.675 1.695	43 43	2.50	1.13
1½	40	3	76	3 23/64	85	2 35/64	65	1 7/8	48	9/16	14	1.915 1.935	49 49	3.30	1.50
2	50	3½	89	4 27/64	112	3 1/16	78	2 1/16	52	11/16	17	2.406 2.426	61 62	5.30	2.40
2½	65	4¼	108	5 15/64	133	3 9/16	90	2 3/8	60	7/8	22	2.906 2.931	74 74	8.60	3.90
3	80	4 7/16	113	6 5/32	156	4 9/32	109	2 7/16	62	1	25	3.535 3.560	90 90	12.70	5.76

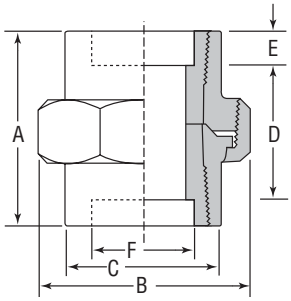
**"C" dimension measures across octagon corners or across the diameter as applicable. The 2½" NPS *(65 DN)* and 3" NPS *(80 DN)* – 3000 and 2" NPS *(50 DN)* – 6000 sizes have octagonal male and female ends; the other sizes are round.

Forged Steel Unions

Class 6000 Threaded & Socket-Weld



Threaded



Socket-Weld

Manufactured to MSS standard practice SP83
(Class 6000 by method of MSS SP83)

FIGURE 2127: Threaded Union

Size		A		B		C*		D		E		F		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	1 27/32	*47*	1 11/16	*43*	1	*25*	31/32	*25*	7/16	*11*	0.555 0.575	*14* *15*	0.60	*0.27*
⅜	*10*	2	*51*	1 15/16	*49*	1 3/16	*30*	1 3/32	*28*	7/16	*11*	0.690 0.710	*18* *18*	0.80	*0.36*
½	*15*	2 5/16	*59*	2 3/8	*60*	1 15/32	*37*	1 5/32	*29*	9/16	*14*	0.855 0.875	*22* *22*	1.40	*0.63*
¾	*20*	2 7/16	*62*	2 25/32	*71*	1 25/32	*45*	1 3/8	*35*	9/16	*14*	1.065 1.085	*27* *28*	2.00	*0.91*
1	*25*	2 7/8	*73*	3 23/64	*85*	2 7/32	*686*	1 45/64	*43*	9/16	*14*	1.330 1.350	*34* *34*	3.10	*1.41*
1¼	*32*	3	*76*	3 23/32	*94*	2 35/64	*65*	1 7/8	*48*	9/16	*14*	1.675 1.695	*43* *43*	5.90	*2.68*
1½	*40*	3½	*89*	4 27/64	*112*	3 1/16	*78*	2 1/16	*52*	11/16	*17*	1.915 1.935	*49* *49*	6.60	*2.99*
2	*50*	4 1/8	*105*	5 15/64	*133*	3 9/16	*90*	2 3/8	*60*	7/8	*22*	2.406 2.426	*61* *62*	10.50	*4.76*

FIGURE 2128: Socket-Weld Union

Size		A		B		C*		D		E		F		Unit Weight	
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
¼	*8*	1 27/32	*47*	1 11/16	*43*	1	*25*	31/32	*25*	7/16	*11*	0.555 0.575	*14* *15*	0.60	*0.27*
⅜	*10*	2	*51*	1 15/16	*49*	1 3/16	*30*	1 3/32	*28*	7/16	*11*	0.690 0.710	*18* *18*	0.80	*0.36*
½	*15*	2 5/16	*59*	2 3/8	*60*	1 15/32	*37*	1 5/32	*29*	9/16	*14*	0.855 0.875	*22* *22*	1.40	*0.63*
¾	*20*	2 7/16	*62*	2 25/32	*71*	1 25/32	*45*	1 3/8	*35*	9/16	*14*	1.065 1.085	*27* *28*	2.00	*0.91*
1	*25*	2 7/8	*73*	3 23/64	*85*	2 7/32	*686*	1 45/64	*43*	9/16	*14*	1.330 1.350	*34* *34*	3.10	*1.41*
1¼	*32*	3	*76*	3 23/32	*94*	2 35/64	*65*	1 7/8	*48*	9/16	*14*	1.675 1.695	*43* *43*	5.90	*2.68*
1½	*40*	3½	*89*	4 27/64	*112*	3 1/16	*78*	2 1/16	*52*	11/16	*17*	1.915 1.935	*49* *49*	6.60	*2.99*
2	*50*	4 1/8	*105*	5 15/64	*133*	3 9/16	*90*	2 3/8	*60*	7/8	*22*	2.406 2.426	*61* *62*	10.50	*4.76*

*"C" dimension measures across octagon corners or across the diameter as applicable. The 2½" NPS *(65 DN)* and 3" NPS *(80 DN)* – 3000 and 2" NPS *(50 DN)* – 6000 sizes have octagonal male and female ends; the other sizes are round.

Forged Steel Anvilets

Anvil **Anvilets** provide a strong branch pipe connection, considerably stronger than a welded pipe-to-pipe connection. Consequently, with good welding procedures, Anvil **Anvilets** offer greater resistance to distortion and bursting.

Anvil **Anvilets** readily and economically permit the adding of branch connectors to existing piping installations, eliminating the relatively higher cost of cutting or disassembly and re-assembly required for the installation of tees.

Anvil **Anvilets** of the same outlet size as a header or run pipe size (i.e. "Full Size" **Anvilets**) are so proportioned that the (ellipticallyshaped) hole in the header pipe has the minimum weakening or distortion effect, and yet provides good fluid flow characteristics.

Specifications

Chemical and physical properties are rigidly controlled to ensure consistently high quality. Physical and chemical test reports are available on request. Traceability of individual Anvilets can be established through the heat code of each fitting.

Anvil **Anvilets** meet the requirements of MSS standard SP-97. They are forged from steel which complies with ASTM A105.

Threaded Anvilets - conform with ASME B1.20.1.

Socket-Weld Anvilets - dimensions conform with ASME B16.11.

Buttweld Anvilets - ends conform with ASME B16.25.

Reinforcement Requirements

ASME B31.1 Power Piping Code
ASME B31.3 Refinery Code

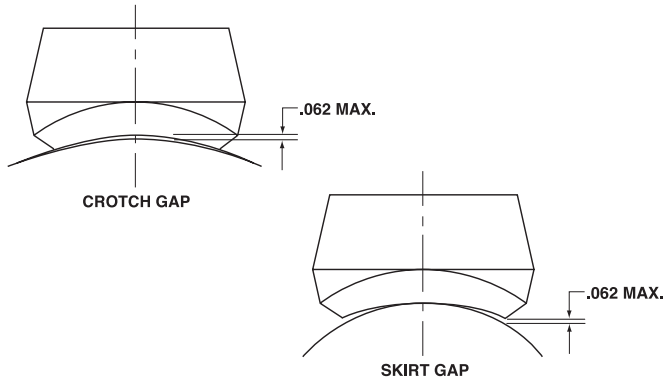
Forging Markings

Anvil **Anvilets** are clearly marked with the following:

- Outlet size
- Range of run pipe sizes that the **Anvilet** will fit
- The weight, schedule number, or pressure class
- The material specification
- Steel heat code identification

Installation Note

Anvil **Anvilets** are designed to have no more than a 1/16" gap *(1.6mm)* between the base or skirt of the **Anvilet** when it is seated directly upon the appropriate run pipe. However, it is recommended that the skirt of **Anvilets** be held slightly above the run pipe and tack welded to provide a small continuous root gap between the skirt and run pipe before completing the all-around welding beads or fillet.



Specials

Your local Anvil Branch will be more than happy to assist you with specially machined outlets and those made of alloy material.

Pressure Temperature Ratings

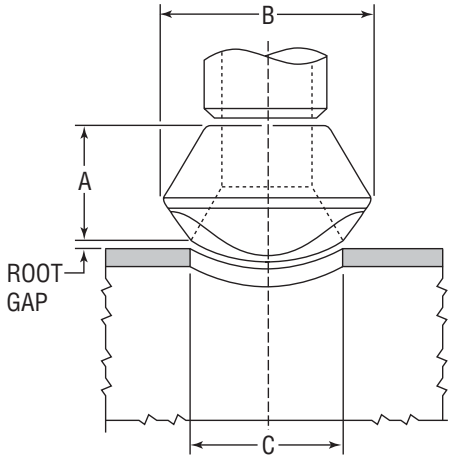
MSS standard Practice SP-97 gives the following correlation between fitting pressure class and pipe schedule number/wall thickness designation for calculation of pressure-temperature ratings:

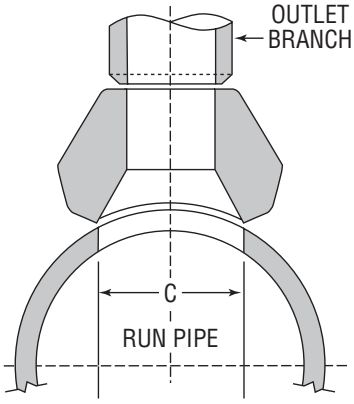
Branch Connection Type	Pressure Class of Fitting	Branch Connection Size		Pipe Wall for Rating Basis
		NPS	*DN*	
Buttweld	STD	⅛ - 24	*6 - 600*	STD
	XS/XH	⅛ - 24	*6 - 600*	XS/XH
	SCH 160	½- 6	*15 - 150*	SCH 160
Threaded	3,000	¼ - 4	*8 - 100*	XS/XH
	6,000	½- 2	*15 - 50*	SCH 160
Socket-Welding	3,000	½- 2	*15 - 50*	XS/XH
	6,000	½- 2	*15 - 50*	SCH 160

The maximum allowable pressure of a fitting is computed in accordance with the applicable piping code or regulation for straight seamless header (run) pipe or for material of equivalent composition and mechanical properties to the fitting. Any corrosion or mechanical allowances and any reduction in allowable stress due to temperature or other service conditions, must be applied to the pipe and fitting alike.

Universal Forged Steel Anvilets

Standard & Extra Strong Buttweld





BUTTWELD Standard

Outlet Size		Dimensions						Unit Weight	
		A		B		C			
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
1/8	6	5/8	16	1	25	0.625	16	0.10	0.05
1/4	8	5/8	16	1	25	0.625	16	0.10	0.05
3/8	10	3/4	19	1	25	0.493	13	0.10	0.05
1/2	15	3/4	19	1 1/8	29	0.622	16	0.12	0.05
3/4	20	7/8	22	1 1/2	38	0.824	21	0.22	0.10
1	25	1 1/16	27	1 13/16	46	1.062	27	0.32	0.15
1 1/4	32	1 1/4	32	2 1/4	57	1.380	35	0.64	0.29
1 1/2	40	1 5/16	33	2 9/16	65	1.625	41	0.78	0.35
2	50	1 1/2	38	3 5/16	84	2.313	59	1.14	0.52
2 1/2	65	1 5/8	41	3 21/32	93	2.500	64	1.94	0.88
3	80	1 3/4	44	4 9/32	109	3.125	79	2.60	1.18
4	100	2	51	5 3/8	137	4.145	105	4.12	1.87
6	150	2 3/8	60	7 21/32	194	6.112	155	11.00	4.99
8	200	2 3/4	70	10 3/8	264	8.688	221	28.00	12.70
10	250	3 1/16	78	12 9/16	319	10.813	275	39.00	17.69
12	300	3 3/8	86	14 7/8	378	12.813	325	65.00	29.48
14	350	3 1/2	89	16 1/8	410	14.063	357	70.00	31.75
16	400	3 11/16	94	18 1/4	464	16.063	408	92.00	41.73
18	450	4 1/16	103	20 3/4	527	18.625	473	125.00	56.70
20	500	4 5/8	117	23 1/16	586	20.063	510	175.00	79.38
24	600	5 3/8	137	27 7/8	708	25.125	638	280.00	127.01

BUTTWELD Extra Strong

Outlet Size		Dimensions						Unit Weight	
		A		B		C			
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
1/8	6	5/8	16	1	25	0.625	16	0.10	0.05
1/4	8	5/8	16	1	25	0.625	16	0.10	0.05
3/8	10	3/4	19	1	25	0.423	11	0.10	0.05
1/2	15	3/4	19	1 1/8	29	0.546	14	0.12	0.05
3/4	20	7/8	22	1 1/2	38	0.742	19	0.18	0.08
1	25	1 1/16	27	2 13/16	71	1.062	27	0.36	0.16
1 1/4	32	1 1/4	32	2 1/4	57	1.278	32	0.55	0.25
1 1/2	40	1 5/16	33	2 9/16	65	1.625	41	0.68	0.31
2	50	1 1/2	38	3 5/16	84	2.313	59	1.24	0.56
2 1/2	65	1 5/8	41	3 21/32	93	2.500	64	2.26	1.02
3	80	1 3/4	44	4 9/32	109	3.125	79	2.84	1.29
4	100	2	51	5 3/8	137	4.145	105	4.56	2.07
6	150	3 1/16	78	7 23/32	196	5.800	147	15.00	6.80
8	200	3 7/8	98	10 5/8	270	8.688	221	32.00	14.51
10	250	3 1/2	89	12 7/8	327	10.738	273	46.00	20.87
12	300	3 15/16	100	15 3/16	386	13.000	330	61.00	27.67
14	350	4 1/8	105	16 11/16	424	14.313	364	75.00	34.02
16	400	4 7/16	113	18 7/8	479	16.500	419	115.00	52.16
18	450	4 11/16	119	21 1/8	537	18.625	473	130.00	58.97
20	500	5	127	23 3/8	594	20.813	529	187.00	84.82
24	600	5 1/2	140	27 7/8	708	25.125	638	316.00	143.34

Each outlet size listed is available to fit any run curvature. BW Ends per B16.9 and B16.25. Design per MSS-SP-97.

RUN PIPE SIZES Outlet sizes 6" and less fit a number of run pipe sizes, and the fittings are marked accordingly. See page 126 for run pipe size combination table(s).

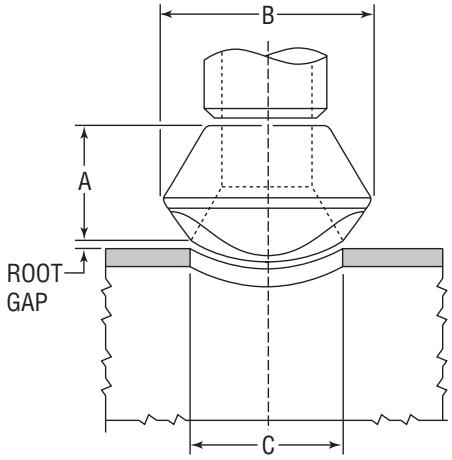
SCHEDULES Standard Weight Fittings are the same as schedule 40 fittings through 10". A schedule 40 butt-welded Universal Forged Steel Anvilet for sizes 12" and larger is available. Dimensions and prices on application. Extra Strong Fittings are the same as schedule 80 fittings through 8". A schedule 80 butt-welded Universal Forged Steel Anvilet for sizes 10" and larger is available. Dimensions and prices on application. Pipe schedule numbers and weight designations are in accordance with ASME B36.10.

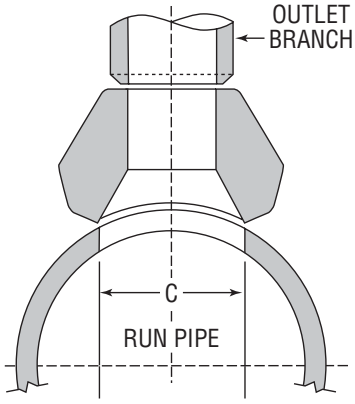
FLATS Flat butt-welded Universal Forged Steel Anvilet fittings for use on welding caps, elliptical heads and flat surfaces is available.

The A,B and C dimensions given for the Branch Connections in the above Table are for reference only and to be used as a guideline. Dimensions B and C are subject to change depending upon the manufacturing process utilized. Although every attempt has been made to insure that the information contained in this table is correct, Anvil reserves the right to change the C dimension as deemed necessary.

Universal Forged Steel Anvilets

XXS, SCH. 160 Buttweld





BUTTWELD XXS, Sch. 160	Outlet Size		Dimensions						Unit Weight	
			A		B		C			
	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
	½	*15*	1⅛	*29*	1⅜	*35*	0.563	*14*	0.25	*0.11*
	¾	*20*	1¼	*32*	1¾	*44*	0.750	*19*	0.70	*0.32*
	1	*25*	1½	*38*	2	*51*	1.000	*25*	0.85	*0.39*
	1¼	*32*	1¾	*44*	2 7/16	*62*	1.313	*33*	1.25	*0.57*
	1½	*40*	2	*51*	2¾	*70*	1.500	*38*	1.75	*0.79*
	2	*50*	2 3/16	*56*	3 3/16	*81*	1.688	*43*	2.15	*0.98*
	2½	*65*	2 7/16	*62*	3 13/16	*97*	2.125	*54*	3.40	*1.54*
	3	*80*	2⅞	*73*	4¾	*121*	2.875	*73*	6.30	*2.86*
	4	*100*	3 5/16	*84*	6	*152*	3.875	*98*	4.56	*4.76*

Each outlet size listed is available to fit any run curvature. BW Ends per B16.9 and B16.25. Design per MSS-SP-97.

RUN PIPE SIZES Outlet sizes 6" and less fit a number of run pipe sizes, and the fittings are marked accordingly. See page 126 for run pipe size combination table(s).

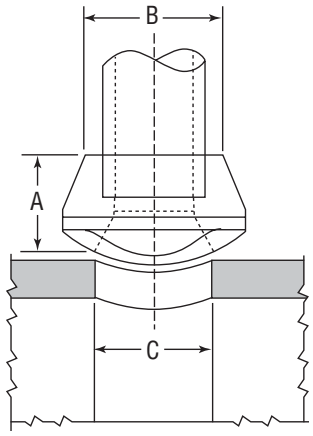
SCHEDULES Standard Weight Fittings are the same as schedule 40 fittings through 10". A schedule 40 butt-welded Universal Forged Steel Anvilet for sizes 12" and larger is available. Dimensions and prices on application. Extra Strong Fittings are the same as schedule 80 fittings through 8". A schedule 80 butt-welded Universal Forged Steel Anvilet for sizes 10" and larger is available. Dimensions and prices on application. Pipe schedule numbers and weight designations are in accordance with ASME B36.10.

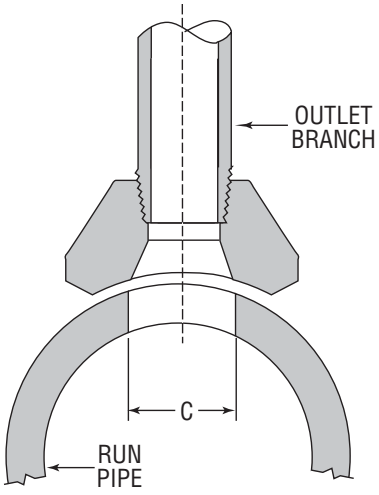
FLATS Flat butt-welded Universal Forged Steel Anvilet fittings for use on welding caps, elliptical heads and flat surfaces is available.

The A,B and C dimensions given for the Branch Connections in the above Table are for reference only and to be used as a guideline. Dimensions B and C are subject to change depending upon the manufacturing process utilized. Although every attempt has been made to insure that the information contained in this table is correct, Anvil reserves the right to change the C dimension as deemed necessary.

Universal Forged Steel Anvilets

Class 3000 & 6000 Threaded





THREADED Class 3000

Outlet Size		Dimensions						Unit Weight	
		A		B		C			
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
⅛	*6*	¾	*19*	1	*25*	0.625	*16*	0.10	*0.05*
¼	*8*	¾	*19*	1 1/16	*27*	0.437	*11*	0.14	*0.06*
⅜	*10*	13/16	*21*	1 1/16	*27*	0.578	*15*	0.14	*0.06*
½	*15*	1	*25*	1 15/32	*37*	0.718	*18*	0.28	*0.13*
¾	*20*	1 1/16	*27*	1 45/64	*43*	0.922	*23*	0.39	*0.18*
1	*25*	1 5/16	*33*	2 3/32	*53*	1.156	*29*	0.73	*0.33*
1¼	*32*	1 5/16	*33*	2 17/32	*64*	1.500	*38*	0.96	*0.44*
1½	*40*	1 3/8	*35*	2 25/32	*71*	1.734	*44*	1.12	*0.51*
2	*50*	1½	*38*	3 5/16	*84*	2.218	*56*	1.66	*0.75*
2½	*65*	1 13/16	*46*	3 29/32	*99*	2.625	*67*	2.73	*1.24*
3	*80*	2	*51*	4 21/32	*118*	3.250	*83*	3.88	*1.76*
4	*100*	2¼	*57*	5 13/16	*148*	4.250	*108*	6.18	*2.80*

THREADED Class 6000

Outlet Size		Dimensions						Unit Weight	
		A		B		C			
NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	1¼	*32*	1¾	*44*	0.718	*19*	0.28	*0.13*
¾	*20*	1 7/16	*37*	2 1/16	*52*	0.922	*24*	0.39	*0.18*
1	*25*	1 9/16	*40*	2 17/32	*64*	1.156	*31*	0.73	*0.33*
1¼	*32*	1⅝	*41*	2½	*64*	1.500	*40*	0.96	*0.44*
1½	*40*	1 11/16	*43*	3 5/16	*84*	1.734	*46*	1.12	*0.51*
2	*50*	2 1/16	*52*	3 31/32	*101*	2.218	*59*	1.66	*0.75*

Each outlet size listed is available to fit any run curvature. Threaded ends are in accordance with ANSI/ASME B1.20.1. Design per MSS-SP-97.

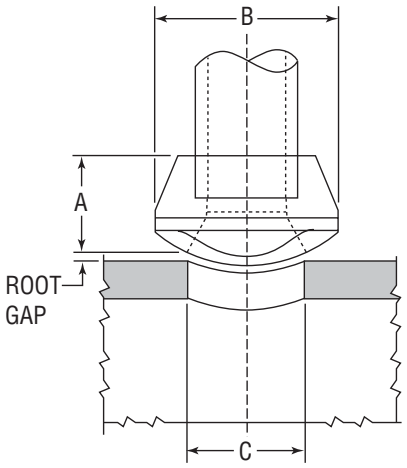
RUN PIPE SIZES Outlet sizes noted above fit a number of run pipe sizes, and the fittings are marked accordingly. See page 126 for run pipe size combination table(s).

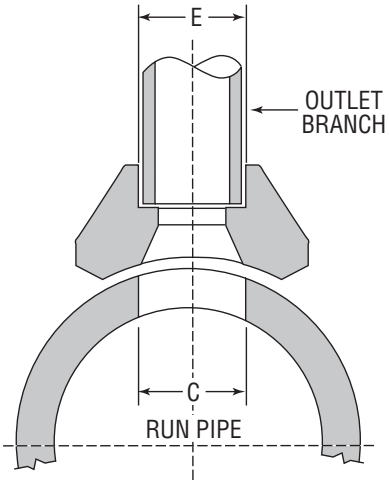
FLATS A flat Threaded Universal Forged Steel Anvilet for use on welding caps, elliptical heads and flat surfaces is available.

The A,B and C dimensions given for the Branch Connections in the above Table are for reference only and to be used as a guideline. Dimensions B and C are subject to change depending upon the manufacturing process utilized. Although every attempt has been made to insure that the information contained in this table is correct, Anvil reserves the right to change the C dimension as deemed necessary.

Universal Forged Steel Anvilets

Standard & Extra Strong Socket-Weld





SOCKET-WELD Class 3000

Outlet Size		Dimensions								Unit Weight	
		A		B		C		E			
NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
1/8	6	3/4	19	1	25	0.625	16	9/32	7	0.10	0.05
1/4	8	3/4	19	1	25	0.364	9	3/8	10	0.14	0.06
3/8	10	13/16	21	1 1/16	27	0.493	13	7/16	11	0.14	0.06
1/2	15	1	25	1 15/32	37	0.622	16	9/16	14	0.28	0.13
3/4	20	1 1/16	27	1 45/64	43	0.824	21	9/16	14	0.39	0.18
1	25	1 5/16	33	2 3/32	53	1.049	27	25/32	20	0.73	0.33
1 1/4	32	1 5/16	33	2 17/32	64	1.380	35	23/32	18	0.96	0.44
1 1/2	40	1 3/8	35	2 25/32	71	1.610	41	3/4	19	1.12	0.51
2	50	1 1/2	38	3 5/16	84	2.067	53	13/16	21	1.66	0.75
2 1/2	65	1 13/16	46	3 29/32	99	2.469	63	3/4	19	2.73	1.24
3	80	2	51	4 21/32	118	3.068	78	15/16	24	3.88	1.76
4	100	2 1/4	57	5 13/16	148	4.026	102	1 1/16	27	6.60	2.99

SOCKET-WELD Class 6000

Outlet Size		Dimensions								Unit Weight	
		A		B		C		E			
NPS	DN	in	mm	in	mm	in	mm	in	mm	lbs	kg
1/2	15	1 1/4	32	1 3/4	44	0.464	12	13/16	21	0.28	0.13
3/4	20	1 7/16	37	2 1/16	52	0.612	16	15/16	24	0.39	0.18
1	25	1 9/16	40	2 17/32	64	0.815	21	1 1/32	26	0.73	0.33
1 1/4	32	1 5/8	41	2 1/2	64	1.160	29	1 1/32	26	0.96	0.44
1 1/2	40	1 11/16	43	3 5/16	84	1.338	34	1 1/16	27	1.63	0.74
2	50	2 1/16	52	3 31/32	101	1.687	43	1 3/8	35	1.66	0.75

Each outlet size listed is available to fit any run curvature. Socket dimensions are in accordance with ASME B16.11. Design per MSS-SP-97.

RUN PIPE SIZES Outlet sizes noted above fit a number of run pipe sizes, and the fittings are marked accordingly. See page 126 for run pipe size combination table(s).

FLATS A flat Socket-welded Universal Forged Steel Anvilet for use on welding caps, elliptical heads and flat surfaces is available.

The A,B and C dimensions given for the Branch Connections in the above Table are for reference only and to be used as a guideline. Dimensions B and C are subject to change depending upon the manufacturing process utilized. Although every attempt has been made to insure that the information contained in this table is correct, Anvil reserves the right to change the C dimension as deemed necessary.

Engineering Specifications

Universal Forged Steel Anvilets Run Size Combinations

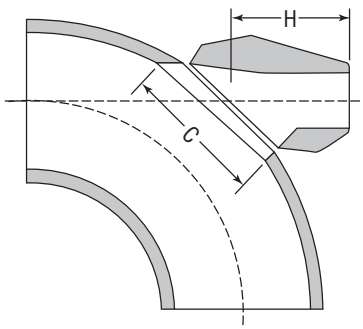
	Outlet Size (in)											
Buttweld Standard	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4	6
	¼	½ – ⅜	1 – ½	2 – ¾	1	1¼	1½	2	2½	3	4	6
	36 – ⅜	36 – ¾	36 – 1¼	36 – 2½	1½ – 1¼	2 – 1½	3½ – 2	3 – 2½	4 – 3	4 – 3½	6 – 5	8
					36 – 2	6 – 2½	36 – 4	6 – 3½	10 – 5	6 – 5	10 – 8	10
						36 – 8		36 – 8	36 – 12	14 – 8	20 – 12	14 – 12
										36 – 16	36 – 22	18 – 16
												24 – 20
												34 – 26
												42 – 36
Buttweld Extra Strong	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4	6
	36 – ¼	⅜	¾ – ½	1½ – ¾	1	2 – 1¼	1½	2	2 ½	3	4	6
		36 – ½	36 – 1	36 – 2	1½ – 1¼	5 – 2½	3½ – 2	3 – 2½	4 – 3	4 – 3½	6 – 5	8
					36 – 2	36 – 6	36 – 4	6 – 3½	10 – 5	6 – 5	10 – 8	10
								36 – 8	36 – 12	14 – 8	20 – 12	14 – 12
										36 – 1	36 – 22	18 – 16
												24 – 20
												34 – 26
												42 – 36

	Outlet Size (in)										
Threaded Class 3000	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4
	⅜ – ¼	1 – ⅜	½	1¼ – ¾	1	1½ – 1¼	1½	2	2½	3	4
	36 – ½	36 – 1¼	36 – ¾	36 – 1½	2½ – 1¼	3½ – 2	2½ – 2	3½ – 2½	3½ – 3	5 – 3½	6 – 5
					36 – 3	36 – 4	5 – 3	6 – 4	6 – 4	14 – 6	10 – 8
							36 – 6	36 – 8	36 – 8	36 – 16	20 – 12
											36 – 22
Threaded Class 6000	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4
	⅜ – ¼	1 – ⅜	½	¾	1	1½ – 1¼	1½	2	2½	3	4
	36 – ½	36 – 1¼	36 – ¾	1¼ – 1	2½ – 1¼	3½ – 2	2½ – 2	3½ – 2½	3½ – 3	3½	5
				36 – 1½	36 – 3	8 – 4	5 – 3	6 – 4	5 – 4	4	6
						36 – 10	36 – 6	36 – 8	10 – 6	6 – 5	10 – 8
									26 – 12	12 – 8	18 – 12
									36 – 28	36 – 14	36 – 20

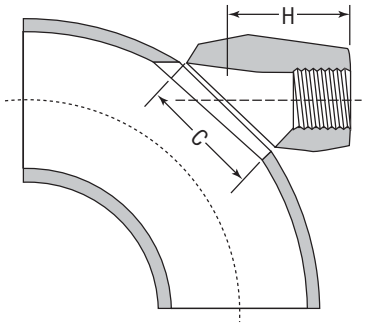
	Outlet Size (in)										
Socket-Weld Class 3000	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4
	¼	½ – ⅜	½	1¼ – ¾	1	1½ – 1¼	1½	2	2½	3	4
	36 – ⅜	36 – ¾	36 – ¾	36 – 1½	2½ – 1¼	3½ – 2	2½ – 2	3½ – 2½	3½ – 3	5 – 3½	6 – 5
					36 – 3	36 – 4	5 – 3	6 – 4	6 – 4	14 – 6	10 – 8
							36 – 6	36 – 8	36 – 8	36 – 16	20 – 12
											36 – 22
Socket-Weld Class 6000	¼	⅜	½	¾	1	1¼	1½	2	2½	3	4
	36 – ¼	36 – ⅜	½	1 – ¾	1	1¼	1½	2	3 – 2½	3½ – 3	4
			36 – ¾	36 – 1¼	2½ – 1¼	4 – 1½	2½ – 2	3½ – 2½	5 – 3½	5 – 4	5
					36 – 3	36 – 5	5 – 3	6 – 4	18 – 6	10 – 6	8 – 6
							36 – 6	36 – 8	36 – 20	26 – 12	14 – 10
										36 – 28	36 – 16

Universal Elbowlet

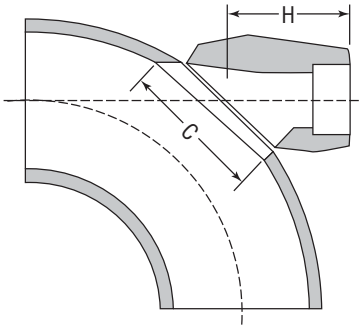
Class 3000 and 6000 Buttweld, Threaded and Socket-Weld



BUTTWELD



THREADED



SOCKET-WELD

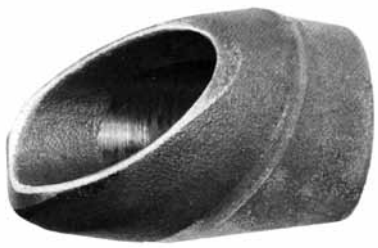
CLASS 3000 THREADED AND SOCKET-WELD/STANDARD AND XS/XH BUTTWELD									
Outlet Size		Nom. Elbow Size		C		H		Unit Weight	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	36 – ¾	*900 – 32*	1½	*38*	1 19/32	*40*	0.65	*0.29*
¾	*20*	36 – 1	*900 – 32*	1 23/32	*44*	1⅞	*48*	0.75	*0.34*
1	*25*	36 – 2	*900 – 32*	2⅛	*54*	2 3/16	*56*	1.10	*0.52*
1¼	*32*	36 – 2	*900 – 32*	1 21/32	*42*	2⅜	*60*	1.90	*0.86*
1½	*40*	36 – 2	*900 – 32*	3	*76*	2⅝	*67*	2.60	*1.20*
2	*50*	36 – 3	*900 – 32*	4⅛	*105*	3 3/16	*81*	5.30	*2.40*
CLASS 6000 THREADED AND SOCKET-WELD									
½	*15*	36 – ¾	*900 – 32*	1 23/32	*44*	1⅞	*48*	0.85	*0.39*
¾	*20*	36 – 1	*900 – 50*	2⅛	*54*	2 3/16	*56*	1.30	*0.57*
1	*25*	36 – 2	*900 – 50*	2 21/32	*67*	2⅜	*60*	2.20	*1.00*
1¼	*32*	36 – 2	*900 – 50*	3	*76*	2⅝	*67*	3.90	*1.80*
1½	*40*	36 – 2	*900 – 50*	4⅛	*105*	3 3/16	*81*	6.20	*2.80*

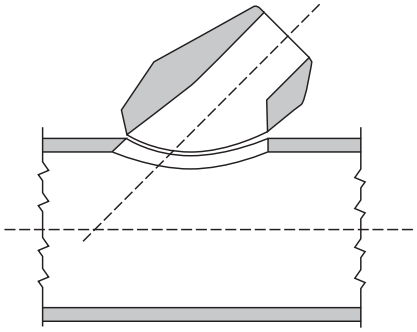
Universal elbowlets are welded to 90° long radius elbows as branch connections for pipes and fittings. They are also used as pipe hanger or support bosses.

Lateral Anvilets

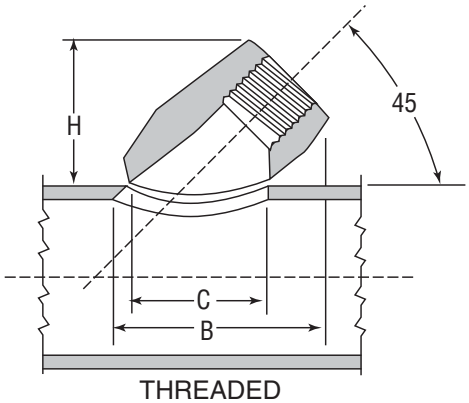
Class 3000 Buttweld and Threaded

Lateral Anvilets provide a strong, readily attached 45° lateral outlet connection.





BUTTWELD



THREADED

CLASS 3000 STANDARD/XS BUTTWELD											
Outlet Size		Nominal Run Pipe Size		H		B		C		Unit Weight	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	2½ – 1¼ / 12 – 3	*65 – 32 / 300 – 80*	1⅜	*35*	2⁵⁄₃₂	*55*	1⁷⁄₁₆	*37*	0.65	*0.29*
¾	*20*	1½ – 1¼ / 5 – 2 / 12 – 6	*40 – 32 / 125 – 50 / 300 – 150*	1¹¹⁄₁₆	*43*	2¹⁷⁄₃₂	*64*	1¾	*44*	0.75	*0.34*
1	*25*	2½ – 2 / 5 – 3 / 12 – 6	*65 – 50 / 125 – 80 / 300 – 150*	1³¹⁄₃₂	*50*	3	*76*	2⅛	*54*	1.10	*0.52*
1¼	*32*	2½ – 2 / 5 – 3 / 12 – 6	*65 – 50 / 125 – 80 / 300 – 150*	2⁹⁄₃₂	*58*	3¹⁹⁄₃₂	*91*	2⅝	*67*	1.90	*0.86*
1½	*40*	2½ – 2 / 5 – 3 / 12 – 6	*65 – 50 / 125 – 80 / 300 – 150*	2¹⁵⁄₃₂	*63*	3³¹⁄₃₂	*101*	3¹⁄₃₂	*77*	2.60	*1.20*
2	*50*	5 – 4 / 8 – 6 / 12 – 10	*125 – 100 / 200 – 150 / 300 – 150*	3³⁄₁₆	*81*	5¼	*133*	4⅛	*105*	5.30	*2.40*

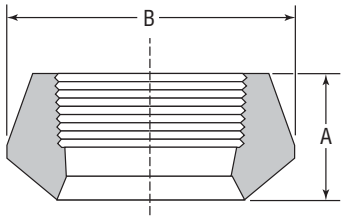
CLASS 3000 THREADED/STANDARD											
Outlet Size		Nominal Run Pipe Size		H		B		C		Unit Weight	
NPS	*DN*	NPS	*DN*	in	*mm*	in	*mm*	in	*mm*	lbs	*kg*
½	*15*	2½ – 1¼ / 12 – 3	*65 – 32 / 300 – 80*	1⁹⁄₁₆	*40*	2¹¹⁄₃₂	*60*	1⁷⁄₁₆	*37*	0.65	*0.29*
¾	*20*	1½ – 1¼ / 5 – 2 / 12 – 6	*40 – 32 / 125 – 50 / 300 – 150*	1⅞	*48*	2¾	*70*	1¾	*44*	0.75	*0.34*
1	*25*	2½ – 2 / 5 – 3 / 12 – 6	*65 – 50 / 125 – 80 / 300 – 150*	2³⁄₁₆	*56*	3¼	*83*	2⅛	*54*	1.10	*0.52*
1¼	*32*	2½ – 2 / 5 – 3 / 12 – 6	*65 – 50 / 125 – 80 / 300 – 150*	2½	*64*	3²⁷⁄₃₂	*98*	2⅝	*67*	1.90	*0.86*
1½	*40*	2½ – 2 / 5 – 3 / 12 – 6	*65 – 50 / 125 – 80 / 300 – 150*	2¾	*70*	4⁷⁄₃₂	*107*	3¹⁄₃₂	*77*	2.60	*1.20*
2	*50*	5 – 4 / 8 – 6 / 12 – 10	*125 – 100 / 200 – 150 / 300 – 150*	3⅜	*86*	5⁷⁄₁₆	*138*	4⅛	*105*	5.30	*2.40*

Flat Anvilets

Class 3000 Threaded, Buttweld and Socket-Weld

Flat Anvilets are designed to facilitate welding to a flat surface for the installation of branch pipes or fittings.

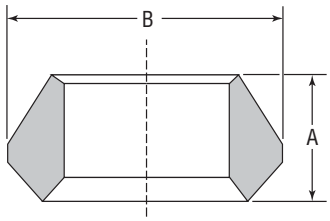
THREADED
Class 3000 Flat Anvilet



THREADED

Outlet Size		Dimensions				Unit Weight	
		A		B			
NPS	DN	in	mm	in	mm	lbs	kg
¼	8	¾	19	1	25	0.10	0.05
⅜	10	13⁄16	21	1¼	32	0.20	0.09
½	15	1	25	1 13⁄32	36	0.25	0.11
¾	20	1 1⁄16	27	1 23⁄32	44	0.35	0.16
1	25	1 5⁄16	33	2	51	0.60	0.27
1¼	32	1 5⁄16	33	2 9⁄16	65	0.90	0.41
1½	40	1⅜	35	2 27⁄32	72	1.00	0.45
2	50	1½	38	3 15⁄32	88	1.75	0.79
2½	65	1 13⁄16	46	4 1⁄16	103	3.00	1.36
3	80	2	51	4 13⁄16	122	4.35	1.97

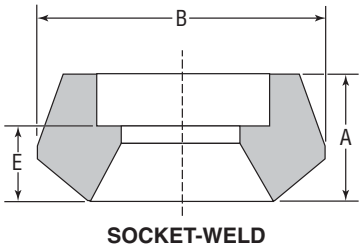
BUTTWELD
Class 3000 Flat Anvilet



BUTTWELD

Outlet Size		Dimensions				Unit Weight	
		A		B			
NPS	DN	in	mm	in	mm	lbs	kg
¼	8	⅝	16	1	25	0.10	0.05
⅜	10	¾	19	1¼	32	0.15	0.07
½	15	¾	19	1⅜	35	0.20	0.09
¾	20	⅞	22	1¾	44	0.30	0.14
1	25	1 1⁄16	27	2⅛	54	0.50	0.23
1¼	32	1¼	32	2 9⁄16	65	0.90	0.41
1½	40	1 5⁄16	33	2⅞	73	1.10	0.50
2	50	1½	38	3½	89	1.75	0.79
2½	65	1⅝	41	4 1⁄16	103	2.60	1.18
3	80	1¾	44	4 13⁄16	122	4.10	1.86

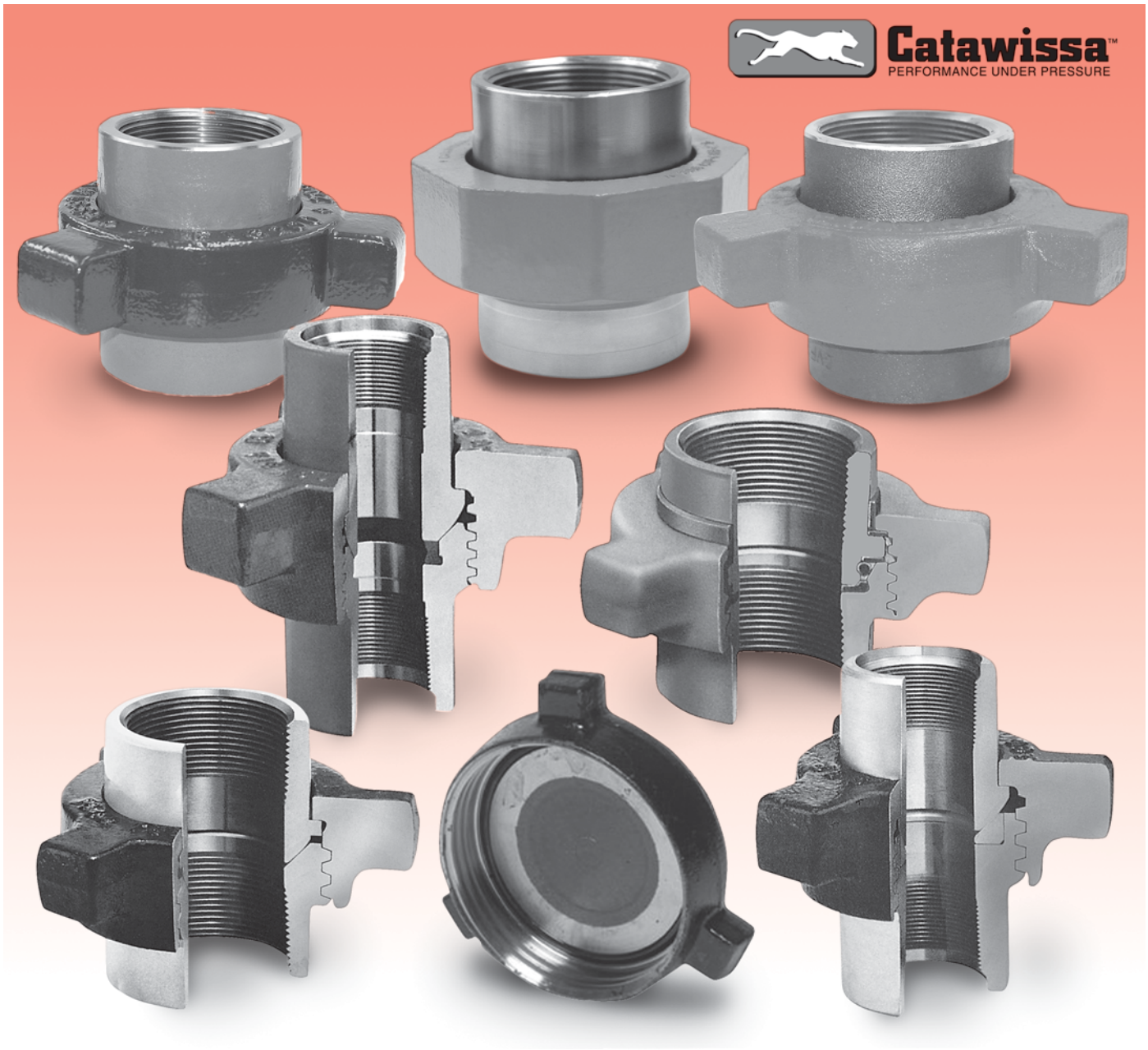
SOCKET-WELD
Class 3000 Flat Anvilet



SOCKET-WELD

Outlet Size		Dimensions						Unit Weight	
		A		B		E			
NPS	DN	in	mm	in	mm	in	mm	lbs	kg
¼	8	¾	19	1	25	9⁄32	7	0.10	0.05
⅜	10	13⁄16	21	1¼	32	7⁄16	11	0.20	0.09
½	15	1	25	1 13⁄32	36	9⁄16	14	0.30	0.14
¾	20	1 1⁄16	27	1 23⁄32	44	9⁄16	14	0.35	0.16
1	25	1 5⁄16	33	2	51	25⁄32	20	0.60	0.27
1¼	32	1 5⁄16	33	2 9⁄16	65	¾	19	0.85	0.39
1½	40	1⅜	35	2 27⁄32	72	¾	19	1.00	0.45
2	50	1½	38	3 15⁄32	88	13⁄16	21	1.60	0.73
2½	65	1 9⁄16	40	4 1⁄16	103	¾	19	2.75	1.25
3	80	1¾	44	4 13⁄16	122	15⁄16	24	3.80	1.72

NOTES



Material
ASTM A29, A105, A395, A536

Full Traceability:
All Catawissa Oilfield Wing Unions are fully traceable and are available with complete mill certifications upon request.

Interchangeability:
All Catawissa Oilfield Unions are machined to rigid quality standards ensuring that like components of the same size, figure number and pressure rating are fully interchangeable in the field. Catawissa Oilfield Unions are interchangeable with most leading union manufacturers.

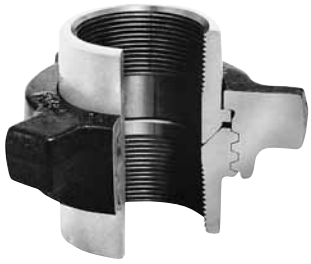
Standard Service:
Catawissa Unions are available for Standard Service. Catawissa Oilfield Unions meet or exceed National Association of Corrosion Engineers standard NACE MR-01-75 and API RP-14E, and are made in an ISO 9001-2000 certified facility. (Sour gas unions are available upon request only.)

Full Range of End Connections:
Catawissa Oilfield Wing Unions are also available in threaded ends as well as buttweld and non-pressure seal ends. When you choose Catawissa you receive the utmost in quality, the widest selection and unmatched on-time deliveries.

Wing Unions

1,000 psi cwp – 1,500 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 100 Threaded Ends Black Nut/Yellow Subs	Size		Item	Unit Weight		A		B		C+		TPI	Material	
	NPS	*DN*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	2	*50*	Union Complete	6.25	*2.83*	3.940	*100.08*	2.840	*72.14*	6.250	*158.75*	3 MOD	DI	DI
			Nut	3.30	*1.50*									
			Male Sub	1.30	*0.59*									
			Female Sub	1.65	*0.75*									
	2½	*65*	Union Complete	10.05	*4.56*	4.490	*114.05*	3.390	*86.11*	7.925	*201.30*	3 MOD	DI	DI
			Nut	5.30	*2.40*									
			Male Sub	2.25	*1.02*									
			Female Sub	2.50	*1.13*									
	3	*80*	Union Complete	13.65	*6.19*	5.000	*127.00*	4.030	*102.36*	9.000	*228.60*	3 MOD	DI	DI
			Nut	7.15	*3.24*									
			Male Sub	3.25	*1.47*									
			Female Sub	3.25	*1.47*									
	4	*100*	Union Complete	22.00	*9.98*	5.940	*150.88*	5.230	*132.84*	10.560	*268.22*	3 MOD	DI	DI
			Nut	9.80	*4.44*									
			Male Sub	6.65	*3.02*									
			Female Sub	5.55	*2.52*									
	6	*150*	Union Complete	45.85	*20.79*	6.800	*172.72*	7.390	*187.71*	13.810	*350.77*	3 STD	DI	DI
			Nut	21.75	*9.86*									
			Male Sub	11.10	*5.03*									
			Female Sub	13.00	*5.90*									
	8	*200*	Union Complete	66.65	*30.23*	7.230	*183.64*	9.700	*246.38*	16.125	*409.58*	3 STD	DI	DI
			Nut	27.40	*12.43*									
			Male Sub	18.10	*8.21*									
			Female Sub	21.15	*9.59*									

Low pressure service. Manifold and general service. Female threaded ends. 2" available with 8RD thread. Consult Factory.

FIGURE 100C Threaded Ends Black Nut/Yellow Subs	Size		Item	Unit Weight		A		B		C+		TPI	Material	
	NPS	*DN*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	2	*50*	Lug Union	6.25	*3.06*	3.940	*100.08*	2.840	*72.14*	6.250	*158.75*	3 MOD	SF	SF

Note: Available in import only. Ideal for low-pressure service. Manifold and general service. Female threaded ends.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

2,000 psi cwp – 3,000 psi test

Catawissa™ PERFORMANCE UNDER PRESSURE

FIGURE 200 Threaded Ends Blue Nut/Gray Subs	Size		Item	Unit Weight		A		B		C+		D	TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*			Nuts	Subs
	1	*25*	Union Complete	1.75	*0.79*	2.67	*67.82*	1.64	*41.66*	4.07	*103.25*	▲	6 STD	DI	SF
			Nut	0.95	*0.43*										
			Male Sub	0.40	*0.18*										
			Female Sub	0.40	*0.18*										
	1¼	*32*	Union Complete	2.25	*1.02*	2.73	*69.34*	1.94	*49.15*	4.64	*117.73*	▲	6 STD	DI	SF
			Nut	1.20	*0.54*										
			Male Sub	0.50	*0.23*										
			Female Sub	0.55	*0.25*										
	1½	*40*	Union Complete	2.75	*1.25*	2.77	*70.36*	2.25	*57.15*	4.75	*120.65*	▲	6 STD	DI	SF
			Nut	1.30	*0.59*										
			Male Sub	0.70	*0.32*										
			Female Sub	0.75	*0.34*										
	† 2 (Ductile Iron)	*50*	Union Complete	4.75	*2.15*	3.28	*83.19*	2.83	*71.76*	5.90	*149.86*	▲	4 STD	DI	DI
			Nut	2.20	*1.00*										
			Male Sub	1.15	*0.52*										
			Female Sub	1.40	*0.63*										
	2 (Forged Steel)	*50*	Union Complete	5.60	*2.54*	3.28	*83.19*	2.83	*71.76*	5.90	*149.86*	▲	4 STD	DI	SF
			Nut	2.20	*1.00*										
			Male Sub	1.20	*0.54*										
			Female Sub	1.60	*0.73*										
	2½	*65*	Union Complete	10.70	*4.85*	4.25	*107.95*	3.40	*86.36*	7.90	*200.66*	▲	4 STD	DI	SF
			Nut	6.40	*2.90*										
			Male Sub	2.00	*0.91*										
			Female Sub	2.30	*1.04*										
	3	*80*	Union Complete	12.85	*5.83*	4.66	*118.36*	4.17	*105.92*	8.10	*205.74*	▲	4 STD	DI	SF
			Nut	6.00	*2.72*										
			Male Sub	3.35	*1.52*										
			Female Sub	3.50	*1.59*										
	4	*100*	Union Complete	18.70	*8.48*	4.91	*124.71*	5.08	*128.91*	9.06	*230.12*	▲	3 MOD	DI	SF
			Nut	7.40	*3.36*										
			Male Sub	5.30	*2.40*										
			Female Sub	6.00	*2.72*										
	6	*150*	Union Complete	46.10	*20.91*	6.61	*167.89*	7.41	*188.21*	12.80	*325.12*	▲	3 STD	DI	SF
			Nut	18.18	*8.24*										
			Male Sub	12.74	*5.78*										
			Female Sub	15.18	*6.88*										

General purpose union. Threaded and butt weld ends available.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

2,000 psi cwp – 3,000 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

	Size		Item	Unit Weight		A		B		C+		D	TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*			Nuts	Subs
FIGURE 200 **Buttweld Ends** **Schedule 40** **Blue Nut/Gray Subs**	† 2	*50*	Union Complete	5.50	*2.49*	3.275	*83.19*	2.825	*71.76*	5.900	*149.86*	▲	4 STD	DI	DI
			Nut	2.20	*1.00*										
			Male Sub	1.50	*0.68*										
			Female Sub	1.80	*0.82*										
	3	*80*	Union Complete	14.50	*6.58*	4.660	*118.36*	4.170	*105.92*	8.100	*205.74*	▲	4 STD	DI	SF
			Nut	6.00	*2.72*										
			Male Sub	3.50	*1.59*										
			Female Sub	4.50	*2.04*										
	4	*100*	Union Complete	20.90	*9.48*	4.910	*124.71*	5.075	*128.91*	9.060	*230.12*	▲	3 MOD	DI	SF
			Nut	7.40	*3.36*										
			Male Sub	6.18	*2.80*										
			Female Sub	7.38	*3.35*										

General purpose union. Threaded and butt weld ends available.

FIGURE 200C **Threaded Ends** **Blue Nut/Gray Subs**	Size		Item	Unit Weight		A		B		C+		D	TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*			Nuts	Subs
	1	*25*	Lug Union	1.75	*0.79*	2.670	*67.82*	1.640	*41.66*	4.065	*103.25*	*	6 STD	SF	SF
	2	*50*	Lug Union	4.90	*2.22*	3.275	*83.19*	2.825	*71.76*	5.900	*149.86*	*	4 STD	SF	SF

Note: Available in import only. General purpose union. Available in threaded ends. *Consult Factory.

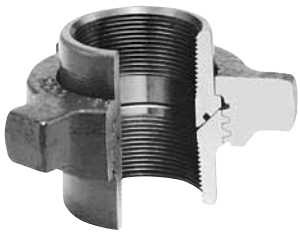
Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

2,000 psi cwp – 3,000 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 206 Threaded Ends Blue Nut/Gray Subs with Seal Ring	Size		Item	Unit Weight		A		B		C+		D	TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*			Nuts	Subs
	1	*25*	Union Complete	1.75	*0.79*	2.670	*67.82*	1.640	*41.66*	4.065	*103.25*	▲	6 STD	DI	SF
			Nut	0.95	*0.43*										
			Male w/O-Ring	0.40	*0.18*										
			Female Sub	0.40	*0.18*										
			O-Ring	–	–										
	1¼	*32*	Union Complete	2.25	*1.02*	2.730	*69.34*	1.935	*49.15*	4.635	*117.73*	▲	6 STD	DI	SF
			Nut	1.20	*0.54*										
			Male w/O-Ring	0.50	*0.23*										
			Female Sub	0.55	*0.25*										
			O-Ring	–	–										
	1½	*40*	Union Complete	2.75	*1.25*	2.770	*70.36*	2.250	*57.15*	4.750	*120.65*	▲	6 STD	DI	SF
			Nut	1.30	*0.59*										
			Male w/O-Ring	0.70	*0.32*										
			Female Sub	0.75	*0.34*										
			O-Ring	–	–										
	† 2	*50*	Union Complete	4.75	*2.15*	3.275	*83.19*	2.825	*71.76*	5.900	*149.86*	▲	4 STD	DI	Di
			Nut	2.20	*1.00*										
			Male w/O-Ring	1.15	*0.52*										
			Female Sub	1.40	*0.63*										
			O-Ring	–	–										
	2½	*65*	Union Complete	10.70	*4.85*	4.250	*107.95*	3.400	*86.36*	7.900	*200.66*	▲	4 STD	DI	SF
			Nut	6.40	*2.90*										
			Male w/O-Ring	2.00	*0.91*										
			Female Sub	2.30	*1.04*										
			O-Ring	–	–										
	3	*80*	Union Complete	13.00	*5.90*	4.660	*118.36*	4.170	*105.92*	8.100	*205.74*	▲	4 STD	DI	SF
			Nut	6.00	*2.72*										
			Male w/O-Ring	3.35	*1.52*										
			Female Sub	3.50	*1.59*										
			O-Ring	–	–										
	4	*100*	Union Complete	18.70	*8.48*	4.910	*124.71*	5.075	*128.91*	9.060	*230.12*	▲	3 MOD	DI	SF
			Nut	7.40	*3.36*										
			Male w/O-Ring	5.30	*2.40*										
			Female Sub	6.00	*2.72*										
			O-Ring	–	–										
	6	*150*	Union Complete	46.10	*20.91*	6.610	*167.89*	7.410	*188.21*	12.800	*325.12*	▲	3 STD	DI	SF
			Nut	18.18	*8.24*										
			Male w/O-Ring	12.74	*5.78*										
			Female Sub	15.18	*6.88*										
			O-Ring	–	–										

O-Ring in male sub for improved sealing. Available in threaded and butt weld ends.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

2,000 psi cwp – 3,000 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

	Size		Item	Unit Weight		A		B		C+		D	TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*			Nuts	Subs
FIGURE 206 **Buttweld Ends** **Schedule 40** **Blue Nut/Gray Subs with Seal Ring**	† 2	*50*	Union Complete	6.00	*2.72*	3.275	*83.19*	2.825	*71.76*	5.900	*149.86*	▲	4 STD	DI	DI
			Nut	2.20	*1.00*										
			Male w/O-Ring	1.50	*0.68*										
			Female Sub	1.50	*0.68*										
			O-Ring	–	–										
	3	*80*	Union Complete	14.50	*6.58*	4.660	*118.36*	4.170	*105.92*	8.100	*205.74*	▲	4 STD	DI	SF
			Nut	6.00	*2.73*										
			Male w/O-Ring	3.50	*1.59*										
			Female Sub	4.50	*2.04*										
			O-Ring	–	–										
	4	*100*	Union Complete	20.90	*9.48*	4.910	*124.71*	5.075	*128.91*	9.060	*230.12*	▲	3 MOD	DI	SF
			Nut	7.40	*3.36*										
			Male w/O-Ring	6.18	*2.80*										
			Female Sub	7.38	*3.35*										
			O-Ring	–	–										
	6	*150*	Union Complete	45.00	*20.41*	6.610	*167.89*	7.410	*188.21*	12.800	*325.12*	▲	3 STD	DI	SF
			Nut	18.18	*8.26*										
			Male w/O-Ring	13.00	*5.90*										
			Female Sub	14.00	*6.35*										
			O-Ring	–	–										

O-Ring in male sub for improved sealing. Available in threaded and butt weld ends.

FIGURE 202 **Blanking Cap Only with O-Ring**	Size		Unit Weight		Description
	NPS	*Dn*	lbs	*kg*	
	4	*100*	9.00	*4.10*	O-Ring seated dead-end cap. Perfect for transport, completion and stimulation services.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

2,000 psi cwp – 3,000 psi test

Catawissa™ PERFORMANCE UNDER PRESSURE

FIGURE 211 Insulating Union Threaded Ends Gray Nut/Light Blue Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	1	*25*	Union Complete	2.34	*1.06*	2.830	*71.88*	1.560	*39.62*	4.660	*118.36*	6 STD	SF	SF
			Nut	1.42	*0.64*									
			Male Sub	0.40	*0.18*									
			Female Sub	0.52	*0.24*									
			Seal Ring Kit	–	–									
	2	*50*	Union Complete	6.24	*2.83*	3.510	*89.15*	2.880	*73.15*	6.250	*158.75*	6 STD	SF	SF
			Nut	2.96	*1.34*									
			Male Sub	1.42	*0.64*									
			Female Sub	1.86	*0.84*									
			Seal Ring Kit	–	–									

Laminated rings provide full insulation from electrolytic corrosion. Total of 35 million OHMS resistance. O-Ring in male sub and seal ring in female sub provide primary and secondary seals. All seal rings are field-replaceable. Available in threaded and butt weld ends.

FIGURE 300 Flat-Face Union Gray Nut/Yellow Subs	Size		Item	Unit Weight		A		B		C		Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*	Nuts	Subs
 Straight Away Breakout	1	*25*	Union Complete	2.21	*1.00*	2.625	*66.68*	1.560	*39.62*	4.250	*107.95*	DI	SF
			Nut	1.50	*0.68*								
			Male Sub	0.31	*0.14*								
			Female Sub w/O-Ring	0.50	*0.23*								
			Seal Ring	–	–								
	2	*50*	Union Complete	6.00	*2.72*	3.750	*95.25*	2.780	*70.61*	5.750	*146.05*	DI	SF
			Nut	3.31	*1.50*								
			Male Sub	1.25	*0.57*								
			Female Sub w/O-Ring	1.44	*0.65*								
			Seal Ring	–	–								
	2½	*65*	Union Complete	10.88	*4.93*	4.625	*117.48*	3.410	*86.61*	7.000	*177.8*	DI	SF
			Nut	6.19	*2.81*								
			Male Sub	2.13	*0.97*								
			Female Sub w/O-Ring	2.56	*1.16*								
			Seal Ring	–	–								
	3	*80*	Union Complete	14.25	*6.46*	5.000	*127.00*	4.300	*109.22*	8.000	*203.2*	DI	SF
			Nut	6.31	*2.86*								
			Male Sub	3.50	*1.59*								
			Female Sub w/O-Ring	4.44	*2.01*								
			Seal Ring	–	–								
	4	*100*	Union Complete	20.69	*9.38*	5.750	*146.05*	5.110	*129.79*	8.875	*225.43*	DI	SF
			Nut	8.31	*3.77*								
			Male Sub	5.57	*2.53*								
			Female Sub w/O-Ring	6.63	*3.01*								
			Seal Ring	–	–								

Flat Face Fig. 300 Unions permit lateral removal of valves and other fittings for easy replacement or inspection. Unions seal equally well in low or high pressure liquid or vapor service.

Wing Unions

3,000 psi cwp – 4,500 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 301 Steam Service Union Black Nut/Green Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	1	*25*	Union Complete	1.75	*0.79*	2.670	*67.82*	1.640	*41.66*	4.065	*103.38*	6 STD	SF	SF
			Nut	–	–									
			Male Sub	–	–									
			Female Sub	–	–									
			Seal Ring	–	–									
	2	*50*	Union Complete	4.90	*2.22*	3.275	*83.31*	2.825	*71.88*	5.900	*149.86*	3½ STD	SF	SF
			Nut	–	–									
			Male Sub	–	–									
			Female Sub	–	–									
			Seal Ring	–	–									
	3	*80*	Union Complete	13.25	*6.01*	4.660	*118.36*	4.170	*105.92*	8.100	*205.74*	4 STD	SF	SF
			Nut	–	–									
			Male Sub	–	–									
			Female Sub	–	–									
			Seal Ring	–	–									

4,000 psi cwp – 6,000 psi test

FIGURE 400 Threaded Ends Black Nut/Red Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	2	*50*	Union Complete	11.05	*5.01*	5.225	*132.72*	3.000	*76.20*	7.125	*180.98*	3 STD	SF	SF
			Nut	5.60	*2.54*									
			Male Sub	2.65	*1.20*									
			Female Sub	2.80	*1.27*									
	3	*80*	Union Complete	20.00	*9.07*	6.110	*155.19*	4.250	*107.95*	8.750	*222.25*	3 STD	SF	SF
			Nut	8.50	*3.85*									
			Male Sub	5.50	*2.49*									
			Female Sub	6.00	*2.72*									
	4	*100*	Union Complete	29.15	*13.22*	8.200	*208.28*	5.275	*133.99*	9.160	*232.66*	3 STD	SF	SF
			Nut	10.15	*4.60*									
			Male Sub	8.85	*4.01*									
			Female Sub	10.15	*4.60*									

Ideal for manifold and pumping service. Available in threaded and butt weld ends.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

4,000 psi cwp – 6,000 psi test

Catawissa™ PERFORMANCE UNDER PRESSURE

FIGURE 400 Buttweld Ends Schedule 80 Black Nut/Red Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	2	*50*	Union Complete	10.75	*4.88*	5.225	*132.72*	3.00	*76.20*	7.125	*180.98*	3 STD	SF	SF
			Nut	5.60	*2.54*									
			Male Sub	2.75	*1.25*									
			Female Sub	3.00	*1.36*									

Ideal for manifold and pumping service. Available in threaded and butt weld ends.

6,000 psi cwp – 9,000 psi test

FIGURE 600 Threaded Ends Black Nut/Silver Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	1	*25*	Union Complete	3.65	*1.66*	3.565	*90.55*	1.750	*44.45*	4.500	*114.3*	6 STD	SF	BS
			Nut	1.95	*0.88*									
			Male Sub	0.65	*0.29*									
			Female Sub w/Bronze Seat	1.05	*0.48*									
			Bronze Seat Insert	0.05	*0.023*									
	1½	*40*	Union Complete	–	–	*	*	*	*	*	*	4 STD	SF	BS
			Nut	–	–									
			Male Sub	–	–									
			Female Sub w/Bronze Seat	–	–									
			Bronze Seat Insert	–	–									
	2	*50*	Union Complete	15.64	*7.09*	6.440	*163.58*	3.010	*76.45*	7.160	*181.86*	2 STD	SF	(F) ST (M) SF
			Nut	7.08	*3.21*									
			Male Sub	3.22	*1.46*									
			Female Sub w/Bronze Seat	5.34	*2.42*									
			Bronze Seat Insert	0.65	*0.30*									
	3	*80*	Union Complete	27.25	*12.36*	8.875	*225.43*	4.1875	*106.36*	8.750	*222.25*	2 STD	SF	SF
			Nut	–	–									
			Male Sub	–	–									
			Female Sub w/Bronze Seat	–	–									
			Bronze Seat Insert	–	–									
	4	*100*	Union Complete	40.00	*18.14*	10.0625	*255.59*	5.250	*133.35*	10.625	*269.88*	2 STD	SF	SF
			Nut	14.25	*6.48*									
			Male Sub	11.00	*5.00*									
			Female Sub w/Bronze Seat	12.65	*5.75*									
			Bronze Seat Insert	2.15	*0.98*									

Features bronze seat for primary seal to prevent rust and corrosion in well servicing and drilling. Available in threaded and butt weld ends. *Consult Factory.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

6,000 psi cwp – 9,000 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 602 Threaded Ends Black Nut/Orange Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	1	*25*	Union Complete	3.55	*1.61*	6.625	*168.28*	1.750	*44.45*	4.500	*114.30*	6 STD	SF	SF
			Nut	1.95	*0.88*									
			Male Sub	0.60	*0.27*									
			Female Sub w/Ring	1.00	*0.45*									
			Seat Ring	–	–									
	1½	*40*	Union Complete	9.54	*4.33*	4.600	*116.84*	2.570	*65.28*	5.520	*140.21*	4 STD	SF	SF
			Nut	4.98	*2.26*									
			Male Sub	1.98	*0.90*									
			Female Sub w/Ring	2.58	*1.17*									
			Seat Ring	–	–									
	2	*50*	Union Complete	12.40	*5.62*	5.300	*134.62*	2.970	*75.44*	6.875	*174.63*	3 MOD	SF	SF
			Nut	6.50	*2.95*									
			Male Sub	2.85	*1.29*									
			Female Sub w/Ring	3.05	*1.38*									
			Seat Ring	–	–									
	3	*80*	Union Complete	22.30	*10.11*	6.310	*160.27*	4.250	*107.95*	8.875	*225.43*	3 MOD	SF	SF
			Nut	9.95	*4.51*									
			Male Sub	5.20	*2.36*									
			Female Sub w/Ring	7.15	*3.24*									
			Seat Ring	–	–									
	4	*100*	Union Complete	32.18	*14.59*	8.300	*210.82*	5.200	*132.08*	10.040	*255.02*	3 MOD	SF	SF
			Nut	13.30	*6.03*									
			Male Sub	8.36	*3.79*									
			Female Sub w/Ring	10.52	*4.77*									
			Seat Ring	–	–									

Compact design is well-suited for manifold service. Seal ring protects the metal-to-metal seal. Seal design reduces line turbulence. Available in threaded and butt weld ends.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

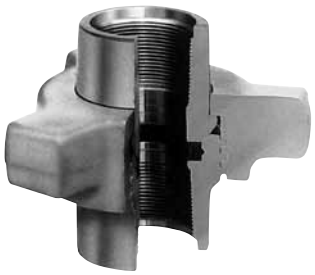
▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

6,000 psi cwp – 9,000 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 602 Buttweld Ends Schedule 80 Black Nut/Orange Subs	Size NPS	Size *Dn*	Item	Unit Weight lbs	Unit Weight *kg*	A in	A *mm*	B in	B *mm*	C in	C *mm*	TPI	Material Nuts	Material Subs
	2	*50*	Union Complete	12.12	*5.50*	5.300	*134.62*	2.970	*75.44*	6.875	*174.63*	3 MOD	SF	SF
			Nut	6.50	*2.95*									
			Male Sub	2.76	*1.25*									
			Female Sub w/Ring	2.82	*1.28*									
			Seat Ring	–	–									
	3	*80*	Union Complete	21.25	*9.64*	6.310	*160.27*	4.250	*107.95*	8.875	*225.43*	3 MOD	SF	SF
			Nut	9.95	*4.51*									
			Male Sub	5.75	*2.61*									
			Female Sub w/Ring	6.00	*2.72*									
			Seat Ring	–	–									
	4	*100*	Union Complete	28.25	*12.81*	8.300	*210.82*	5.200	*132.08*	10.040	*255.02*	3 MOD	SF	SF
			Nut	13.30	*6.03*									
			Male Sub	7.50	*3.40*									
			Female Sub w/Ring	9.75	*4.42*									
			Seat Ring	–	–									

FIGURE 607 Well Service Union Threaded Ends Yellow Nut/Silver Subs	Size NPS	Size *Dn*	Item	Unit Weight lbs	Unit Weight *kg*	A in	A *mm*	B in	B *mm*	C in	C *mm*	TPI	Material Nuts	Material Subs
	1½	*40*	Union Complete	8.96	4.06	4.15	*105.41*	2.6	*66.04*	6.53	*165.74*	5 STD	SF	SF
			Nut	5.34	2.42									
			Male Sub	1.52	0.69									
			Female Sub w/Ring	2.10	0.95									
			Seat Ring	–	–									
	2	*50*	Union Complete	14.64	6.64	5.85	*148.59*	3.08	*78.23*	7.33	*186.18*	5 STD	SF	SF
			Nut	7.68	3.48									
			Male Sub	2.82	1.28									
			Female Sub w/Ring	4.14	1.88									
			Seat Ring	–	–									

Ideal for hot oil trucks and any application similar to Figure 602. Extended Subs allow for quick breakout on trucks and manifolds. Metal-to-metal connection.

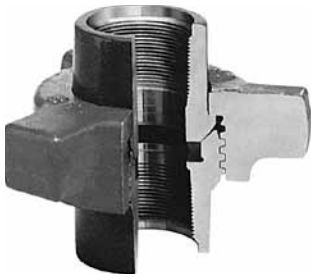
Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

10,000 psi cwp – 15,000 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 1002 Threaded Ends Red Nut/Blue Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	1	*25*	Union Complete	3.62	*1.64*	3.620	*91.95*	1.750	*44.45*	4.500	*114.30*	6 STD	All Alloy Steel Forging	
			Nut	2.02	*0.92*									
			Male Sub	0.70	*0.32*									
			Female Sub w/Ring	0.90	*0.41*									
			Seat Ring	–	–									
	1½	*40*	Union Complete	9.54	*4.33*	4.600	*116.84*	2.570	*65.28*	5.520	*140.21*	4 STD		
			Nut	4.98	*2.26*									
			Male Sub	1.98	*0.90*									
			Female Sub w/Ring	2.58	*1.17*									
			Seat Ring	–	–									
	2	*50*	Union Complete	13.00	*5.90*	5.200	*132.08*	3.000	*76.20*	7.375	*187.33*	3 MOD		
			Nut	7.35	*3.33*									
			Male Sub	2.65	*1.20*									
			Female Sub w/Ring	3.00	*1.36*									
			Seat Ring	–	–									
	3	*80*	Union Complete	22.40	*10.16*	6.200	*157.48*	4.240	*107.70*	9.320	*236.73*	4 STD		
			Nut	10.70	*4.85*									
			Male Sub	5.28	*2.39*									
			Female Sub w/Ring	6.42	*2.91*									
			Seat Ring	–	–									
	4	*100*	Union Complete	33.82	*15.34*	8.280	*210.31*	5.250	*133.35*	10.700	*271.78*	4 STD		
			Nut	14.70	*6.67*									
			Male Sub	8.60	*3.90*									
			Female Sub w/Ring	10.52	*4.77*									
			Seat Ring	–	–									

Alloy steel forgings in high-pressure manifold and treating iron connections. Field-replaceable seal ring protects the metal-to-metal seal.
Available in threaded and butt weld ends. Unions are used primarily by service companies on applications of cementing, fracturing, and acidizing.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

10,000 psi cwp – 15,000 psi test

Catawissa™ PERFORMANCE UNDER PRESSURE

FIGURE 1002 Buttweld Ends Schedule 160 Red Nut/Blue Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	2	*50*	Union Complete	14.25	*6.46*	5.200	*132.08*	3.000	*76.20*	7.375	*187.33*	3 MOD	All Alloy Steel Forging	
			Nut	7.35	*3.34*									
			Male Sub	3.50	*1.59*									
			Female Sub w/Ring	3.75	*1.70*									
			Seat Ring	–	–									
	3	*80*	Union Complete	21.25	*9.64*	6.200	*157.48*	4.240	*107.70*	9.320	*236.73*	4 STD		
			Nut	10.70	*4.86*									
			Male Sub	5.75	*2.61*									
			Female Sub w/Ring	6.00	*2.72*									
			Seat Ring	–	–									
	4	*100*	Union Complete	31.5	*14.29*	8.280	*210.31*	5.250	*133.35*	10.700	*271.78*	4 STD		
			Nut	14.70	*6.68*									
			Male Sub	9.00	*4.08*									
			Female Sub w/Ring	9.50	*4.31*									
			Seat Ring	–	–									

Alloy steel forgings in high-pressure manifold and treating iron connections. Field-replaceable seal ring protects the metal-to-metal seal.
Available in threaded and butt weld ends. Unions are used primarily by service companies on applications of cementing, fracturing, and acidizing.

FIGURE 1002 Buttweld Ends Schedule XXH Red Nut/Blue Subs	Size		Item	Unit Weight		A		B		C		TPI	Material	
	NPS	*Dn*		lbs	*kg*	in	*mm*	in	*mm*	in	*mm*		Nuts	Subs
	2	*50*	Union Complete	13.16	*5.97*	5.200	*132.08*	3.000	*76.20*	7.375	*187.33*	3 MOD	All Alloy Steel Forging	
			Nut	7.35	*3.34*									
			Male Sub	3.44	*1.56*									
			Female Sub w/Ring	3.18	*1.44*									
			Seat Ring	–	–									
	3	*80*	Union Complete	25.52	*11.57*	6.200	*157.48*	4.240	*107.70*	9.320	*236.73*	4 STD		
			Nut	10.70	*4.86*									
			Male Sub	7.70	*3.49*									
			Female Sub w/Ring	7.42	*3.37*									
			Seat Ring	–	–									
	4	*100*	Union Complete	34.04	*15.44*	8.280	*210.31*	5.250	*133.35*	10.700	*271.78*	4 STD		
			Nut	14.70	*6.68*									
			Male Sub	9.36	*4.24*									
			Female Sub w/Ring	10.34	*4.69*									
			Seat Ring	–	–									

Alloy steel forgings in high-pressure manifold and treating iron connections. Field-replaceable seal ring protects the metal-to-metal seal.
Available in threaded and butt weld ends. Unions are used primarily by service companies on applications of cementing, fracturing, and acidizing.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Wing Unions

15,000 psi cwp – 22,500 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE 1502
Threaded Ends
Blue Nut/Red Subs

Size NPS	Size *Dn*	Item	Unit Weight lbs	Unit Weight *kg*	A in	A *mm*	B in	B *mm*	C in	C *mm*	D	TPI	Material Nuts	Material Subs
2	*50*	Union Complete	19.46	*8.83*	7.060	*179.32*	3.230	*82.04*	7.860	*199.64*	▲	3 STD	All Alloy Steel Forging	
		Nut	9.78	*4.44*										
		Male Sub	4.82	*2.19*										
		Female Sub w/Ring	4.86	*2.20*										
		Seat Ring	–	–										
3	*80*	Union Complete	30.48	*13.82*	7.630	*193.8*	4.400	*111.76*	9.900	*251.46*	▲	3½ STD		
		Nut	14.18	*6.43*										
		Male Sub	8.00	*3.63*										
		Female Sub w/Ring	8.30	*3.76*										
		Seat Ring	–	–										

Alloy steel forgings in high-pressure manifold and treating iron connections. Field-replaceable seal ring protects the metal-to-metal seal.
Available in threaded and butt weld ends.

FIGURE 1502
Buttweld Ends
Schedule XXH
Blue Nut/Red Subs

Size NPS	Size *Dn*	Item	Unit Weight lbs	Unit Weight *kg*	A in	A *mm*	B in	B *mm*	C in	C *mm*	D	TPI	Material Nuts	Material Subs
2	*50*	Union Complete	20.58	*9.33*	7.060	*179.32*	3.230	*82.04*	7.860	*199.64*	▲	3 STD	All Alloy Steel Forging	
		Nut	9.78	*4.44*										
		Male Sub	5.32	*2.41*										
		Female Sub w/Ring	5.48	*2.49*										
		Seat Ring	–	–										
3	*80*	Union Complete	27.98	*12.69*	7.630	*193.8*	4.400	*111.76*	9.900	*251.46*	▲	3½ STD		
		Nut	14.18	*6.43*										
		Male Sub	6.96	*3.16*										
		Female Sub w/Ring	7.76	*3.52*										
		Seat Ring	–	–										

Alloy steel forgings in high-pressure manifold and treating iron connections. Field-replaceable seal ring protects the metal-to-metal seal.
Available in threaded and butt weld ends.

FIGURE 1502
Buttweld Ends
Schedule 160
Blue Nut/Red Subs

Size NPS	Size *Dn*	Item	Unit Weight lbs	Unit Weight *kg*	A in	A *mm*	B in	B *mm*	C in	C *mm*	D	TPI	Material Nuts	Material Subs
2	*50*	Union Complete	20.06	*9.10*	7.060	*179.32*	3.230	*82.04*	7.860	*199.64*	▲	3 STD	All Alloy Steel Forging	
		Nut	9.78	*4.44*										
		Male Sub	5.06	*2.30*										
		Female Sub w/Ring	5.22	*2.37*										
		Seat Ring	–	–										
3	*80*	Union Complete	27.81	*12.61*	7.630	*193.8*	4.400	*111.76*	9.900	*251.46*	▲	3½ STD		
		Nut	14.18	*6.43*										
		Male Sub	6.51	*2.95*										
		Female Sub w/Ring	7.12	*3.23*										
		Seat Ring	–	–										

Alloy steel forgings in high-pressure manifold and treating iron connections. Field-replaceable seal ring protects the metal-to-metal seal.
Available in threaded and butt weld ends.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

High Speed Unions

3,000 psi cwp — 4,500 psi test

Catawissa™
PERFORMANCE UNDER PRESSURE

FIGURE S1A High Speed Union 3000# Forged Steel	Size		Unit Weight	
	NPS	*Dn*	lbs	*kg*
	1	*25*	1.50	*0.68*
	2	*50*	4.50	*2.04*
	3	*80*	12.19	*5.53*

Female Threaded Ends

FIGURE 3L S1A Tri-Lug High Speed Union 3000# Forged Steel	Size		Unit Weight	
	NPS	*Dn*	lbs	*kg*
	1	*25*	2.15	*0.98*
	1½	*50*	3.64	*1.65*
	2	*80*	5.85	*2.66*

Tri-Lug with female threaded ends.

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

Catawissa Quick Reference Chart

Catawissa™
PERFORMANCE UNDER PRESSURE

STANDARD SERVICE												
Fig No.	CWP	TEST	API Color Code		Pipe Size (in.)							
			SUB	NUT	1"	1¼"	1½"	2"	2½"	3"	4"	6"
100	1,000	1,500	Yellow	Black				■	■	■	■	■
200	2,000	3,000	Gray	Blue	■	■	■	■	■	■	■	■
206	2,000	3,000	Gray	Blue	■	■	■	■	■	■	■	■
211	2,000	3,000	Light Blue	Gray	■			■				
300	2,000	3,000	Yellow	Gray	■			■	■	■	■	
301	3,000	4,500	Green	Black	■			■		■		
400	4,000	6,000	Red	Black				■		■	■	
600	6,000	9,000	Silver	Black	■		■	■		■	■	
602	6,000	9,000	Orange	Black	■		■	■		■	■	
607	6,000	9,000	Silver	Yellow			■	■				
1002	10,000	15,000	Blue	Red	■		■	■		■	■	
1502	15,000	22,500	Red	Blue				■		■		

Warnings: 1. Do not mix Standard Service and Sour Gas Service Unions or parts.
2. Do not make up or break out Unions in pressurized lines.
3. Always use good safety practices, including use of safety glasses, when making up or breaking out Unions.

▲ Weld ends – Consult Factory. † Steel Forging Subs available – Consult Factory. TPI = Threads per inch. DI = Ductile Iron. SF = Steel Forging. BS = Bar Stock. ST = Steel Tubing.

J.B. Smith oil country tubular fittings, swages and bull plugs add an important dimension to the industry's leading line of flow control products offered by Anvil. J.B. Smith is a respected name and its products are well known for high quality and consistency.

Full Traceability

All J.B. Smith swages, bull plugs, tubing and casing nipples, and chambers are traceable to the original mill test report. To ensure traceability, all fittings are steel stamped as follows:

Material Specification

- Material Grade WPB (ASTM A234 - Line Pipe)
- Material Grade J-55, K-55, L-80, N-80 (API 5CT - Oil Country Sizes)

Raw Material Code

Each is stamped with unique JBS material code for traceability to material type, details of purchase and mill test report.

Heat Treatment

Items made to specification grades requiring final heat treatment bear an additional two letter code for heat treatment traceability.

All J.B. Smith products conform to the following applicable specifications:

- **API 5B** – Threading Oil Country size
- **API 5CT** – Raw material, Process, End Finish (Oil Country Sizes)
- **ASME B1.20.1** – Threading Line Pipe
- **ASME B16.9** – Weld Bevels
- **MSS SP-95** Swage and Bull Plug
- **ASTM A234 WPB** – Raw material, Process, End Finish (Line Pipe High Temp)
- **ASTM A420 WPL6** – Raw material, Process, End Finish (Line Pipe Low Temp)
- **ASTM B633 Type III Class III** – Zinc Electroplate
- **NACE MR-01-75** – As Applicable

Swage Nipples, Bull Plugs, Oil Country Fittings, Couplings, Stainless Swages

Manufacturing Specification

J.B. Smith manufactures swage nipples and bull plugs in accordance to the applicable specification, API 5CT, ASTM A234, MSS SP-95. Materials include ASTM A106, GR B seamless pipe, A-1000 low to medium carbon, fine grain bar stock, API grades J-55 through N-80 tubing and casing, processed and heat treated to applicable specification requirements. Fitting chemical and physical properties fall within the ranges listed below.

All fittings are manufactured in the U.S.A.

Traceability

All material purchased by J.B. Smith is fully traceable to the mill source. A unique JBS material code appears on all products made since the institution of this program. As a result, mill test reports are now available at any time on products so coded (See EXTRAS for MTR charges.)

Pressure Ratings

Due to the wide variation in service conditions, temperature, vibrations, etc., J.B. Smith Mfg. can make no recommendations as to allowable working pressure of swage nipples and bull plugs. There are a number of working pressure formulas from which the end user may choose to determine the required wall thickness of the piping system. It is our responsibility only to furnish a fitting with end dimensions equal to those of the pipe size and schedule ordered.

Material Certification – Carbon Steel

J.B Smith certifies that the material used to manufacture line pipe sizes of swage nipples and bull plugs has be processed to comply with the requirements of ASTM A234 grade WPB and the chemical and physical properties of the fittings fall within the ranges listed below.

Marking

All J.B. Smith fittings are permanently marked as follows:

- **Manufacturer's symbol** - JBS
- **Material Specification or Grade**
  WBP (Line Pipe Sizes)
  J-55, K-55, L-80, N-80 (Oil Country Sizes)
- **Raw Material Code** - Each part is die stamped with unique JBS material code for traceability to material type, details of purchase and mill test report.
- **Heat Treatment** - Heat treatments are performed to ASTM A234 WPB or API 5CT specification grade requirement as applicable. Fittings bear a two letter code provide traceability to final heat treatment.

Threading

Line Pipe, Tubing and Casing threads conform to ASME B1.20.1 B or API 5B as applicable.

Oil Country Industry Thread Color Code

Industry Color Codes as follows:

8R - Red 10R - Yellow 10V - Blue 11½V - Green LP - Silver

Coatings

- **Zing Electroplate** - ASTM B633 Type III Class III
- **Paint** (Weld Bevel Ends)

Weld Bevels

Weld bevels are machined per ASME B16.9 specifications.

Chemical and Physical Requirements

API 5CT MATERIAL

Chemical Requirements

Grp	Gr	C	Mn	Mo	Cr	Ni	Cu	P	S	Si
1	J55	—	—	—	—	—	—	0.030 Max	0.030 Max	—
1	K55	—	—	—	—	—	—	0.030 Max	0.030 Max	—
1	N80 Type1	—	—	—	—	—	—	0.030 Max	0.030 Max	—
2	L80 Type1	0.43 Max	1.90 Max	—	—	0.25 Max	0.35 Max	0.030 Max	0.030 Max	0.45 Max

Physical Requirements

Grp	Gr	Total Elongation under load %	Yield Strength ksi	Tensile Strength ksi	Hardness	
1	J55	0.5	55-80	75	—	—
1	K55	0.5	55-80	95	—	—
1	N80 Type1	0.5	80-110	100	—	—
2	L80 Type1	0.5	80-110	95	23	241

Note:

- Fittings made from bar or plate may have 0.35 Max Carbon.
- Fittings made from forgings may have a 0.35 Max Carbon and 0.35 Max Silicon.
- For each reduction of 0.01% below the specified carbon maximum, an increase of 0.06% manganese above the specified maximum will be permitted, up to a maximum of 1.35%.
- The sum of Copper, Nickel Chromium and Molybdenum shall not exceed 1.00%.
- The sum of Chromium and Molybdenum shall not exceed 0.32%.

Carbon Steel
Swage Nipples

Line Pipe Swages

- Nominal Pipe Size range 1/8 – 8 NPS *(6 – 200 DN)*
- Manufactured from A106 Gr. B seamless pipe or hex bar and processed in accordance to ASTM A234 Gr. WPB
- Choice of material depends upon size and reduction
- Available in standard, extra heavy, double extra heavy or schedule 160
- End finishes available: NPT, weld beveled, squared cut (for socket weld) or grooved
- Available concentric and eccentric
- 1" *(25mm)* and smaller are made from hex bar
- 1 1/4" *(32mm)* and larger are made from pipe

Concentric Swage Nipples	Size						Length		Standard Weight		XS/XH Weight		XXS/XXH & Sch. 160 Weight	
	Pipe		API or O.D.		Reduced to Size									
	NPS	*DN*	in	*mm*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	1/4	*8*	0.540	*14*	1/8	*6*	2 1/4	*57*	–	–	–	–	0.25	*0.11*
	3/8	*10*	0.675	*17*	1/8	*6*	2 1/2	*64*	–	–	0.25	*0.11*	0.38	*0.17*
					1/4	*8*	2 1/2	*64*	–	–	0.25	*0.11*	0.38	*0.17*
	1/2	*15*	0.840	*21*	1/8	*6*	2 3/4	*70*	–	–	0.33	*0.15*	0.50	*0.23*
					1/4 and 3/8	*8 and 10*	2 3/4	*70*	–	–	0.33	*0.15*	0.50	*0.23*
	3/4	*20*	1.050	*27*	1/8	*6*	3	*76*	–	–	0.50	*0.23*	0.75	*0.34*
					1/4 and 3/8	*8 and 10*	3	*76*	–	–	0.50	*0.23*	0.75	*0.34*
					1/2	*15*	3	*76*	–	–	0.50	*0.23*	0.75	*0.34*
	1	*25*	1.315	*33*	1/8	*6*	3 1/2	*89*	–	–	0.66	*0.30*	1.00	*0.45*
					1/4 and 3/8	*8 and 10*	3 1/2	*89*	–	–	0.66	*0.30*	1.00	*0.45*
					1/2 and 3/4	*15 and 20*	3 1/2	*89*	–	–	0.66	*0.30*	1.00	*0.45*

Note: See page 148 for certification of raw material and marking.

Select sizes of 1 NPS *(25 DN)* and smaller swages in XS/XH and Schedule 160 weights available in A106.
All sizes on this page have been processed in a manner strictly conforming to the requirements of ASTM A234 from material fully meeting all requirements of that specification. The correct marking for swage nipples to denote conformance with this specification is "WPB".
All sizes 1 NPS *(25 DN)* and smaller will be made from hex barstock. Most sizes 1 1/4 NPS *(32 DN)* and larger will be made from pipe, and where pipe is not a practical raw material, round barstock will be used. No sacrifice of properties will result from such practice.

Carbon Steel

Swage Nipples

Concentric Swage Nipples	Size						Length		Standard Weight		XS/XH Weight		XXS/XXH & Sch. 160 Weight	
	Pipe		API or O.D.		Reduced to Size									
	NPS	*DN*	in	*mm*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	1¼	*32*	1.660	*42*	¼ and ⅜	*8 and 10*	4	*102*	–	–	1.00	*0.45*	1.5	*0.68*
					½ and ¾	*15 and 20*	4	*102*	–	–	1.00	*0.45*	1.5	*0.68*
					1	*25*	4	*102*	–	–	1.00	*0.45*	1.5	*0.68*
	1½	*40*	1.900	*48*	¼ and ⅜	*8 and 10*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
					½ and ¾	*15 and 20*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
					1	*25*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
					11/4	*32*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
	2	*50*	2⅜	*60*	¼ and ⅜	*8 and 10*	6½	*165*	–	–	3.0	*1.4*	4.3	*1.9*
					½ and ¾	*15 and 20*	6½	*165*	–	–	3.0	*1.4*	4.3	*1.9*
					1	*25*	6½	*165*	2.0	*0.91*	2.3	*1.1*	4.3	*1.9*
					1¼	*32*	6½	*165*	2.0	*0.91*	2.3	*1.1*	4.3	*1.9*
					1½	*40*	6½	*165*	2.0	*0.91*	2.3	*1.1*	4.3	*1.9*
	2½	*65*	2⅞	*73*	½ and ¾	*15 and 20*	7	*178*	–	–	3.5	*1.6*	8.0	*3.6*
					1	*25*	7	*178*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
					1¼	*32*	7	*178*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
					1½	*40*	7	*178*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
					2	*50*	7	*178*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
	3	*80*	3½	*89*	½ and ¾	*15 and 20*	8	*203*	–	–	6.0	*2.7*	11	*5.0*
					1	*25*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
					1¼	*32*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
					1½	*40*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
					2 and 2½	*50 and 65*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
	3½	*90*	4	*100*	½ thru 1½	*15 thru 40*	8	*203*	5.5	*2.5*	7.5	*3.4*	14	*6.1*
	3½	*90*	4	*100*	½ thru 1½	*15 thru 40*	8	*203*	5.5	*2.5*	7.5	*3.4*	14	*6.1*
					2 thru 3	*50 thru 80*	8	*203*	5.5	*2.5*	7.5	*3.4*	14	*6.1*
	4	*100*	4½	*114*	½ and ¾	*15 and 20*	9	*229*	–	–	10.0	*4.5*	18	*8.2*
					1	*25*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					1¼ and 1½	*32 and 40*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					2	*50*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					2½	*65*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					3 and 3½	*80 and 90*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
	5	*125*	5⁹⁄₁₆	*140*	1 thru 1½	*25 thru 40*	11	*279*	12	*5.2*	17	*7.7*	33	*15*
					2 and 2½	*50 and 65*	11	*279*	12	*5.2*	17	*7.7*	33	*15*
					3 and 3½	*80 and 90*	11	*279*	12	*5.2*	17	*7.7*	33	*15*
					4	*100*	11	*279*	12	*5.2*	17	*7.7*	33	*15*
	6	*150*	6⅝	*168*	1 thru 1½	*25 thru 40*	12	*305*	17	*7.7*	25	*11*	46	*21*
					2 and 2½	*50 and 65*	12	*305*	17	*7.7*	25	*11*	46	*21*
					3 and 3½	*80 and 90*	12	*305*	17	*7.7*	25	*11*	46	*21*
					4	*100*	12	*305*	17	*7.7*	25	*11*	46	*21*
					5	*125*	12	*305*	17	*7.7*	25	*11*	46	*21*
	8	*200*	8⅝	*219*	2 thru 3	*50 thru 80*	13	*330*	29	*13*	44	*20*	78	*35*
					4 and 5	*100 and 125*	13	*330*	29	*13*	44	*20*	78	*35*
					6	*150*	13	*330*	29	*13*	44	*20*	78	*35*

Note: See page 148 for certification of raw material and marking.

Carbon Steel

Swage Nipples

Eccentric Swage Nipples	Size						Length		Standard Weight		XS/XH Weight		XXS/XXH & Sch. 160 Weight	
	Pipe		API or O.D.		Reduced to Size									
	NPS	*DN*	in	*mm*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	¼	*8*	0.540	*14*	⅛	*6*	2¼	*57*	–	–	0.16	*0.07*	0.25	*0.11*
	⅜	*10*	0.675	*17*	⅛	*6*	2½	*64*	–	–	0.25	*0.11*	0.38	*0.17*
					¼	*8*	2½	*64*	–	–	0.25	*0.11*	0.38	*0.17*
	½	*15*	0.840	*21*	¼ and ⅜	*8 and 10*	2¾	*70*	–	–	0.33	*0.15*	0.50	*0.23*
	¾	*20*	1.050	*27*	¼ and ⅜	*8 and 10*	3	*76*	–	–	0.50	*0.23*	0.75	*0.34*
					½	*15*	3	*76*	–	–	0.50	*0.23*	0.75	*0.34*
	1	*25*	1.315	*33*	¼ and ⅜	*8 and 10*	3½	*89*	–	–	0.66	*0.30*	1.00	*0.45*
					½ and ¾	*15 and 20*	3½	*89*	–	–	0.60	*0.27*	1.00	*0.45*
	1¼	*32*	1.660	*42*	½ and ¾	*15 and 20*	4	*102*	–	–	1.00	*0.45*	1.5	*0.68*
					1	*25*	4	*102*	–	–	1.00	*0.45*	1.5	*0.68*
	1½	*40*	1.900	*48*	½ and ¾	*15 and 20*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
					1	*25*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
					1¼	*32*	4½	*114*	–	–	1.2	*0.53*	2.0	*0.91*
	2	*50*	2⅜	*60*	¼ and ⅜	*8 and 10*	6½	*165*	–	–	3.0	*1.4*	4.3	*1.9*
					½ and ¾	*15 and 20*	6½	*165*	–	–	3.0	*1.4*	4.3	*1.9*
					1	*25*	6½	*165*	2.0	*0.91*	2.3	*1.1*	4.3	*1.9*
					1¼	*32*	6½	*165*	2.0	*0.91*	2.3	*1.1*	4.3	*1.9*
					1½	*40*	6½	*165*	2.0	*0.91*	2.3	*1.1*	4.3	*1.9*
	2½	*65*	2⅞	*73*	1	*25*	7	*178*	–	–	3.5	*1.6*	8.0	*3.6*
					1¼	*32*	7	*178*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
					1½	*40*	7	*178*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
					2	*50*	7	*178*	–	–	3.5	*1.6*	8.0	*3.6*
	3	*80*	3½	*89*	½ and ¾	*15 and 20*	8	*203*	–	–	6.0	*2.7*	11	*5.0*
					1	*25*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
					1¼	*32*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
					1½	*40*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
					2 and 2½	*50 and 65*	8	*203*	4.5	*2.0*	6.0	*2.7*	11	*5.0*
	3½	*90*	4	*102*	All reductions	*All reductions*	8	*203*	5.5	*2.5*	7.5	*3.4*	14	*6.1*
	4	*100*	4½	*114*	1	*25*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					1¼ and 1½	*32 and 40*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					2	*50*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					2½	*65*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
					3 and 3½	*80 and 90*	9	*229*	7.5	*3.4*	10.0	*4.5*	18	*8.2*

Note: See page 148 for certification of raw material and marking. Sizes not shown - P.O.A.

Stainless Steel

Stainless Swages

Stainless & Alloy Steel Swage Nipples	304 Stainless Steel				316 Stainless Steel			
	Size		Length		Size		Length	
	NPS	*DN*	in	*mm*	NPS	*DN*	in	*mm*
	¼ x ⅛	*8 x 6*	2¼	*57*	¼ x ⅛	*8 x 6*	2¼	*57*
	⅜ x ¼	*10 x 8*	2½	*64*	⅜ x ¼	*10 x 8*	2½	*64*
	½ x ¼	*15 x 8*	2¾	*70*	½ x ¼	*15 x 8*	2¾	*70*
	½ x ⅜	*15 x 10*	2¾	*70*	½ x ⅜	*15 x 10*	2¾	*70*
	¾ x ¼	*20 x 8*	3	*76*	¾ x ¼	*20 x 8*	3	*76*
	¾ x ⅜	*20 x 10*	3	*76*	¾ x ⅜	*20 x 10*	3	*76*
	¾ x ½	*20 x 15*	3	*76*	¾ x ½	*20 x 15*	3	*76*
	1 x ¼	*25 x 8*	3½	*89*	1 x ¼	*25 x 8*	3½	*89*
	1 x ½	*25 x 15*	3½	*89*	1 x ½	*25 x 15*	3½	*89*
	1 x ¾	*25 x 20*	3½	*89*	1 x ¾	*25 x 20*	3½	*89*
	1¼ x ½	*32 x 15*	4	*102*	1¼ x ½	*32 x 15*	4	*102*
	1¼ x ¾	*32 x 20*	4	*102*	1¼ x ¾	*32 x 20*	4	*102*
	1¼ x 1	*32 x 25*	4	*102*	1¼ x 1	*32 x 25*	4	*102*
	1½ x ½	*40 x 15*	4½	*114*	1½ x ½	*40 x 15*	4½	*114*
	1½ x ¾	*40 x 20*	4½	*114*	1½ x ¾	*40 x 20*	4½	*114*
	1½ x 1	*40 x 25*	4½	*114*	1½ x 1	*40 x 25*	4½	*114*
	1½ x 1¼	*40 x 32*	4½	*114*	1½ x 1¼	*40 x 32*	4½	*114*
	2 x ½	*50 x 15*	6½	*165*	2 x ½	*50 x 15*	6½	*165*
	2 x ¾	*50 x 20*	6½	*165*	2 x ¾	*50 x 20*	6½	*165*
	2 x 1	*50 x 25*	6½	*165*	2 x 1	*50 x 25*	6½	*165*
	2 x 1¼	*50 x 32*	6½	*165*	2 x 1¼	*50 x 32*	6½	*165*
	2 x 1½	*50 x 40*	6½	*165*	2 x 1½	*50 x 40*	6½	*165*
	2½ x 1	*65 x 25*	7	*178*	2½ x 1	*65 x 25*	7	*178*
	2½ x 1¼	*65 x 32*	7	*178*	2½ x 1¼	*65 x 32*	7	*178*
	2½ x 1½	*65 x 40*	7	*178*	2½ x 1½	*65 x 40*	7	*178*
	2½ x 2	*65 x 50*	7	*178*	2½ x 2	*65 x 50*	7	*178*
	3 x 1	*80 x 25*	8	*203*	3 x 1	*80 x 25*	8	*203*
	3 x 1¼	*80 x 32*	8	*203*	3 x 1¼	*80 x 32*	8	*203*
	3 x 1½	*80 x 40*	8	*203*	3 x 1½	*80 x 40*	8	*203*
	3 x 2	*80 x 50*	8	*203*	3 x 2	*80 x 50*	8	*203*
	3 x 2½	*80 x 65*	8	*203*	3 x 2½	*80 x 65*	8	*203*
	4 x 1	*100 x 25*	9	*229*	4 x 1	*100 x 25*	9	*229*
	4 x 1¼	*100 x 32*	9	*229*	4 x 1¼	*100 x 32*	9	*229*
	4 x 1½	*100 x 40*	9	*229*	4 x 1½	*100 x 40*	9	*229*
	4 x 2	*100 x 50*	9	*229*	4 x 2	*100 x 50*	9	*229*
	4 x 2½	*100 x 65*	9	*229*	4 x 2½	*100 x 65*	9	*229*
	4 x 3	*100 x 80*	9	*229*	4 x 3	*100 x 80*	9	*229*
	4 x 3½	*100 x 90*	9	*229*	4 x 3½	*100 x 90*	9	*229*

Note: See page 148 for certification of raw material and marking. Other types and sizes available on application. For other alloy raw material, Consult factory. Mill test reports furnished upon request only.
Options: E.L.C. Grades of Stainless; Eccentrics; Schedule 10 (no threads) - XXH; Schedule 160 & XXS/XXH; Concentric; Schedule 10, 40, 80, 160 and XXH (Including Eccentric)

Carbon Steel
Bull Plugs

Line Pipe Bull Plugs

- Nominal Pipe Size range 1/8 – 8 NPS *(6 – 200 DN)*
- Nominal Pipe Size 2 *(50 DN)* and smaller bull plugs are manufactured from bar which is processed in accordance with ATM A234 Gr. WPB
- Nominal Pipe Size 2 1/2 – 8 *(65 – 200 DN)* bull plugs are manufactured from A106 Gr. B seamless pipe using J.B. Smith's unique forming process which ensures uniform wall thickness
- Bull Plugs available in standard, extra heavy, double extra heavy, schedule 160 or solid
- All J.B. Smith bull plugs can be tapped
- End finishes available: NPT, weld beveled, squared cut (for socket weld) or grooved

Carbon Steel Bull Plugs	Size				Length		Standard Weight		XS/XH Weight		Solid Weight		XXS/XXH & Sch. 160 Weight	
	Pipe		API or O.D.											
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	1/8	*6*	0.405	*10*	2	*51*	–	–	0.10	*0.05*	0.20	*0.09*	0.40	*0.18*
	1/4	*8*	0.540	*14*	2	*51*	–	–	0.11	*0.05*	0.20	*0.09*	0.40	*0.18*
	3/8	*10*	0.675	*17*	2 1/4	*57*	–	–	0.14	*0.06*	0.33	*0.15*	0.28	*0.13*
	1/2	*15*	0.840	*21*	2 1/2	*64*	–	–	0.33	*0.15*	0.50	*0.23*	0.50	*0.23*
	3/4	*20*	1.050	*27*	2 3/4	*70*	–	–	0.50	*0.23*	0.80	*0.36*	0.75	*0.34*
	1	*25*	1.315	*33*	3	*76*	–	–	0.66	*0.30*	1.4	*0.63*	1.00	*0.45*
	1 1/4	*32*	1.660	*42*	3 1/4	*83*	–	–	1.00	*0.45*	2.3	*1.0*	1.5	*0.68*
	1 1/2	*40*	1.900	*48*	3 1/2	*89*	–	–	1.2	*0.53*	3.0	*1.4*	2.0	*0.91*
	2	*50*	2 3/8	*60*	4	*102*	2.3	*1.0*	2.5	*1.1*	5.0	*2.3*	3.5	*1.6*
	2 1/2	*65*	2 7/8	*73*	5	*127*	3.0	*1.4*	3.5	*1.6*	–	–	8.0	*3.6*
	3	*80*	3 1/2	*89*	6	*152*	4.5	*2.0*	6.0	*2.7*	–	–	11	*5.0*
	3 1/2	*90*	4	*102*	6 1/2	*165*	5.5	*2.5*	7.5	*3.4*	–	–	14	*6.1*
	4	*100*	4 1/2	*114*	7	*178*	7.5	*3.4*	10.0	*4.5*	–	–	18	*8.2*
	5	*125*	5 9/16	*141*	8 1/2	*216*	13	*5.7*	17	*7.7*	–	–	33	*15*
	6	*150*	6 5/8	*168*	10	*254*	17	*7.7*	25	*11*	–	–	46	*21*
	8	*200*	8 5/8	*219*	11	*279*	29	*13*	44	*20*	–	–	78	*35*

Solid Refinery Plugs Black (non-plated) Carbon Steel	Size		Length	
	NPS	*DN*	in	*mm*
	1/8	*6*	3	*76*
	1/4	*8*	3	*76*
	3/8	*10*	3	*76*
	1/2	*15*	3	*76*
	3/4	*20*	3	*76*
	1	*25*	3	*76*
	1 1/4	*32*	3	*76*
	1 1/2	*40*	3	*76*
	2	*50*	3	*76*

Smith solid black refinery plugs have been especially designed for refinery use. The body length leaves sufficient length for easy wrench application. Material conforms to ASTM-A 234 Grade WPB. Hex Heads 1¼" thru 2" are available.

Adapter Nipples

- J.B. Smith manufactures a full line of adapter nipples in sizes 1" NPS *(25 DN)* through 12" NPS *(300 DN)* from seamless A106 pipe.
- Adapter Nipples available in threaded, beveled, grooved and virtually all combinations of these end connections.
- Nipples manufactured in schedule 40, schedule 80, schedule 160 and double extra heavy wall thickness
- Full Traceability and mill certification available upon request at time of order

Adapter Nipples Seamless Schedule 40, 80, 160, XXH			
Size		Weight	
NPS	*DN*	lbs/ft	*kg*
¾	*20*	—	—
1	*25*	—	—
1¼	*32*	—	—
1½	*40*	—	—
2	*50*	3.6	*1.7*
2½	*65*	5.8	*2.6*
3	*80*	7.6	*3.4*
4	*100*	11	*4.9*
5	*125*	15	*6.6*
6	*150*	19	*8.6*
8	*200*	29	*13*
10	*250*	40	*18*
12	*300*	50	*22*

Oil Country Fittings

Current API Thread Standards

Current API Thread Standards					
Size		O.D.		Pipe	Tubing & Casing
NPS	*DN*	in	*mm*		
¾	*20*	1.050	*27*	14	–
¾ EUE	*20*	1.050	*27*	–	10 Rd.
1	*25*	1.315	*33*	11½	10 Rd.
1 EUE	*25*	1.315	*33*	–	10 Rd.
1¼	*32*	1.660	*42*	11½	10 Rd.
1¼ EUE	*32*	1.660	*42*	–	10 Rd.
1½	*40*	1.900	*48*	11½	10 Rd.
1½ EUE	*40*	1.900	*48*	–	10 Rd.
2	*50*	2⅜	*60*	11½	10 Rd.
2 EUE	*50*	2⅜	*60*	–	8 Rd.
2½	*65*	2⅞	*73*	8V	10 Rd.
2½ EUE	*65*	2⅞	*73*	–	8 Rd.
3	*80*	3½	*89*	8V	10 Rd.
3 EUE	*80*	3½	*89*	–	8 Rd.
31/2	*90*	4	*102*	8V	8 Rd.
3½ EUE	*90*	4	*102*	8V	8 Rd.
4	*100*	4½	*114*	8V	8 Rd.
4 EUE	*100*	4½	*114*	–	8 Rd.
–	–	5	*127*	–	8 Rd.
–	–	5½	*140*	–	8 Rd.
5	*125*	5⁹⁄₁₆	*141*	8V	–
–	–	6	*152*	–	8 Rd.
6	*150*	6⅝	*168*	8V	8 Rd.
–	–	7	*178*	–	8 Rd.
–	–	7⅝	*194*	–	8 Rd.
8	*200*	8⅝	*219*	8V	8 Rd.
–	–	9⅝	*244*	–	8 Rd.
10	*250*	10¾	*273*	8V	8 Rd.
–	–	11¾	*298*	–	8 Rd.
12	*300*	12¾	*324*	8V	–
–	–	13⅜	*340*	–	8 Rd.
–	–	14	*356*	8V	–
–	–	16	*406*	8V	8 Rd.
–	–	18	*457*	8V	–
–	–	20	*508*	8V	8 Rd.

Oil Country Fittings

Tubing Swages & Casing Swages

- Tubing Nominal Sizes 1 – 4 *(25 – 100 DN)* upset and non-upset ends are available with any combination of API 5B threads (8Rd, l0Rd, 11 1/2 V, 8V, etc) and are available in grades J-55, K-55, N-80 and L-80 API 5CT material grades
- Wall thicknesses available are standard through double extra heavy
- For different grades of material (stainless, brass, etc.) and different threads, consult factory
- Thread types are color-coded for easy identification. See page 148.

SWAGE NIPPLES – OIL COUNTRY SIZES

Large End Upset Reduced to Regular or Upset	Size		Pipe O.D		Reduced to Size		Length		Standard Weight		XS/XH Weight		XXS/XXH Weight	
	NPS	*DN*	in	*mm*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	1	*25*	1.315	*33*	¾	*20*	3½	*89*	0.66	*0.30*	0.66	*0.30*	–	–
	1¼	*32*	1.660	*42*	¾–1	*20–25*	4	*102*	1.00	*0.45*	1.00	*0.45*	–	–
	1½	*40*	1.900	*48*	¾–1¼	*20–32*	4½	*114*	1.3	*0.57*	1.3	*0.57*	–	–
	2	*50*	2⅜	*60*	¼–½–¾	*8–15–20*	8	*203*	2.5	*1.1*	4.0	*1.8*	6.0	*2.7*
					1–1¼–1½	*25–32–40*	8	*203*	2.5	*1.1*	4.0	*1.8*	6.0	*2.7*
					2 1/16 O.D.	*52 O.D.*	8	*203*	2.5	*1.1*	4.0	*1.8*	6.0	*2.7*
	2½	*65*	2⅞	*73*	1–1¼–1½	*25–32–40*	8	*203*	5.0	*2.3*	6.0	*2.7*	10.0	*4.5*
					2	*50*	8	*203*	6.0	*2.7*	6.0	*2.7*	10.0	*4.5*
	3	*80*	3½	*89*	1–¼–1½	*25–8–40*	8	*203*	7.5	*3.4*	9.0	*4.1*	14	*6.4*
					2–2½	*50–65*	8	*203*	7.5	*3.4*	9.0	*4.1*	14	*6.4*
	4	*100*	4½	*114*	1–¼–1½	*25–8–40*	9	*229*	11	*5.0*	14	*6.4*	23	*10*
					2–2½	*50–65*	9	*229*	11	*5.0*	14	*6.4*	23	*10*
					3–3½	*80–90*	9	*229*	11	*5.0*	14	*6.4*	23	*10*

Swage Nipples are made from J-55, K-55, N-80 or the most appropriate material available.

SWAGE NIPPLES – OIL COUNTRY SIZES

Large End Non-Upset Reduced to Upset	Size		Pipe O.D		Reduced to Size		Length		Standard Weight		XS/XH Weight		XXS/XXH Weight	
	NPS	*DN*	in	*mm*	NPS	*DN*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	1	*25*	1.315	*33*	¾	*20*	3½	*89*	0.66	*0.30*	0.66	*0.30*	–	–
	1¼	*32*	1.660	*42*	¾–1	*20–25*	4	*102*	1.00	*0.45*	1.00	*0.45*	–	–
	1½	*40*	1.900	*48*	¾–1¼	*20–32*	4½	*114*	1.3	*0.57*	1.3	*0.57*	–	–
	2	*50*	2⅜	*60*	¾	*20*	6½	*165*	2.5	*1.1*	3.5	*1.6*	5.0	*2.3*
					1–1¼–1½	*25–32–40*	6½	*165*	2.5	*1.1*	3.5	*1.6*	5.0	*2.3*
	2½	*65*	2⅞	*73*	1–1¼–1½	*25–32–40*	7	*178*	4.0	*1.8*	6.0	*2.7*	9.0	*4.1*
					2	*50*	7	*178*	4.0	*1.8*	6.0	*2.7*	9.0	*4.1*
	3	*80*	3½	*89*	1–1¼–1½	*25–32–40*	8	*203*	6.0	*2.7*	9.0	*4.1*	12	*5.4*
					2–21/2	*50–65*	8	*203*	6.0	*2.7*	9.0	*4.1*	12	*5.4*
	4	*100*	4½	*114*	1–1¼–1½	*25–32–40*	9	*229*	8.0	*3.6*	12	*5.4*	20	*9.1*
					2–2½	*50–65*	9	*229*	8.0	*3.6*	12	*5.4*	20	*9.1*
					3–3½	*80–90*	9	*229*	8.0	*3.6*	12	*5.4*	20	*9.1*
			5½	*140*	2-3	*50*	11	*279*	13	*5.7*	17	*7.7*	33	*15*
			7	*178*	2-3	*50*	12	*305*	17	*7.7*	25	*11*	50	*23*

Swage Nipples are made from J-55, K-55, N-80 or the most appropriate material available.

Oil Country Fittings

Tubing Swages & Casing Swages

Swage Nipples Oil Country Tubing & Casing non EUE ends	Size						Length		Standard Weight		XS/XH Weight		XXS/XXH Weight	
	Pipe		O.D.		Reduced to									
	NPS	DN	in	mm	NPS	DN	in	mm	lbs	kg	lbs	kg	lbs	kg
	1	25	1.315	33	¼ - ¾	8 - 20	3½	89	0.66	0.30	0.66	0.30	1.00	0.45
	1¼	32	1.660	42	¼ - ½	8 - 15	4	102	1.00	0.45	1.00	0.45	1.5	0.68
					¾ & 1	20 & 25	4	102	1.00	0.45	1.00	0.45	1.5	0.68
	1½	40	1.900	48	¼ - ¾	8 - 20	4½	114	1.2	0.53	–	–	2.0	0.91
					1 & 1¼	25 & 32	4½	114	1.2	0.53	1.00	0.45	2.0	0.91
	2	50	2⅜	60	¼ - ¾	8 - 20	6½	165	2.5	1.1	3.0	1.4	4.3	1.9
					1 - 2 O.D.	25 - 50 O.D.	6½	165	2.0	0.91	2.3	1.1	4.3	1.9
	2½	65	2⅞	73	¼ - ¾	8 - .75	7	178	3.0	1.4	3.5	1.6	8.0	3.6
					1 - 1½	25 - 40	7	178	3.0	1.4	3.5	1.6	8.0	3.6
					2 & 2 1/16	50 - 52	7	178	3.0	1.4	3.5	1.6	8.0	3.6
	3	80	3½	89	1 - 1½	25 - 40	8	203	4.5	2.0	6.0	2.7	11	5.0
					2 & 2½	50 - 65	8	203	4.5	2.0	6.0	2.7	11	5.0
	4	100	4½	114	1 - 1½	25 - 40	9	229	7.0	3.2	10.0	4.5	18	8.2
					2 - 4 O.D.	50 - 100 O.D.	9	229	7.5	3.4	10.0	4.5	18	8.2
			5	127	1 - 1½	25 - 40	10	254	9.5	4.3	15	6.8	24	11
					2 - 4½ O.D.	50 - 100 O.D.	10	254	9.5	4.3	15	6.8	24	11
			5½	140	1 - 1½	25 - 40	11	279	13	5.7	17	7.7	33	15
					2 & 2½	50 & 65	11	279	13	5.7	17	7.7	33	15
					3 - 50.D.	80 - 125 O.D.	11	279	13	5.7	17	7.7	33	15
			6⅝	168	1 - 1½	25 - 40	12	305	17	7.7	25	11	46	21
					2 & 2½	50 & 65	12	305	17	7.7	25	11	46	21
					3 - 4 O.D.	80 - 100 O.D.	12	305	17	7.7	25	11	46	21
					4 - 6 O.D.	100 - 150 O.D.	12	305	17	7.7	25	11	46	21
			7	178	1 - 1½	25 - 40	12	305	17	7.7	25	11	–	–
					2 - 2½	50 - 65	12	305	17	7.7	25	11	–	–
					3 - 5 O.D.	80 - 125 O.D.	12	305	17	7.7	25	11	–	–
					5½ O.D. & 6 O.D.	140 O.D. & 150 O.D.	12	305	17	7.7	25	11	–	–
			7⅝	194	2 - 3	5 - 750	13	330	24	11	32	15	–	–
					4 O.D. - 6 O.D.	100 O.D. - 150 O.D.	13	330	24	11	32	15	–	–
					6⅝ O.D. - 7 O.D.	168 O.D. - 175 O.D.	13	330	24	11	32	15	–	–
			8⅝	219	2 - 3	50 - 75	13	330	29	13	44	20	–	–
					4 - 6 O.D.	100 - 150 O.D.	13	330	29	13	44	20		
					6⅝ O.D. & 7⅝ O.D.	168 O.D. - 194 O.D.	13	330	29	13	44	20	–	–
			9⅝	244	2 - 3	50 - 75	14	356	38	17	48	22	–	–
					4 - 6 O.D.	100 - 150 O.D.	14	356	38	17	48	22	–	–
					6⅝ O.D. & 8⅝ O.D.	168 O.D. - 219 O.D.	14	356	38	17	48	22	–	–
			10¾	273	2 - 3	50 - 75	15	381	48	22	68	31	–	–
					4 - 6 O.D.	100 - 150 O.D.	15	381	48	22	68	31	–	–
					6⅝ O.D - 7⅝ O.D.	168 O.D. - 194 O.D.	15	381	48	22	68	31	–	–
					8⅝ O.D. & 9⅝ O.D.	219 O.D. - 245 O.D.	15	381	48	22	68	31	–	–

All swage nipples on this page are made from J-55, K-55, N-80 or the most appropriate material available. Casing threads (8 Rd.) on one end with any thread or finish (beveled) on the other end. Also includes casing sizes where no thread is specified

Oil Country Fittings

Bull Plugs

Casing Bull Plugs

- 4 1/2" O.D. – 10 3/4" O.D. *(114 O.D. – 273 O.D. DN)* casing bull plugs available with all current API threads or beveled for welding
- Casing bull plugs available in standard, extra heavy or double extra

Tubing Bull Plugs	Size				Length		Standard Weight		XS/XH Weight		XXS/XXH & Sch. 160 Weight	
	Pipe		API or O.D.									
	NPS	*DN*	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	¾ EUE	*20*			3	*76*	1.5	*0.68*	0.50	*0.23*	—	—
	1	*25*	1.315	*33*	3	*76*	1.5	*0.68*	0.66	*0.30*	—	—
	1 EUE	*25*			3	*76*	1.5	*0.68*	—	—	—	—
	1¼	*32*	1.660	*42*	3¼	*83*	1.5	*0.68*	1.00	*0.45*	—	—
	1¼ EUE	*32*			3¼	*83*	1.5	*0.68*	—	—	—	—
	1½	*40*	1.900	*48*	3½	*89*	1.5	*0.68*	1.1	*0.48*	—	—
	1½ EUE	*40*			3½	*89*	2.0	*0.91*	2.3	*1.0*	—	—
	2	*50*	2⅜	*60*	4	*102*	2.0	*0.91*	3.0	*1.4*	4.3	*1.9*
	2 EUE	*50*			5	*127*	3.5	*1.6*	4.0	*1.8*	9.0	*4.1*
	2½	*65*	2⅞	*73*	5	*127*	3.0	*1.4*	3.5	*1.6*	8.0	*3.6*
	2½ EUE	*65*			5½	*140*	4.3	*1.9*	6.0	*2.7*	14	*6.4*
	3	*80*	3½	*89*	6	*152*	4.5	*2.0*	5.0	*2.3*	11	*5.0*
	3 EUE	*80*			6½	*165*	10.0	*4.5*	15	*6.8*	25	*11*

Note: Also available in solid.

Casing Bull Plugs	API or O.D.		Length		Standard Weight		XS/XH Weight		XXS/XXH & Sch. 160 Weight	
	in	*mm*	in	*mm*	lbs	*kg*	lbs	*kg*	lbs	*kg*
	4½	*114*	7	*178*	7.5	*3.4*	10.0	*4.5*	18	*8.2*
	5	*127*	8	*203*	9.5	*4.3*	15	*6.8*	24	*11*
	5½	*140*	8½	*216*	13	*5.7*	17	*7.7*	33	*15*
	6⅝	*168*	10	*254*	17	*7.7*	25	*11*	46	*21*
	7	*178*	10	*254*	17	*7.7*	25	*11*	50	*23*
	7⅝	*194*	11	*279*	24	*11*	32	*15*	53	*24*
	8⅝	*219*	11	*279*	29	*13*	44	*20*	78	*35*
	9⅝	*244*	12	*305*	36	*16*	47	*21*	76	*34*
	10¾	*273*	13	*330*	41	*18*	56	*25*	85	*39*

API Bull Plugs Female	Size				Length		Size				Length	
	Tubing Size		O.D.				Tubing Size		O.D.			
	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*	in	*mm*
	¾	*20*	1.313	*33*	3 3/16	*81*	2	*50*	2.875	*73*	4¼	*108*
	¾ EUE	*20*	1.660	*42*	3¼	*83*	2 EUE	*50*	3.063	*78*	4⅞	*124*
	1	*25*	1.660	*42*	3¼	*83*	2½	*65*	3.500	*89*	5⅛	*130*
	1 EUE	*25*	1.900	*48*	3½	*89*	2½ EUE	*65*	3.668	*93*	5¼	*133*
	1¼	*32*	2.054	*52*	3½	*89*	3	*80*	4.250	*108*	5⅝	*143*
	1¼ EUE	*32*	2.200	*56*	3¾	*95*	3 EUE	*80*	4.500	*114*	5¾	*146*
	1½	*40*	2.200	*56*	3¾	*95*	4	*100*	5.200	*132*	6⅛	*156*
	1½ EUE	*40*	2.500	*64*	3⅞	*98*	4 EUE	*100*	5.563	*141*	6¼	*159*

Oil Country Fittings

Bell Nipples and Tubing Nipples

Bell Nipples

- J.B. Smith manufactures a full line of Bell Nipples in sizes 4 1/2" - 8 5/8" NPS from K55 raw materials
- Bell Nipples are 8 RD threaded (short or long) by slip joint end connections.
- Full traceability and mill certification available upon request at time of order.

Bell Nipples	O.D. Size		Weight	
	NPS	*DN*	lbs	*kg*
	4½	*114*	4.5	*2.0*
	5½	*140*	9.0	*4.1*
	7	*175*	13.0	*6.0*
	8⅝	*219*	15.0	*6.8*

Tubing Nipples

- Tubing Nominal Sizes 1 – 4 *(25 – 100 DN)* upset and non-upset ends
- Lengths are 4" – 18" *(102mm–457mm)*
- Tubing nipples are available with any combination of API 5B threads (8Rd, l0Rd, 11 1/2 V, 8V, etc) and are available in grades J-55, K-55, N-80 and L-80 API 5CT material grades
- Wall thicknesses available: standard, extra heavy, double extra heavy
- For different grades of material (stainless, brass, etc.) and different threads, consult factory

Tubing Nipples Standard Weight	Size		End Connection
	NPS	*DN*	
18" and shorter upset and non-upset 	1	*25*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	1¼	*32*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	1½	*40*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	2	*50*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	2½	*65*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	3	*80*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	4	*100*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)

Tubing Nipples Extra Heavy Weight	Size		End Connection
	NPS	*DN*	
18" and shorter upset and non-upset 	1	*25*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	1¼	*32*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	1½	*40*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	2	*50*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	2½	*65*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	3	*80*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)
	4	*100*	Upset A.P.I. Thds, One or Both Ends
			Non-upset (Regular)

Standard and XH Weight available in standard lengths 4", 6", 8", 10", 12", 14", 16", 18." Also, available in non-standard lengths.

Oil Country Fittings

Casing Nipples

Oil Country Casing Nipples	Size O.D.		Weight Per Foot		API Material Grade
	NPS	*DN*	lbs	*kg*	
	4½	*114*	10.5	*4.8*	K
			11.6	*5.3*	K-N-P
	5	*125*	11.5	*5.2*	K
			13.0	*5.9*	K
			15.0	*6.8*	K-N-P
			18.0	*8.2*	N-P
	5½	*140*	14.0	*6.4*	K
			15.5	*7.0*	K
			17.0	*7.7*	K-N-P
			20.0	*9.1*	N-P
	6⅝	*168*	20.0	*9.1*	K
			24.0	*11*	K-N-P
			28.0	*13*	N-P
	7	*175*	20.0	*9.1*	K
			23.0	*10*	K-N
			26.0	*12*	K-N-P
			29.0	*13*	N-P
	7⅝	*194*	26.4	*12*	K-N
			29.7	*13*	N-P
	8⅝	*219*	24.0	*11*	K
			32.0	*15*	K
			36.0	*16*	K-N
			44.0	*20*	N-P
			49.0	*22*	N-P
	9⅝	*245*	36.0	*16*	K
			40.0	*18*	K-N
			43.5	*20*	N-P
			47.0	*21*	N-P
	10¾	*273*	40.5	*18*	K
			45.5	*21*	K
			55.5	*25*	N-P
	11¾	*298*	60.0	*27*	K
	13⅜	*340*	54.5	*25*	K
			61.0	*28*	K
			68.0	*31*	K
			72.0	*33*	K
	16	*400*	75.0	*34*	K
			84.0	*38*	K

Available in standard lengths 8", 10'", 12", 18", 24", 36". Also, available in non-standard lengths.
Casing nipples in steel grades other than those noted above are also available.

Oil Country Couplings

Casing Couplings

API Casing Couplings Short Thread	Casing O.D.		Weight/100		Length of Round Thread Coupling	
	NPS	*DN*	lbs	*kg*	in	*mm*
	4½	*114*	805	*365*	6¼	*159*
	5	*125*	1018	*462*	6½	*165*
	5½	*140*	1144	*519*	6¾	*171*
	6⅝	*168*	1997	*906*	7¼	*184*
	7	*175*	1834	*832*	7¼	*184*
	7⅝	*194*	2693	*1222*	7½	*191*
	8⅝	*219*	3558	*1614*	7¾	*197*
	9⅝	*144*	3951	*1792*	7¾	*197*
	10¾	*273*	4553	*2065*	8	*203*
	11¾	*298*	–	–	8	*203*
	13⅜	*340*	5623	*2551*	8	*203*
	16	*400*	7898	*3582*	9	*229*
	20	*500*	9500	*4309*	9	*229*

API Casing Couplings Long Thread	Casing O.D.		Weight/100		Length of Coupling	
	NPS	*DN*	lbs	*kg*	in	*mm*
	4½	*114*	907	*411*	7	*178*
	5	*125*	1256	*570*	7¾	*197*
	5½	*140*	1403	*636*	8	*203*
	6⅝	*168*	1829	*830*	8¾	*222*
	7	*175*	2367	*1074*	9	*229*
	7⅝	*194*	3423	*1553*	9¼	*235*
	8⅝	*219*	4748	*2154*	10	*254*
	9⅝	*244*	5577	*2530*	10½	*267*
	10¾	*273*	6202	*2813*	10½	*267*
	13⅜	*340*	7663	*3476*	10½	*267*

Combination Couplings J-55	Size	O.D
	in	in
	2	2⅜
	2½	2⅞
	3	3
	4	4

Oil Country Couplings

Tubing Couplings

Sub Tubing Couplings J-55	Size	Weight Each
	2 EUE x 2 Reg	5
	2½ Reg x 2 Reg	5
	2½ Reg x 2 EUE	5
	2½ EUE x 2 Reg	8
	2½ EUE x 2 EUE	8
	2½ EUE x 21/2 Reg	7
	3 Reg x 2 Reg	11
	3 Reg x 2 EUE	11
	3 Reg x 2½ Reg	10
	3 Reg x 2½ EUE	10
	3 EUE x 2 Reg	15
	3 EUE x 2 EUE	14
	3 EUE x 2½ Reg	16
	3 EUE x 2½ EUE	15
	3 EUE x 3 Reg	13
	4 Reg x 3 Reg	10
	4 Reg x 3 EUE	12
	4 EUE x 3 Reg	11
	4 EUE x 3 EUE	11
	4 EUE x 4 Reg	10

API Tubing Couplings	Size Nominal Inches	Tubing O.D.	Non-Upset			External Upset			
			J-55	N-80	Lbs. Per 100	J-55	N-80	C-75	Lbs. Per 100
	2"	2⅜"	POA	POA	282	POA	POA	POA	342
	2½"	2⅞"	POA	POA	515	POA	POA	POA	529
	3"	3½"	POA	POA	817	POA	POA	POA	902
	3½"	4"	POA	POA	957	POA	POA	POA	1,056
	4	4½"	POA	POA	1,076	POA	POA	POA	1,331

Special Clearance Tubing Couplings	Size Nominal Inches	Tubing O.D.	External Upset			Lbs. Per 100	Actual O.D. Inches
			J-55	N-80	C-75 L-80		
	2"	2⅜"	POA	POA	POA	240	2.91
	2½"	2⅞"	POA	POA	POA	348	3.46
	3"	3½"	POA	POA	POA	540	4.18

Chambers / Pressure Vessels

- Chambers are available in 2" – 8" inch diameter and up to 2 feet long.
- Material is A106 Grade B seamless, unless otherwise specified.
- Solid, bored, or tapped Ends are available.

Phone:: 713-928-5711
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Coated Products

Anvil's coated products protect pipes against the corrosive conditions found in oil and gas pipelines. They are effective on all grades of pipe, and can be used to coat malleable, cast iron, forged steel, and ductile metals.

Anvil provides two stock coatings, Scotchkote 134 and Corvel 1660, which are durable, reliable and field-tested. ***Scotchkote 134*** is a fusion-bonded epoxy coating designed to protect metal surfaces from corrosion. It is resistant to wastewater, corrosive acids, hydrocarbons, harsh chemicals, brine, and saltwater.

Corvel 1660 is specially designed to protect the inside diameter of tubular goods in applications such as fittings, valves, drill pipes, sucker rods, and metering systems. Corvel 1660 is resistant to H_2S, CO_2, harsh chemicals, brine, and salt water.

Anvil also offers a range of specialty coatings, available upon request, including nickel coating, chrome plating, Teflon coating, Nap-Guard coating, and powder coating.

Malleable Iron

Class 150 (Standard)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 1101: 90° ELBOW (PAGE 18)										
⅛ B	6	35	2.10	0.95	105	6.30	2.86	18585	1115.10	505.71
¼ B G	8	25	2.75	1.25	75	8.25	3.74	13275	1460.25	662.24
⅜ B	10	20	3.40	1.54	40	6.80	3.08	7080	1203.60	545.85
½ B G	15	50	15.00	6.80	200	60.00	27.21	5400	1620.00	734.69
¾ B G	20	35	15.75	7.14	140	63.00	28.57	3780	1701.00	771.43
1 B G	25	20	14.60	6.62	80	58.40	26.49	2160	1576.80	715.10
1¼ B G	32	12	11.64	5.28	48	46.56	21.12	1296	1257.12	570.12
1½ B G	40	8	10.40	4.72	32	41.60	18.87	864	1123.20	509.39
2 B G	50	10	20.60	9.34	20	41.20	18.68	540	1112.40	504.49
2½	65	5	17.75	8.05	10	35.50	16.10	270	958.50	434.69
3 B	80	4	21.84	9.90	8	43.68	19.81	216	1179.36	534.86
3½	90	3	21.30	9.66	6	42.60	19.32	162	1150.20	521.63
4	100	5	44.75	20.29	5	44.75	20.29	135	1208.25	547.96
FIGURE 1101R: 90° ELBOW, REDUCING (PAGE 18)										
¼ x ⅛	8 x 6	50	5.00	2.27	100	10.00	4.54	17700	1770.00	802.72
⅜ x ⅛	10 x 6	25	3.00	1.36	75	9.00	4.08	13275	1593.00	722.45
⅜ x ¼	10 x 8	25	3.50	1.59	50	7.00	3.17	8850	1239.00	561.90
½ x ¼	15 x 8	15	2.85	1.29	30	5.70	2.59	5310	1008.90	457.55
½ x ⅜	15 x 10	75	16.50	7.48	300	66.00	29.93	8100	1782.00	808.16
¾ x ¼	20 x 8	12	3.12	1.41	24	6.24	2.83	4248	1104.48	500.90
¾ x ⅜	20 x 10	20	5.80	2.63	160	46.40	21.04	4320	1252.80	568.16
¾ x ½ B G	20 x15	45	17.10	7.76	180	68.40	31.02	4860	1846.80	837.55
1 x ⅜	25 x 10	15	6.15	2.79	120	49.20	22.31	3240	1328.40	602.45
1 x ½	25 x 15	25	11.50	5.22	100	46.00	20.86	2700	1242.00	563.27
1 x ¾ B G	25 x 20	20	11.20	5.08	80	44.80	20.32	2160	1209.60	548.57
1¼ x ½ B G	32 x 15	20	12.20	5.53	80	48.80	22.13	2160	1317.60	597.55
1¼ x ¾	32 x 20	15	10.65	4.83	60	42.60	19.32	1620	1150.20	521.63
1¼ x 1 B	32 x 25	15	13.05	5.92	60	52.20	23.67	1620	1409.40	639.18
1½ x ¾	40 x 20	12	9.96	4.52	48	39.84	18.07	1296	1075.68	487.84
1½ x 1	40 x 25	12	12.24	5.55	48	48.96	22.20	1296	1321.92	599.51
1½ x 1¼	40 x 32	8	9.36	4.24	32	37.44	16.98	864	1010.88	458.45
2 x ¾	50 x 20	6	7.80	3.54	24	31.20	14.15	648	842.40	382.04
2 x 1	50 x 25	15	20.25	9.18	30	40.50	18.37	810	1093.50	495.92
2 x 1¼	50 x 32	12	18.36	8.33	24	36.72	16.65	648	991.44	449.63
2 x 1½	50 x 40	12	21.00	9.52	24	42.00	19.05	648	1134.00	514.29
2½ x 1½	65 x 40	6	15.00	6.80	12	30.00	13.61	324	810.00	367.35
2½ x 2	65 x 50	5	14.90	6.76	10	29.80	13.51	270	804.60	364.90
3 x 2	80 x 50	4	15.00	6.80	8	30.00	13.61	216	810.00	367.35
3 x 2½	80 x 65	4	17.20	7.80	8	34.40	15.60	216	928.80	421.22
4 x 3	100 x 80	2	15.74	7.14	4	31.48	14.28	108	849.96	385.47
FIGURE 1102: 45° ELBOW (PAGE 19)										
⅛	6	50	3.50	1.59	150	10.50	4.76	26550	1858.50	842.86
¼	8	35	3.85	1.75	70	7.70	3.49	12390	1362.90	618.10
⅜	10	20	3.20	1.45	40	6.40	2.90	7080	1132.80	513.74
½ B	15	75	16.50	7.48	300	66.00	29.93	8100	1782.00	808.16
¾ B	20	40	14.80	6.71	160	59.20	26.85	4320	1598.40	724.90
1 B G	25	25	13.50	6.12	100	54.00	24.49	2700	1458.00	661.22
1¼ B	32	15	12.90	5.85	60	51.60	23.40	1620	1393.20	631.84
1½	40	8	9.04	4.10	32	36.16	16.40	864	976.32	442.78
2 B G	50	6	10.74	4.87	24	42.96	19.48	648	1159.92	526.04
2½	65	5	18.00	8.16	10	36.00	16.33	270	972.00	440.82
3	80	4	17.92	8.13	8	35.84	16.25	216	967.68	438.86
4	100	4	29.60	13.42	4	29.60	13.42	108	799.20	362.45

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 150 (Standard)

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 1103: 90° STREET ELBOW (PAGE 19)											
1/8	B	6	40	2.40	1.09	120	7.20	3.27	21240	1274.40	577.96
1/4	B G	8	30	3.00	1.36	90	9.00	4.08	15930	1593.00	722.45
3/8	B	10	20	3.40	1.54	40	6.80	3.08	7080	1203.60	545.85
1/2	B G	15	75	21.00	9.52	300	84.00	38.10	8100	2268.00	1028.57
3/4	B G	20	40	16.40	7.44	160	65.60	29.75	4320	1771.20	803.27
1	B G	25	15	9.30	4.22	60	37.20	16.87	1620	1004.40	455.51
1 1/4	B	32	10	10.90	4.94	40	43.60	19.77	1080	1177.20	533.88
1 1/2	B	40	8	11.52	5.22	32	46.08	20.90	864	1244.16	564.24
2	B	50	10	28.50	12.93	20	57.00	25.85	540	1539.00	697.96
2 1/2		65	4	16.00	7.26	8	32.00	14.51	216	864.00	391.84
3		80	4	24.24	10.99	4	24.24	10.99	108	654.48	296.82
4		100	4	42.12	19.10	4	42.12	19.10	108	1137.24	515.76
FIGURE 1103R: 90° STREET ELBOW, REDUCING (PAGE 19)											
1/2 x 3/8		15 x 10	35	8.05	3.65	280	64.40	29.21	7560	1738.80	788.57
3/4 x 1/2	B	20 x 15	25	8.00	3.63	200	64.00	29.02	5400	1728.00	783.67
1 x 3/4		25 x 20	25	13.50	6.12	100	54.00	24.49	2700	1458.00	661.22
1 1/4 x 1		32 x 25	15	12.90	5.85	60	51.60	23.40	1620	1393.20	631.84
1 1/4 x 3/4		32 x 20	15	11.25	5.10	60	45.00	20.41	1620	1215.00	551.02
1 1/2 x 1 1/4		40 x 32	20	23.60	10.70	40	47.20	21.41	1080	1274.40	577.96
1 1/2 x 1		40 x 25	10	10.80	4.90	40	43.20	19.59	1080	1166.40	528.98
2 x 1 1/2		50 x 40	12	22.20	10.07	24	44.40	20.14	648	1198.80	543.67
FIGURE 1104: 45° STREET ELBOW (PAGE 20)											
1/8		6	50	3.00	1.36	150	9.00	4.08	26550	1593.00	722.45
1/4		8	50	5.00	2.27	100	10.00	4.54	17700	1770.00	802.72
3/8		10	25	3.50	1.59	50	7.00	3.17	8850	1239.00	561.90
1/2		15	75	15.00	6.80	300	60.00	27.21	8100	1620.00	734.69
3/4		20	40	13.20	5.99	160	52.80	23.95	4320	1425.60	646.53
1		25	25	13.00	5.90	100	52.00	23.58	2700	1404.00	636.73
1 1/4		32	15	12.75	5.78	60	51.00	23.13	1620	1377.00	624.49
1 1/2		40	10	12.20	5.53	40	48.80	22.13	1080	1317.60	597.55
2		50	12	23.04	10.45	24	46.08	20.90	648	1244.16	564.24
FIGURE 1105: STRAIGHT TEE (PAGE 20)											
1/8	B	6	25	2.25	1.02	75	6.75	3.06	13275	1194.75	541.84
1/4	B G	8	20	3.00	1.36	40	6.00	2.72	7080	1062.00	481.63
3/8	B	10	15	3.45	1.56	30	6.90	3.13	5310	1221.30	553.88
1/2	B G	15	40	16.40	7.44	160	65.60	29.75	4320	1771.20	803.27
3/4	B G	20	20	12.00	5.44	80	48.00	21.77	2160	1296.00	587.76
1	B G	25	12	10.80	4.90	48	43.20	19.59	1296	1166.40	528.98
1 1/4	B	32	8	10.48	4.75	32	41.92	19.01	864	1131.84	513.31
1 1/2	B G	40	5	8.65	3.92	20	34.60	15.69	540	934.20	423.67
2	B G	50	10	25.20	11.43	20	50.40	22.86	540	1360.80	617.14
2 1/2		65	4	19.60	8.89	8	39.20	17.78	216	1058.40	480.00
3		80	3	21.39	9.70	6	42.78	19.40	162	1155.06	523.84
3 1/2		90	4	36.00	16.33	4	36.00	16.33	108	972.00	440.82
4		100	4	45.28	20.54	4	45.28	20.54	108	1222.56	554.45

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 150 (Standard)

Size			Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1105R: REDUCING TEE (PAGE 21–23)										
⅛ x ⅛ x ¼	6 x 6 x 8	25	3.00	1.36	50	6.00	2.72	8850	1062.00	481.63
¼ x ¼ x ⅛	8 x 8 x 6	25	3.25	1.47	50	6.50	2.95	8850	1150.50	521.77
¼ x ¼ x ⅜	8 x 8 x 10	15	2.85	1.29	30	5.70	2.59	5310	1008.90	457.55
⅜ x ¼ x ¼	10 x 8 x 8	15	2.85	1.29	30	5.70	2.59	5310	1008.90	457.55
⅜ x ¼ x ⅜	10 x 8 x 10	15	3.15	1.43	30	6.30	2.86	5310	1115.10	505.71
⅜ x ⅜ x ¼	10 x 10 x 8	15	3.15	1.43	30	6.30	2.86	5310	1115.10	505.71
⅜ x ⅜ x ½	10 x 10 x 15	10	2.70	1.22	20	5.40	2.45	3540	955.80	433.47
½ x ¼ x ½	15 x 8 x 15	10	2.90	1.32	20	5.80	2.63	3540	1026.60	465.58
½ x ⅜ x ⅜	15 x 10 x 10	10	2.80	1.27	20	5.60	2.54	3540	991.20	449.52
½ x ⅜ x ½	15 x 10 x 15	10	3.30	1.50	20	6.60	2.99	3540	1168.20	529.80
½ x ½ x ¼	15 x 15 x 8	10	2.70	1.22	20	5.40	2.45	3540	955.80	433.47
½ x ½ x ⅜	15 x 15 x 10	25	7.50	3.40	200	60.00	27.21	5400	1620.00	734.69
½ x ½ x ¾	15 x 15 x 20	30	13.50	6.12	120	54.00	24.49	3240	1458.00	661.22
½ x ½ x 1	15 x 15 x 25	25	13.75	6.24	100	55.00	24.94	2700	1485.00	673.47
¾ x ¼ x ¾	20 x 8 x 20	30	13.50	6.12	120	54.00	24.49	3240	1458.00	661.22
¾ x ⅜ x ⅜	20 x 10 x 10	35	12.60	5.71	140	50.40	22.86	3780	1360.80	617.14
¾ x ⅜ x ¾	20 x 10 x 20	25	11.50	5.22	100	46.00	20.86	2700	1242.00	563.27
¾ x ½ x ½ B	20 x 15 x 15	35	15.05	6.83	140	60.20	27.30	3780	1625.40	737.14
¾ x ½ x ¾	20 x 15 x 20	20	10.20	4.63	80	40.80	18.50	2160	1101.60	499.59
¾ x ¾ x ¼	20 x 20 x 8	35	13.30	6.03	140	53.20	24.13	3780	1436.40	651.43
¾ x ¾ x ⅜	20 x 20 x 10	30	12.60	5.71	120	50.40	22.86	3240	1360.80	617.14
¾ x ¾ x ½ B	20 x 20 x 15	20	9.40	4.26	80	37.60	17.05	2160	1015.20	460.41
¾ x ¾ x 1	20 x 20 x 25	15	9.30	4.22	60	37.20	16.87	1620	1004.40	455.51
¾ x ¾ x 1¼	20 x 20 x 32	10	9.00	4.08	40	36.00	16.33	1080	972.00	440.82
1 x ¼ x 1	25 x 8 x 25	15	10.35	4.69	60	41.40	18.78	1620	1117.80	506.94
1 x ½ x ½ B	25 x 15 x 15	25	17.50	7.94	100	70.00	31.75	2700	1890.00	857.14
1 x ½ x ¾	25 x 15 x 20	20	11.20	5.08	80	44.80	20.32	2160	1209.60	548.57
1 x ½ x 1	25 x 15 x 25	15	11.40	5.17	60	45.60	20.68	1620	1231.20	558.37
1 x ¾ x ½	25 x 20 x 15	20	11.80	5.35	80	47.20	21.41	2160	1274.40	577.96
1 x ¾ x ¾ B	25 x 20 x 20	15	11.10	5.03	60	44.40	20.14	1620	1198.80	543.67
1 x ¾ x 1	25 x 20 x 25	15	11.70	5.31	60	46.80	21.22	1620	1263.60	573.06
1 x 1 x ¼	25 x 25 x 8	20	10.60	4.81	80	42.40	19.23	2160	1144.80	519.18
1 x 1 x ⅜	25 x 25 x 10	20	12.00	5.44	80	48.00	21.77	2160	1296.00	587.76
1 x 1 x ½ B	25 x 25 x 15	15	10.50	4.76	60	42.00	19.05	1620	1134.00	514.29
1 x 1 x ¾ B	25 x 25 x 20	15	12.30	5.58	60	49.20	22.31	1620	1328.40	602.45
1 x 1 x 1¼	25 x 25 x 32	10	9.20	4.17	40	36.80	16.69	1080	993.60	450.61
1 x 1 x 1½	25 x 25 x 40	8	9.52	4.32	32	38.08	17.27	864	1028.16	466.29
1 x 1 x 2	25 x 25 x 50	12	19.56	8.87	24	39.12	17.74	648	1056.24	479.02
1¼ x ½ x 1	32 x 15 x 25	10	8.70	3.95	40	34.80	15.78	1080	939.60	426.12
1¼ x ½ x 1¼	32 x 15 x 32	6	6.24	2.83	24	24.96	11.32	648	673.92	305.63
1¼ x ¾ x ¾	32 x 20 x 20	10	8.60	3.90	40	34.40	15.60	1080	928.80	421.22
1¼ x ¾ x 1	32 x 20 x 25	10	9.10	4.13	40	36.40	16.51	1080	982.80	445.71
1¼ x ¾ x 1¼	32 x 20 x 32	6	6.24	2.83	24	24.96	11.32	648	673.92	305.63
1¼ x 1 x ½	32 x 25 x 15	15	11.40	5.17	60	45.60	20.68	1620	1231.20	558.37
1¼ x 1 x ¾	32 x 25 x 20	10	8.70	3.95	40	34.80	15.78	1080	939.60	426.12
1¼ x 1 x 1	32 x 25 x 25	10	11.10	5.03	40	44.40	20.14	1080	1198.80	543.67
1¼ x 1 x 1¼	32 x 25 x 32	6	6.78	3.07	24	27.12	12.30	648	732.24	332.08
1¼ x 1¼ x ⅜	32 x 32 x 10	10	8.60	3.90	40	34.40	15.60	1080	928.80	421.22
1¼ x 1¼ x ½ B	32 x 32 x 15	10	9.80	4.44	40	39.20	17.78	1080	1058.40	480.00
1¼ x 1¼ x ¾ B	32 x 32 x 20	8	8.56	3.88	32	34.24	15.53	864	924.48	419.27
1¼ x 1¼ x 1 B	32 x 32 x 25	20	23.60	10.70	40	47.20	21.41	1080	1274.40	577.96
1¼ x 1¼ x 1½	32 x 32 x 40	15	21.75	9.86	30	43.50	19.73	810	1174.50	532.65
1¼ x 1¼ x 2	32 x 32 x 50	12	20.40	9.25	24	40.80	18.50	648	1101.60	499.59
1½ x ½ x 1½	40 x 15 x 40	15	19.95	9.05	30	39.90	18.10	810	1077.30	488.57

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 150 (Standard)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1105R: REDUCING TEE (PAGE 21–23)										
1½ x ¾ x ¾	40 x 20 x 40	10	10.00	4.54	40	40.00	18.14	1080	1080.00	489.80
1½ x ¾ x 1½	40 x 20 x 20	15	21.15	9.59	30	42.30	19.18	810	1142.10	517.96
1½ x 1 x 1	40 x 25 x 40	8	9.12	4.14	32	36.48	16.54	864	984.96	446.69
1½ x 1 x 1¼	40 x 25 x 32	15	19.50	8.84	30	39.00	17.69	810	1053.00	477.55
1½ x 1 x 1½	40 x 25 x 25	15	22.50	10.20	30	45.00	20.41	810	1215.00	551.02
1½ x 1¼ x ½	40 x 32 x 15	10	10.50	4.76	40	42.00	19.05	1080	1134.00	514.29
1½ x 1¼ x ¾	40 x 32 x 20	8	8.64	3.92	32	34.56	15.67	864	933.12	423.18
1½ x 1¼ x 1	40 x 32 x 25	8	10.08	4.57	32	40.32	18.29	864	1088.64	493.71
1½ x 1¼ x 1¼	40 x 32 x 32	12	18.24	8.27	24	36.48	16.54	648	984.96	446.69
1½ x 1¼ x 1½	40 x 32 x 40	12	18.00	8.16	24	36.00	16.33	648	972.00	440.82
1½ x 1½ x ½	40 x 40 x 15	8	9.52	4.32	32	38.08	17.27	864	1028.16	466.29
1½ x 1½ x ¾ B	40 x 40 x 20	6	9.60	4.35	24	38.40	17.41	648	1036.80	470.20
1½ x 1½ x 1	40 x 40 x 25	6	8.70	3.95	24	34.80	15.78	648	939.60	426.12
1½ x 1½ x 1¼	40 x 40 x 32	6	8.70	3.95	24	34.80	15.78	648	939.60	426.12
1½ x 1½ x 2	40 x 40 x 50	12	22.32	10.12	24	44.64	20.24	648	1205.28	546.61
2 x ½ x 2	50 x 15 x 50	10	21.50	9.75	20	43.00	19.50	540	1161.00	526.53
2 x ¾ x 2	50 x 20 x 50	10	20.00	9.07	20	40.00	18.14	540	1080.00	489.80
2 x 1 x 2	50 x 25 x 50	10	21.40	9.71	20	42.80	19.41	540	1155.60	524.08
2 x 1¼ x 1¼	50 x 32 x 32	10	17.20	7.80	20	34.40	15.60	540	928.80	421.22
2 x 1¼ x 1½	50 x 32 x 40	10	18.50	8.39	20	37.00	16.78	540	999.00	453.06
2 x 1¼ x 2	50 x 32 x 50	10	22.00	9.98	20	44.00	19.95	540	1188.00	538.78
2 x 1½ x 1	50 x 40 x 25	12	18.84	8.54	24	37.68	17.09	648	1017.36	461.39
2 x 1½ x 1¼	50 x 40 x 32	10	17.60	7.98	20	35.20	15.96	540	950.40	431.02
2 x 1½ x 1½	50 x 40 x 40	10	19.50	8.84	20	39.00	17.69	540	1053.00	477.55
2 x 1½ x 2	50 x 40 x 50	8	17.92	8.13	16	35.84	16.25	432	967.68	438.86
2 x 2 x ½	50 x 50 x 15	15	24.75	11.22	30	49.50	22.45	810	1336.50	606.12
2 x 2 x ¾ B	50 x 50 x 20	12	22.44	10.18	24	44.88	20.35	648	1211.76	549.55
2 x 2 x 1 B	50 x 50 x 25	12	21.12	9.58	24	42.24	19.16	648	1140.48	517.22
2 x 2 x 1¼	50 x 50 x 32	10	23.50	10.66	20	47.00	21.32	540	1269.00	575.51
2 x 2 x 1½	50 x 50 x 40	10	25.50	11.56	20	51.00	23.13	540	1377.00	624.49
2 x 2 x 2½	50 x 50 x 65	6	21.00	9.52	12	42.00	19.05	324	1134.00	514.29
2½ x 1½ x 2	65 x 40 x 50	6	20.58	9.33	12	41.16	18.67	324	1111.32	504.00
2½ x 1½ x 2½	65 x 40 x 65	6	22.80	10.34	12	45.60	20.68	324	1231.20	558.37
2½ x 2 x 2	65 x 50 x 50	6	19.68	8.93	12	39.36	17.85	324	1062.72	481.96
2½ x 2 x 2½	65 x 50 x 65	4	16.40	7.44	8	32.80	14.88	216	885.60	401.63
2½ x 2½ x ¾	65 x 65 x 20	6	16.32	7.40	12	32.64	14.80	324	881.28	399.67
2½ x 2½ x 1	65 x 65 x 25	6	17.10	7.76	12	34.20	15.51	324	923.40	418.78
2½ x 2½ x 1¼	65 x 65 x 32	6	20.16	9.14	12	40.32	18.29	324	1088.64	493.71
2½ x 2½ x 1½	65 x 65 x 40	6	20.76	9.41	12	41.52	18.83	324	1121.04	508.41
2½ x 2½ x 2	65 x 65 x 50	6	21.90	9.93	12	43.80	19.86	324	1182.60	536.33
2½ x 2½ x 3	65 x 65 x 80	4	23.28	10.56	8	46.56	21.12	216	1257.12	570.12
3 x 2 x 2	80 x 50 x 50	4	18.00	8.16	8	36.00	16.33	216	972.00	440.82
3 x 2 x 3	80 x 50 x 80	4	23.20	10.52	8	46.40	21.04	216	1252.80	568.16
3 x 2½ x 2	80 x 65 x 50	4	19.20	8.71	8	38.40	17.41	216	1036.80	470.20
3 x 2½ x 2½	80 x 65 x 65	4	23.20	10.52	8	46.40	21.04	216	1252.80	568.16
3 x 3 x ¾	80 x 80 x 20	4	16.12	7.31	8	32.24	14.62	216	870.48	394.78
3 x 3 x 1	80 x 80 x 25	4	16.52	7.49	8	33.04	14.98	216	892.08	404.57
3 x 3 x 1¼	80 x 80 x 32	4	18.00	8.16	8	36.00	16.33	216	972.00	440.82
3 x 3 x 1½	80 x 80 x 40	4	20.72	9.40	8	41.44	18.79	216	1118.88	507.43
3 x 3 x 2	80 x 80 x 50	4	22.80	10.34	8	45.60	20.68	216	1231.20	558.37
3 x 3 x 2½	80 x 80 x 65	4	24.36	11.05	8	48.72	22.10	216	1315.44	596.57
4 x 3 x 4	100 x 80 x 100	4	41.60	18.87	4	41.60	18.87	108	1123.20	509.39
4 x 4 x 1½	100 x 100 x 40	4	29.88	13.55	4	29.88	13.55	108	806.76	365.88
4 x 4 x 2	100 x 100 x 50	4	33.56	15.22	4	33.56	15.22	108	906.12	410.94
4 x 4 x 2½	100 x 100 x 65	4	38.40	17.41	4	38.40	17.41	108	1036.80	470.20

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 150 (Standard)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 1106: STREET OR SERVICE TEE (PAGE 24)										
¼	8	25	3.75	1.70	50	7.50	3.40	8850	1327.50	602.04
⅜	10	12	2.88	1.31	24	5.76	2.61	4248	1019.52	462.37
½	15	15	5.10	2.31	120	40.80	18.50	3240	1101.60	499.59
¾	20	15	9.15	4.15	60	36.60	16.60	1620	988.20	448.16
1	25	10	9.60	4.35	40	38.40	17.41	1080	1036.80	470.20
1¼	32	6	8.34	3.78	24	33.36	15.13	648	900.72	408.49
1½	40	12	23.16	10.50	24	46.32	21.01	648	1250.64	567.18
2	50	8	25.28	11.46	16	50.56	22.93	432	1365.12	619.10
FIGURE 1106: STREET OR SERVICE TEE, REDUCING (PAGE 24)										
1¼ x 1 x 1¼	32 x 25 x 32	8	10.72	4.86	32	42.88	19.45	864	1157.76	525.06
FIGURE 1107: CROSS (PAGE 24)										
⅛	6	25	3.00	1.36	50	6.00	2.72	8850	1062.00	481.63
¼	8	15	2.70	1.22	30	5.40	2.45	5310	955.80	433.47
⅜	10	20	5.60	2.54	160	44.80	20.32	4320	1209.60	548.57
½	15	30	12.60	5.71	120	50.40	22.86	3240	1360.80	617.14
¾	20	15	10.35	4.69	60	41.40	18.78	1620	1117.80	506.94
1	25	10	11.20	5.08	40	44.80	20.32	1080	1209.60	548.57
1¼	32	15	21.60	9.80	30	43.20	19.59	810	1166.40	528.98
1½	40	10	19.80	8.98	20	39.60	17.96	540	1069.20	484.90
2	50	8	26.40	11.97	16	52.80	23.95	432	1425.60	646.53
2½	65	4	23.60	10.70	8	47.20	21.41	216	1274.40	577.96
3	80	4	31.76	14.40	4	31.76	14.40	108	857.52	388.90
FIGURE 1108: 45° Y-BRANCH OR LATERAL (PAGE 24)										
⅜	10	12	3.24	1.47	24	6.48	2.94	4248	1146.96	520.16
½	15	35	12.95	5.87	140	51.80	23.49	3780	1398.60	634.29
¾	20	20	12.40	5.62	80	49.60	22.49	2160	1339.20	607.35
1	25	10	8.60	3.90	40	34.40	15.60	1080	928.80	421.22
1¼	32	6	9.78	4.44	24	39.12	17.74	648	1056.24	479.02
1½	40	10	20.00	9.07	20	40.00	18.14	540	1080.00	489.80
2	50	6	18.30	8.30	12	36.60	16.60	324	988.20	448.16
2½	65	4	23.44	10.63	4	23.44	10.63	108	632.88	287.02
FIGURE 1119: RETURN BENDS OPEN PATTERN, R.H. (PAGE 25)										
½	15	20	7.20	3.27	160	57.60	26.12	4320	1555.20	705.31
¾	20	20	12.80	5.80	80	51.20	23.22	2160	1382.40	626.94
1	25	10	11.00	4.99	40	44.00	19.95	1080	1188.00	538.78
1¼	32	12	21.24	9.63	24	42.48	19.27	648	1146.96	520.16
1½	40	10	25.50	11.56	20	51.00	23.13	540	1377.00	624.49
2	50	6	24.00	10.88	12	48.00	21.77	324	1296.00	587.76
FIGURE 1121: COUPLING RIGHT HAND (PAGE 25)										
⅛	6	40	2.40	1.09	160	9.60	4.35	28320	1699.20	770.61
¼ B	8	35	3.15	1.43	105	9.45	4.29	18585	1672.65	758.57
⅜	10	30	3.90	1.77	60	7.80	3.54	10620	1380.60	626.12
½ B G	15	20	4.00	1.81	40	8.00	3.63	7080	1416.00	642.18
¾ B G	20	60	18.00	8.16	240	72.00	32.65	6480	1944.00	881.63
1 B G	25	25	12.00	5.44	100	48.00	21.77	2700	1296.00	587.76
1¼ B	32	15	11.25	5.10	60	45.00	20.41	1620	1215.00	551.02
1½ B	40	10	10.00	4.54	40	40.00	18.14	1080	1080.00	489.80
2 B	50	5	7.25	3.29	20	29.00	13.15	540	783.00	355.10
2½	65	12	28.80	13.06	24	57.60	26.12	648	1555.20	705.31
3	80	4	13.20	5.99	8	26.40	11.97	216	712.80	323.27
4	100	4	22.88	10.38	8	45.76	20.75	216	1235.52	560.33

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 150 (Standard)

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 1124: CAP (PAGE 25)											
½	B G	15	75	9.00	4.08	300	36.00	16.33	8100	972.00	440.82
¾	B G	20	60	13.20	5.99	240	52.80	23.95	6480	1425.60	646.53
1	B G	25	35	13.30	6.03	140	53.20	24.13	3780	1436.40	651.43
1¼	B	32	25	14.50	6.58	100	58.00	26.30	2700	1566.00	710.20
1½	B	40	20	14.60	6.62	80	58.40	26.49	2160	1576.80	715.10
2	B	50	12	13.56	6.15	48	54.24	24.60	1296	1464.48	664.16
2½		65	15	26.25	11.90	30	52.50	23.81	810	1417.50	642.86
3		80	12	31.44	14.26	24	62.88	28.52	648	1697.76	769.96
3½		90	8	25.52	11.57	16	51.04	23.15	432	1378.08	624.98
4		100	4	18.16	8.24	8	36.32	16.47	216	980.64	444.73
5		125	4	25.80	11.70	8	51.60	23.40	216	1393.20	631.84
FIGURE 1125: REDUCER (PAGE 26)											
¼ x ⅛	B	8 x 6	25	1.75	0.79	100	7.00	3.17	17700	1239.00	561.90
⅜ x ⅛		10 x 6	30	3.30	1.50	90	9.90	4.49	15930	1752.30	794.69
⅜ x ¼	B	10 x 8	25	2.75	1.25	75	8.25	3.74	13275	1460.25	662.24
½ x ⅛		15 x 6	20	2.80	1.27	40	5.60	2.54	7080	991.20	449.52
½ x ¼	B	15 x 8	25	3.75	1.70	50	7.50	3.40	8850	1327.50	602.04
½ x ⅜	B	15 x 10	25	4.25	1.93	50	8.50	3.85	8850	1504.50	682.31
¾ x ⅛		20 x 6	20	4.80	2.18	160	38.40	17.41	4320	1036.80	470.20
¾ x ¼		20 x 8	12	2.64	1.20	24	5.28	2.39	4248	934.56	423.84
¾ x ⅜		20 x 10	50	12.50	5.67	200	50.00	22.68	5400	1350.00	612.24
¾ x ½	B G	20 x 15	60	16.20	7.35	240	64.80	29.39	6480	1749.60	793.47
1 x ¼		25 x 8	20	7.00	3.17	160	56.00	25.40	4320	1512.00	685.71
1 x ⅜		25 x 10	20	7.00	3.17	160	56.00	25.40	4320	1512.00	685.71
1 x ½	B G	25 x 15	45	17.55	7.96	180	70.20	31.84	4860	1895.40	859.59
1 x ¾	B G	25 x 20	35	15.05	6.83	140	60.20	27.30	3780	1625.40	737.14
1¼ x ½		32 x 15	15	9.15	4.15	60	36.60	16.60	1620	988.20	448.16
1¼ x ¾	B	32 x 20	20	12.80	5.80	80	51.20	23.22	2160	1382.40	626.94
1¼ x 1	B	32 x 25	20	13.60	6.17	80	54.40	24.67	2160	1468.80	666.12
1½ x ½		40 x 15	15	11.70	5.31	60	46.80	21.22	1620	1263.60	573.06
1½ x ¾		40 x 20	15	13.20	5.99	60	52.80	23.95	1620	1425.60	646.53
1½ x 1	B	40 x 25	15	13.20	5.99	60	52.80	23.95	1620	1425.60	646.53
1½ x 1¼	B	40 x 32	10	9.00	4.08	40	36.00	16.33	1080	972.00	440.82
2 x ½		50 x 15	10	13.00	5.90	40	52.00	23.58	1080	1404.00	636.73
2 x ¾		50 x 20	5	6.70	3.04	20	26.80	12.15	540	723.60	328.16
2 x 1	B	50 x 25	5	7.00	3.17	20	28.00	12.70	540	756.00	342.86
2 x 1¼		50 x 32	5	7.65	3.47	20	30.60	13.88	540	826.20	374.69
2 x 1½	B	50 x 40	5	7.75	3.51	20	31.00	14.06	540	837.00	379.59
2½ x 1		65 x 25	10	21.20	9.61	20	42.40	19.23	540	1144.80	519.18
2½ x 1¼		65 x 32	10	20.90	9.48	20	41.80	18.96	540	1128.60	511.84
2½ x 1½		65 x 40	7	14.63	6.63	14	29.26	13.27	378	790.02	358.29
2½ x 2		65 x 50	8	20.08	9.11	16	40.16	18.21	432	1084.32	491.76
3 x 1		80 x 25	5	15.80	7.17	10	31.60	14.33	270	853.20	386.94
3 x 1¼		80 x 32	4	11.96	5.42	8	23.92	10.85	216	645.84	292.90
3 x 1½		80 x 40	4	13.20	5.99	8	26.40	11.97	216	712.80	323.27
3 x 2		80 x 50	5	16.25	7.37	10	32.50	14.74	270	877.50	397.96
3 x 2½		80 x 65	5	16.55	7.51	10	33.10	15.01	270	893.70	405.31
3½ x 2		90 x 50	4	17.28	7.84	8	34.56	15.67	216	933.12	423.18
3½ x 2½		90 x 65	4	18.88	8.56	8	37.76	17.12	–	–	–
3½ x 3		90 x 80	4	19.96	9.05	8	39.92	18.10	216	1077.84	488.82
4 x 1½		100 x 40	4	19.60	8.89	4	19.60	8.89	108	529.20	240.00
4 x 2		100 x 50	4	20.40	9.25	4	20.40	9.25	108	550.80	249.80
4 x 2½		100 x 65	4	23.72	10.76	4	23.72	10.76	108	640.44	290.45
4 x 3		100 x 80	4	26.20	11.88	4	26.20	11.88	108	707.40	320.82
4 x 3½		100 x 90	4	25.20	11.43	4	25.20	11.43	108	680.40	308.57

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 150 (Standard)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1134: HEX LOCKNUT (PAGE 27)										
⅛	6	50	2.00	0.91	200	8.00	3.63	35400	1416.00	642.18
¼	8	50	1.00	0.45	200	4.00	1.81	35400	708.00	321.09
⅜	10	50	2.00	0.91	200	8.00	3.63	35400	1416.00	642.18
½	15	50	3.00	1.36	150	9.00	4.08	26550	1593.00	722.45
¾	20	50	4.00	1.81	100	8.00	3.63	17700	1416.00	642.18
1	25	25	3.50	1.59	50	7.00	3.17	8850	1239.00	561.90
1¼	32	25	5.25	2.38	200	42.00	19.05	5400	1134.00	514.29
1½	40	15	3.60	1.63	120	28.80	13.06	3240	777.60	352.65
2	50	25	1–	4.54	100	4–	18.14	2700	108–	489.80
FIGURE 1190: FLOOR FLANGE – DUCTILE IRON (PAGE 27)										
¼	8	–	–	–	200	78.00	35.37	–	–	–
⅜	10	–	–	–	200	86.00	39.00	–	–	–
½	15	30	16.80	7.62	120	67.20	30.48	3240	1814.40	822.86
¾	20	20	12.00	5.44	80	48.00	21.77	2160	1296.00	587.76
1	25	15	12.60	5.71	60	50.40	22.86	1620	1360.80	617.14
1¼	32	25	22.50	10.20	50	45.00	20.41	1350	1215.00	551.02
1½	40	10	12.00	5.44	40	48.00	21.77	1080	1296.00	587.76
2	50	15	30.45	13.81	30	60.90	27.62	810	1644.30	745.71
FIGURE 1133: WASTE NUT (PAGE 27)										
½	15	50	6.00	2.72	100	12.00	5.44	17700	2124.00	963.27
¾	20	25	3.75	1.70	50	7.50	3.40	8850	1327.50	602.04
FIGURE 1138: EXTENSION PIECE (PAGE 27)										
½	15	20	3.80	1.72	40	7.60	3.45	7080	1345.20	610.07
¾	20	60	21.00	9.52	240	84.00	38.10	6480	2268.00	1028.57
1	25	30	14.40	6.53	120	57.60	26.12	3240	1555.20	705.31

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 300 (XS / XH)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 1161: 90° ELBOW (PAGE 28)										
¼	8	20	4.00	1.81	40	8.00	3.63	7080	1416.00	642.18
⅜	10	15	4.35	1.97	30	8.70	3.95	5310	1539.90	698.37
½ B	15	40	18.80	8.53	160	75.20	34.10	4320	2030.40	920.82
¾ B	20	20	13.20	5.99	80	52.80	23.95	2160	1425.60	646.53
1 B	25	15	17.25	7.82	60	69.00	31.29	1620	1863.00	844.90
1¼	32	13	24.44	11.08	26	48.88	22.17	702	1319.76	598.53
1½ B	40	10	24.70	11.20	20	49.40	22.40	540	1333.80	604.90
2 B	50	6	23.10	10.48	12	46.20	20.95	324	1247.40	565.71
2½	65	3	17.40	7.89	6	34.80	15.78	162	939.60	426.12
3	80	2	19.90	9.02	4	39.80	18.05	108	1074.60	487.35
FIGURE 1161R: 90° ELBOW, REDUCING (PAGE 28)										
⅜ x ¼	10 x 8	25	6.50	2.95	50	13.00	5.90	1350	351.00	159.18
½ x ⅜	15 x 10	25	10.25	4.65	50	20.50	9.30	1350	553.50	251.02
¾ x ½	20 x 15	20	12.40	5.62	40	24.80	11.25	1080	669.60	303.67
1 x ½	25 x 15	20	17.40	7.89	40	34.80	15.78	1080	939.60	426.12
1 x ¾	25 x 20	20	20.00	9.07	40	40.00	18.14	1080	1080.00	489.80
1¼ x ¾	32 x 20	15	21.15	9.59	30	42.30	19.18	810	1142.10	517.96
1¼ x 1	32 x 25	15	24.00	10.88	30	48.00	21.77	810	1296.00	587.76
1½ x 1	40 x 25	10	18.90	8.57	20	37.80	17.14	540	1020.60	462.86
1½ x 1¼	40 x 32	10	21.50	9.75	20	43.00	19.50	540	1161.00	526.53
2 x 1¼	50 x 32	5	15.60	7.07	10	31.20	14.15	270	842.40	382.04
2 x 1½	50 x 40	5	16.50	7.48	10	33.00	14.97	270	891.00	404.08
FIGURE 1160: 45° STREET ELBOW (PAGE 28)										
½	15	12	4.32	1.96	24	8.64	3.92	4248	1529.28	693.55
¾	20	30	16.20	7.35	120	64.80	29.39	3240	1749.60	793.47
1	25	15	12.75	5.78	60	51.00	23.13	1620	1377.00	624.49
1¼	32	10	15.00	6.80	40	60.00	27.21	1080	1620.00	734.69
1½	40	6	12.36	5.61	24	49.44	22.42	648	1334.88	605.39
2	50	8	26.72	12.12	16	53.44	24.24	432	1442.88	654.37
FIGURE 1162: 45° ELBOW (PAGE 29)										
¼	8	25	4.75	2.15	50	9.50	4.31	8850	1681.50	762.59
⅜	10	15	4.20	1.90	30	8.40	3.81	5310	1486.80	674.29
½	15	10	4.30	1.95	20	8.60	3.90	3540	1522.20	690.34
¾	20	12	7.92	3.59	96	63.36	28.73	2592	1710.72	775.84
1	25	15	15.00	6.80	60	60.00	27.21	1620	1620.00	734.69
1¼	32	15	25.05	11.36	30	50.10	22.72	810	1352.70	613.47
1½	40	11	23.65	10.73	22	47.30	21.45	594	1277.10	579.18
2	50	6	20.40	9.25	12	40.80	18.50	324	1101.60	499.59
2½	65	4	22.04	10.00	8	44.08	19.99	216	1190.16	539.76
3	80	3	24.30	11.02	6	48.60	22.04	162	1312.20	595.10
4	100	3	40.23	18.24	3	40.23	18.24	81	1086.21	492.61
FIGURE 1170: 90° STREET ELBOW (PAGE 29)										
¼	8	30	5.10	2.31	60	10.20	4.63	10620	1805.40	818.78
⅜	10	15	3.90	1.77	30	7.80	3.54	5310	1380.60	626.12
½	15	20	8.00	3.63	160	64.00	29.02	4320	1728.00	783.67
¾	20	25	17.00	7.71	100	68.00	30.84	2700	1836.00	832.65
1	25	15	15.60	7.07	60	62.40	28.30	1620	1684.80	764.08
1¼	32	15	24.00	10.88	30	48.00	21.77	810	1296.00	587.76
1½	40	10	22.00	9.98	20	44.00	19.95	540	1188.00	538.78
2	50	4	14.36	6.51	8	28.72	13.02	216	775.44	351.67
3	80	2	19.10	8.66	4	38.20	17.32	108	1031.40	467.76

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 300 (XS / XH)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1164: STRAIGHT TEE (PAGE 29)										
¼	8	15	4.05	1.84	30	8.10	3.67	5310	1433.70	650.20
⅜	10	10	4.20	1.90	20	8.40	3.81	3540	1486.80	674.29
½	15	25	16.25	7.37	100	65.00	29.48	2700	1755.00	795.92
¾	20	15	16.05	7.28	60	64.20	29.12	1620	1733.40	786.12
1	25	10	16.20	7.35	40	64.80	29.39	1080	1749.60	793.47
1¼	32	10	24.90	11.29	20	49.80	22.59	540	1344.60	609.80
1½	40	7	23.80	10.79	14	47.60	21.59	378	1285.20	582.86
2	50	5	26.00	11.79	10	52.00	23.58	270	1404.00	636.73
2½	65	4	31.48	14.28	4	31.48	14.28	108	849.96	385.47
3	80	4	49.84	22.60	4	49.84	22.60	108	1345.68	610.29
FIGURE 1164R: REDUCING TEE (PAGE 30)										
⅜ x ⅜ x ¼	10 x 10 x 8	30	11.10	5.03	120	44.40	20.14	3240	1198.80	543.67
½ x ½ x ¼	15 x 15 x 8	52	24.96	11.32	104	49.92	22.64	2808	1347.84	611.27
½ x ½ x ¾	15 x 15 x 20	13	10.40	4.72	52	41.60	18.87	1404	1123.20	509.39
¾ x ½ x ¾	20 x 15 x 20	13	12.09	5.48	52	48.36	21.93	1404	1305.72	592.16
¾ x ¾ x ¼	20 x 20 x 8	15	11.40	5.17	60	45.60	20.68	1620	1231.20	558.37
¾ x ¾ x ⅜	20 x 20 x 10	13	10.40	4.72	52	41.60	18.87	1404	1123.20	509.39
¾ x ¾ x ½	20 x 20 x 15	13	11.70	5.31	52	46.80	21.22	1404	1263.60	573.06
1 x ½ x 1	25 x 15 x 25	18	24.48	11.10	36	48.96	22.20	972	1321.92	599.51
1 x ¾ x ¾	25 x 20 x 20	10	12.70	5.76	40	50.80	23.04	1080	1371.60	622.04
1 x ¾ x 1	25 x 20 x 25	9	12.42	5.63	36	49.68	22.53	972	1341.36	608.33
1 x 1 x ¼	25 x 25 x 8	9	9.81	4.45	36	39.24	17.80	972	1059.48	480.49
1 x 1 x ½	25 x 25 x 15	10	12.60	5.71	40	50.40	22.86	1080	1360.80	617.14
1 x 1 x ¾	25 x 25 x 20	10	13.30	6.03	40	53.20	24.13	1080	1436.40	651.43
1¼ x 1 x 1	32 x 25 x 25	14	26.88	12.19	28	53.76	24.38	756	1451.52	658.29
1¼ x 1¼ x ½	32 x 32 x 15	15	25.50	11.56	30	51.00	23.13	810	1377.00	624.49
1¼ x 1¼ x ¾	32 x 32 x 20	12	22.80	10.34	24	45.60	20.68	648	1231.20	558.37
1¼ x 1¼ x 1	32 x 32 x 25	6	12.60	5.71	24	50.40	22.86	648	1360.80	617.14
1½ x 1½ x ½	40 x 40 x 15	10	22.70	10.29	20	45.40	20.59	540	1225.80	555.92
1½ x 1½ x ¾	40 x 40 x 20	10	24.60	11.16	20	49.20	22.31	540	1328.40	602.45
1½ x 1½ x 1	40 x 40 x 25	9	23.40	10.61	18	46.80	21.22	486	1263.60	573.06
1½ x 1½ x 1¼	40 x 40 x 32	9	27.45	12.45	18	54.90	24.90	486	1482.30	672.24
2 x 1½ x 2	50 x 40 x 50	5	22.50	10.20	10	45.00	20.41	270	1215.00	551.02
2 x 2 x ½	50 x 50 x 15	5	16.75	7.60	10	33.50	15.19	270	904.50	410.20
2 x 2 x ¾	50 x 50 x 20	8	28.48	12.92	16	56.96	25.83	432	1537.92	697.47
2 x 2 x 1	50 x 50 x 25	6	22.20	10.07	12	44.40	20.14	324	1198.80	543.67
2 x 2 x 1¼	50 x 50 x 32	6	25.32	11.48	12	50.64	22.97	324	1367.28	620.08
2 x 2 x 1½	50 x 50 x 40	5	23.00	10.43	10	46.00	20.86	270	1242.00	563.27
2½ x 2½ x 1½	65 x 65 x 40	4	25.40	11.52	8	50.80	23.04	216	1371.60	622.04
3 x 3 x 2	80 x 80 x 50	4	38.40	17.41	4	38.40	17.41	108	1036.80	470.20
FIGURE 1165: CROSS (PAGE 30)										
¼	8	60	21.00	9.52	120	42.00	19.05	–	–	–
¾	20	25	31.25	14.17	50	62.50	28.34	1350	1687.50	765.31
1	25	13	24.70	11.20	26	49.40	22.40	702	1333.80	604.90
1¼	32	8	25.84	11.72	16	51.68	23.44	432	1395.36	632.82
1½	40	6	25.20	11.43	12	50.40	22.86	324	1360.80	617.14
2	50	3	19.47	8.83	6	38.94	17.66	162	1051.38	476.82

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron

Class 300 (XS / XH)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1166: COUPLING (PAGE 31)										
¼	8	30	5.10	2.31	60	10.20	4.63	10620	1805.40	818.78
⅜	10	10	2.60	1.18	20	5.20	2.36	3540	920.40	417.41
½	15	10	4.00	1.81	20	8.00	3.63	3540	1416.00	642.18
¾	20	12	7.80	3.54	96	62.40	28.30	2592	1684.80	764.08
1	25	8	7.92	3.59	64	63.36	28.73	1728	1710.72	775.84
1¼	32	15	24.90	11.29	30	49.80	22.59	810	1344.60	609.80
1½	40	12	24.36	11.05	24	48.72	22.10	648	1315.44	596.57
2	50	8	25.92	11.76	16	51.84	23.51	432	1399.68	634.78
2½	65	5	27.25	12.36	10	54.50	24.72	270	1471.50	667.35
3	80	3	21.90	9.93	6	43.80	19.86	162	1182.60	536.33
FIGURE 1167: REDUCER (PAGE 31)										
⅜ x ¼	10 x 8	24	5.04	2.29	48	10.08	4.57	8496	1784.16	809.14
½ x ¼	15 x 8	12	3.72	1.69	24	7.44	3.37	4248	1316.88	597.22
½ x ⅜	15 x 10	12	4.08	1.85	24	8.16	3.70	4248	1444.32	655.02
¾ x ¼	20 x 8	45	20.70	9.39	90	41.40	18.78	2430	1117.80	506.94
¾ x ⅜	20 x 10	45	21.15	9.59	90	42.30	19.18	2430	1142.10	517.96
¾ x ½	20 x 15	45	22.50	10.20	90	45.00	20.41	2430	1215.00	551.02
1 x ¼	25 x 8	15	9.90	4.49	60	39.60	17.96	1620	1069.20	484.90
1 x ⅜	25 x 10	20	14.20	6.44	80	56.80	25.76	2160	1533.60	695.51
1 x ½	25 x 15	20	14.20	6.44	80	56.80	25.76	2160	1533.60	695.51
1 x ¾	25 x 20	30	23.10	10.48	60	46.20	20.95	1620	1247.40	565.71
1¼ x ½	32 x 15	22	24.64	11.17	44	49.28	22.35	1188	1330.56	603.43
1¼ x ¾	32 x 20	12	13.92	6.31	48	55.68	25.25	1296	1503.36	681.80
1¼ x 1	32 x 25	12	15.24	6.91	48	60.96	27.65	1296	1645.92	746.45
1½ x ½	40 x 15	16	24.16	10.96	32	48.32	21.91	864	1304.64	591.67
1½ x ¾	40 x 20	10	15.70	7.12	40	62.80	28.48	1080	1695.60	768.98
1½ x 1	40 x 25	8	12.96	5.88	32	51.84	23.51	864	1399.68	634.78
1½ x 1¼	40 x 32	8	14.24	6.46	32	56.96	25.83	864	1537.92	697.47
2 x ½	50 x 15	12	28.68	13.01	24	57.36	26.01	648	1548.72	702.37
2 x ¾	50 x 20	10	24.40	11.07	20	48.80	22.13	540	1317.60	597.55
2 x 1	50 x 25	9	22.86	10.37	18	45.72	20.73	486	1234.44	559.84
2 x 1¼	50 x 32	6	15.96	7.24	12	31.92	14.48	324	861.84	390.86
2 x 1½	50 x 40	10	27.20	12.34	20	54.40	24.67	540	1468.80	666.12
2½ x 1½	65 x 40	4	16.36	7.42	8	32.72	14.84	216	883.44	400.65
2½ x 2	65 x 50	5	21.60	9.80	10	43.20	19.59	270	1166.40	528.98
3 x 1½	80 x 40	4	23.16	10.50	8	46.32	21.01	216	1250.64	567.18
3 x 2	80 x 50	4	23.32	10.58	8	46.64	21.15	216	1259.28	571.10
3 x 2½	80 x 65	4	25.80	11.70	8	51.60	23.40	216	1393.20	631.84
4 x 2	100 x 50	4	38.00	17.23	4	38.00	17.23	108	1026.00	465.31
4 x 3	100 x 80	4	40.00	18.14	4	40.00	18.14	108	1080.00	489.80
FIGURE 1163: CAP (PAGE 32)										
¼	8	40	4.00	1.81	120	12.00	5.44	21240	2124.00	963.27
⅜	10	25	3.75	1.70	75	11.25	5.10	13275	1991.25	903.06
½	15	15	3.45	1.56	30	6.90	3.13	5310	1221.30	553.88
¾	20	12	4.20	1.90	24	8.40	3.81	4248	1486.80	674.29
1	25	15	8.70	3.95	120	69.60	31.56	3240	1879.20	852.24
1¼	32	10	10.00	4.54	80	80.00	36.28	2160	2160.00	979.59
1½	40	5	5.90	2.68	40	47.20	21.41	1080	1274.40	577.96
2	50	8	15.52	7.04	32	62.08	28.15	864	1676.16	760.16
2½	65	10	33.20	15.06	20	66.40	30.11	540	1792.80	813.06
3	80	8	37.68	17.09	16	75.36	34.18	432	2034.72	922.78
FIGURE 390: SQUARE COUNTERSUNK PLUGS (PAGE 32)										
½	15	100	5.00	2.27	200	10.00	4.54	35400	1770.00	802.72
¾	20	50	5.50	2.49	100	11.00	4.99	17700	1947.00	882.99

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

All Iron Unions

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE J-3300: ALL IRON UNION CLASS 300 (PAGE 32)										
¼	8	100	27.00	12.24	–	–	–	–	–	–
⅜	10	100	37.00	16.78	–	–	–	–	–	–
½	15	60	30.60	13.88	–	–	–	–	–	–
¾	20	50	38.00	17.23	–	–	–	–	–	–
1	25	25	30.00	13.61	–	–	–	–	–	–
1¼	32	20	37.40	16.96	–	–	–	–	–	–
1½	40	15	37.65	17.07	–	–	–	–	–	–
2	50	10	43.00	19.50	–	–	–	–	–	–
2½	65	8	48.16	21.84	–	–	–	–	–	–
3	80	4	31.84	14.44	–	–	–	–	–	–

Malleable Iron Unions

Class 150; 250; 300

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 463: CLASS 150 UNION (PAGE 33)											
⅛		6	25	3.75	1.70	75	11.25	5.10	13275	1991.25	903.06
¼		8	40	18.00	8.16	160	72.00	32.65	4320	1944.00	881.63
⅜	B	10	40	16.80	7.62	160	67.20	30.48	4320	1814.40	822.86
½	B G	15	40	17.60	7.98	160	70.40	31.93	4320	1900.80	862.04
¾	B G	20	30	18.00	8.16	120	72.00	32.65	3240	1944.00	881.63
¾ x ½		20 x 15	30	16.50	7.48	120	66.00	29.93	3240	1782.00	808.16
1	B G	25	15	13.65	6.19	60	54.60	24.76	1620	1474.20	668.57
1¼	B	32	8	11.60	5.26	32	46.40	21.04	864	1252.80	568.16
1½	B G	40	15	25.35	11.50	30	50.70	22.99	810	1368.90	620.82
2	B G	50	12	29.52	13.39	24	59.04	26.78	648	1594.08	722.94
FIGURE 554: CLASS 250 UNION (PAGE 33)											
⅛		6	25	3.50	1.59	75	10.50	4.76	13275	1858.50	842.86
¼		8	40	18.00	8.16	160	72.00	32.65	4320	1944.00	881.63
⅜		10	25	9.25	4.20	200	74.00	33.56	5400	1998.00	906.12
½		15	30	15.90	7.21	120	63.60	28.84	3240	1717.20	778.78
¾		20	20	16.00	7.26	80	64.00	29.02	2160	1728.00	783.67
1		25	20	25.60	11.61	40	51.20	23.22	1080	1382.40	626.94
1¼		32	15	24.45	11.09	30	48.90	22.18	810	1320.30	598.78
1½		40	15	30.90	14.01	30	61.80	28.03	810	1668.60	756.73
2		50	9	31.32	14.20	9	31.32	14.20	540	1879.20	852.24
FIGURE 459: CLASS 300 UNION (PAGE 33)											
⅛		6	25	3.50	1.59	75	10.50	4.76	13275	1858.50	842.86
¼		8	40	18.00	8.16	160	72.00	32.65	4320	1944.00	881.63
⅜		10	25	10.75	4.88	200	86.00	39.00	5400	2322.00	1053.06
½		15	15	7.95	3.61	120	63.60	28.84	3240	1717.20	778.78
¾	B	20	20	16.00	7.26	80	64.00	29.02	2160	1728.00	783.67
1	B	25	10	12.80	5.80	40	51.20	23.22	1080	1382.40	626.94
1¼		32	20	32.60	14.78	40	65.20	29.57	1080	1760.40	798.37
1½		40	12	25.56	11.59	24	51.12	23.18	648	1380.24	625.96
2		50	9	31.14	14.12	18	62.28	28.24	486	1681.56	762.61

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Malleable Iron Unions

Class 150; 250; 300

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 832: DART UNION BRONZE TO BRONZE SEAT UNION (PAGE 34)										
⅜	10	20	8.20	3.72	160	65.60	29.75	4320	1771.20	803.27
½	15	15	8.70	3.95	120	69.60	31.56	3240	1879.20	852.24
¾	20	30	24.60	11.16	60	49.20	22.31	1620	1328.40	602.45
1	25	10	13.10	5.94	40	52.40	23.76	1080	1414.80	641.63
1¼	32	12	22.80	10.34	24	45.60	20.68	648	1231.20	558.37
1½	40	12	27.84	12.63	24	55.68	25.25	648	1503.36	681.80
2	50	7	28.00	12.70	14	56.00	25.40	378	1512.00	685.71

Malleable Hex and Face Bushing

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 383: HEX BUSHING (PAGE 35)										
¾ x ⅛	10 x 6	40	4.80	2.18	80	9.60	4.35	14160	1699.20	770.61
¾ x ¼	10 x 8	25	3.50	1.59	75	10.50	4.76	13275	1858.50	842.86
¾ x ⅜	10 x 10	25	2.75	1.25	75	8.25	3.74	13275	1460.25	662.24
¾ x ½ B	10 x 15	25	2.25	1.02	75	6.75	3.06	13275	1194.75	541.84
1 x ⅛	25 x 6	25	6.00	2.72	50	12.00	5.44	8850	2124.00	963.27
1 x ¼ B	25 x 8	25	4.50	2.04	50	9.00	4.08	8850	1593.00	722.45
1 x ⅜	25 x 10	25	4.50	2.04	50	9.00	4.08	8850	1593.00	722.45
1 x ½ B	25 x 15	50	10.00	4.54	200	40.00	18.14	5400	1080.00	489.80
1 x ¾ B G	25 x 20	50	8.00	3.63	200	32.00	14.51	5400	864.00	391.84
1¼ x ¼	32 x 8	20	6.60	2.99	160	52.80	23.95	4320	1425.60	646.53
1¼ x ⅜	32 x 10	25	6.75	3.06	200	54.00	24.49	5400	1458.00	661.22
1¼ x ½	32 x 15	35	11.90	5.40	140	47.60	21.59	3780	1285.20	582.86
1¼ x ¾ B	32 x 20	35	13.65	6.19	140	54.60	24.76	3780	1474.20	668.57
1¼ x 1 B	32 x 25	50	15.00	6.80	200	60.00	27.21	5400	1620.00	734.69
1½ x 1¼ B	40 x 32	30	9.00	4.08	120	36.00	16.33	3240	972.00	440.82
2 x 1½ B	50 x 40	20	12.80	5.80	80	51.20	23.22	2160	1382.40	626.94
2½ x 2	65 x 50	10	10.20	4.63	40	40.80	18.50	1080	1101.60	499.59
FIGURE 385: FACE BUSHING (PAGE 35)										
¾ x ⅜	20 x 10	100	8.00	3.63	800	64.00	29.02	21600	1728.00	783.67
¾ x ½	20 x 15	100	6.00	2.72	800	48.00	21.77	21600	1296.00	587.76
1 x ½	25 x 15	50	8.00	3.63	400	64.00	29.02	10800	1728.00	783.67
1 x ¾	25 x 20	50	5.00	2.27	400	40.00	18.14	10800	1080.00	489.80
1¼ x ½	32 x 15	30	9.00	4.08	240	72.00	32.65	6480	1944.00	881.63
1¼ x ¾	32 x 20	30	8.10	3.67	240	64.80	29.39	6480	1749.60	793.47
1¼ x 1	32 x 25	35	6.65	3.02	280	53.20	24.13	7560	1436.40	651.43
1½ x ½	40 x 15	20	8.00	3.63	160	64.00	29.02	4320	1728.00	783.67
1½ x ¾	40 x 20	20	7.80	3.54	160	62.40	28.30	4320	1684.80	764.08
1½ x 1	40 x 25	25	8.25	3.74	200	66.00	29.93	5400	1782.00	808.16
1½ x 1¼	40 x 32	50	8.00	3.63	200	32.00	14.51	5400	864.00	391.84
2 x 1	50 x 25	25	16.25	7.37	100	65.00	29.48	2700	1755.00	795.92
2 x 1¼	50 x 32	25	13.25	6.01	100	53.00	24.04	2700	1431.00	648.98
2 x 1½	50 x 40	30	12.00	5.44	120	48.00	21.77	3240	1296.00	587.76
2½ x 1¼	65 x 32	15	16.50	7.48	60	66.00	29.93	1620	1782.00	808.16
2½ x 1½	65 x 40	15	13.95	6.33	60	55.80	25.31	1620	1506.60	683.27
2½ x 2	65 x 50	15	6.00	2.72	60	24.00	10.88	1620	648.00	293.88
3 x 2½	80 x 65	20	19.80	8.98	40	39.60	17.96	1080	1069.20	484.90

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Cast Iron Threaded Fittings

Class 125 (Standard)

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 351: 90° ELBOW (PAGE 38)											
¼		8	80	12.80	5.80	160	25.60	11.61	7680	1228.80	557.28
⅜		10	40	10.00	4.54	80	20.00	9.07	3840	960.00	435.37
½		15	150	60.00	27.21	–	–	–	5850	2340.00	1061.22
¾	B	20	100	60.00	27.21	–	–	–	3900	2340.00	1061.22
1	B	25	45	41.40	18.78	–	–	–	1755	1614.60	732.24
1¼	B	32	25	36.00	16.33	–	–	–	975	1404.00	636.73
1½	B	40	15	29.25	13.27	–	–	–	585	1140.75	517.35
2	B	50	20	62.60	28.39	–	–	–	400	1252.00	567.80
2½		65	–	–	–	–	–	–	400	1976.00	896.15
4		100	–	–	–	–	–	–	200	2434.00	1103.85
FIGURE 356: 45° ELBOW (PAGE 39)											
½		15	150	55.50	25.17	–	–	–	5850	2164.50	981.63
¾		20	100	55.00	24.94	–	–	–	3900	2145.00	972.79
1		25	60	49.80	22.59	–	–	–	2340	1942.20	880.82
1¼		32	35	46.55	21.11	35	46.55	21.11	1365	1815.45	823.33
1½		40	25	44.75	20.29	–	–	–	975	1745.25	791.50
2		50	20	57.80	26.21	–	–	–	400	1156.00	524.26
2½		65	10	42.90	19.46	–	–	–	390	1673.10	758.78
FIGURE 352: 90° ELBOW, REDUCING (PAGE 40)											
¾ x ½		20 x 15	120	61.20	27.76	–	–	–	4680	2386.80	1082.45
1 x ½	B	25 x 15	70	46.90	21.27	–	–	–	2730	1829.10	829.52
1 x ¾	B	25 x 20	70	53.20	24.13	–	–	–	2730	2074.80	940.95
1¼ x ½		32 x 15	55	58.85	26.69	–	–	–	2145	2295.15	1040.88
1¼ x ¾		32 x 20	50	51.00	23.13	–	–	–	1950	1989.00	902.04
1¼ x 1	B	32 x 25	40	48.40	21.95	–	–	–	1560	1887.60	856.05
1½ x ½		40 x 15	–	–	–	–	–	–	975	1491.75	676.53
1½ x ¾		40 x 20	–	–	–	–	–	–	975	1511.25	685.37
1½ x 1	B	40 x 25	30	43.20	19.59	–	–	–	1170	1684.80	764.08
1½ x 1¼		40 x 32	25	43.50	19.73	–	–	–	975	1696.50	769.39
2 x ½		50 x 15	15	33.30	15.10	–	–	–	585	1298.70	588.98
2 x ¾		50 x 20	15	33.00	14.97	–	–	–	585	1287.00	583.67
2 x 1		50 x 25	15	31.20	14.15	–	–	–	585	1216.80	551.84
2 x 1¼		50 x 32	25	58.25	26.42	–	–	–	500	1165.00	528.34
2 x 1½		50 x 40	25	64.75	29.37	–	–	–	500	1295.00	587.30
FIGURE 358: TEE (PAGE 41)											
½		15	100	56.00	25.40	–	–	–	3900	2184.00	990.48
¾		20	60	50.40	22.86	–	–	–	2340	1965.60	891.43
1	B	25	30	37.50	17.01	–	–	–	1170	1462.50	663.27
1¼	B	32	20	40.60	18.41	–	–	–	780	1583.40	718.10
1½		40	20	54.00	24.49	–	–	–	400	1080.00	489.80
2	B	50	10	42.30	19.18	–	–	–	200	846.00	383.67

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Cast Iron Threaded Fittings

Class 125 (Standard)

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 359: TEE REDUCING (PAGE 41–45)											
¾ x ¾ x ½		20 x 20 x 15	70	53.20	24.13	–	–	–	2730	2074.80	940.95
1 x ½ x 1	B	25 x 15 x 25	45	48.60	22.04	–	–	–	1755	1895.40	859.59
1 x ¾ x ¾		25 x 20 x 20	50	50.00	22.68	–	–	–	1950	1950.00	884.35
1 x ¾ x 1		25 x 20 x 25	45	50.85	23.06	–	–	–	900	1017.00	461.22
1 x 1 x ½	B	25 x 25 x 15	50	50.50	22.90	–	–	–	1950	1969.50	893.20
1 x 1 x ¾		25 x 25 x 20	45	49.95	22.65	–	–	–	900	999.00	453.06
1 x 1 x 1¼		25 x 25 x 32	20	29.80	13.51	–	–	–	780	1162.20	527.07
1¼ x ½ x 1¼		32 x 15 x 32	25	41.00	18.59	–	–	–	975	1599.00	725.17
1¼ x ¾ x 1¼		32 x 20 x 32	25	43.25	19.61	–	–	–	975	1686.75	764.97
1¼ x 1 x ½	B	32 x 25 x 15	35	44.45	20.16	–	–	–	1365	1733.55	786.19
1¼ x 1 x ¾		32 x 25 x 20	30	40.80	18.50	–	–	–	600	816.00	370.07
1¼ x 1 x 1	B	32 x 25 x 25	20	30.60	13.88	–	–	–	780	1193.40	541.22
1¼ x 1 x 1¼		32 x 25 x 32	20	35.80	16.24	–	–	–	780	1396.20	633.20
1¼ x 1 x 1½		32 x 25 x 40	25	51.75	23.47	–	–	–	500	1035.00	469.39
1¼ x 1¼ x ½	B	32 x 32 x 15	30	44.10	20.00	–	–	–	1170	1719.90	780.00
1¼ x 1¼ x ¾		32 x 32 x 20	25	39.25	17.80	–	–	–	500	785.00	356.01
1¼ x 1¼ x 1	B	32 x 32 x 25	20	34.60	15.69	–	–	–	780	1349.40	611.97
1¼ x 1¼ x 1½		32 x 32 x 40	20	45.80	20.77	–	–	–	780	1786.20	810.07
1½ x ½ x 1½		40 x 15 x 40	20	42.80	19.41	–	–	–	400	856.00	388.21
1½ x 1 x ¾		40 x 25 x 20	25	42.50	19.27	–	–	–	975	1657.50	751.70
1½ x 1 x 1		40 x 25 x 25	20	34.40	15.60	–	–	–	780	1341.60	608.44
1½ x 1 x 1¼		40 x 25 x 32	25	52.00	23.58	–	–	–	500	1040.00	471.66
1½ x 1 x 1½		40 x 25 x 40	25	57.25	25.96	–	–	–	500	1145.00	519.27
1½ x 1¼ x ½	B	40 x 32 x 15	25	41.75	18.93	–	–	–	975	1628.25	738.44
1½ x 1¼ x ¾		40 x 32 x 20	20	35.80	16.24	–	–	–	400	716.00	324.72
1½ x 1¼ x 1	B	40 x 32 x 25	20	39.40	17.87	–	–	–	780	1536.60	696.87
1½ x 1¼ x 1¼		40 x 32 x 32	20	45.60	20.68	–	–	–	400	912.00	413.61
1½ x 1¼ x 1½		40 x 32 x 40	10	25.00	11.34	–	–	–	390	975.00	442.18
1½ x 1¼ x 2		40 x 32 x 50	15	46.05	20.88	–	–	–	300	921.00	417.69
1½ x 1½ x ½	B	40 x 40 x 15	20	36.80	16.69	–	–	–	780	1435.20	650.88
1½ x 1½ x ¾	B	40 x 40 x 20	20	39.00	17.69	–	–	–	780	1521.00	689.80
1½ x 1½ x 1	B	40 x 40 x 25	30	63.90	28.98	–	–	–	600	1278.00	579.59
1½ x 1½ x 1¼		40 x 40 x 32	25	61.00	27.66	–	–	–	500	1220.00	553.29
1½ x 1½ x 2		40 x 40 x 50	10	32.30	14.65	–	–	–	390	1259.70	571.29
2 x ½ x 2		50 x 15 x 50	10	33.00	14.97	–	–	–	200	660.00	299.32
2 x ¾ x 2		50 x 20 x 50	15	49.65	22.52	–	–	–	300	993.00	450.34
2 x 1 x 1		50 x 25 x 25	15	40.50	18.37	–	–	–	–	–	–
2 x 1 x 2		50 x 25 x 50	15	51.90	23.54	–	–	–	300	1038.00	470.75
2 x 1¼ x 1		50 x 32 x 25	15	40.95	18.57	–	–	–	300	819.00	371.43
2 x 1¼ x 1¼		50 x 32 x 32	15	43.50	19.73	–	–	–	300	870.00	394.56
2 x 1¼ x 2		50 x 32 x 50	15	55.65	25.24	–	–	–	300	1113.00	504.76
2 x 1½ x ½		50 x 40 x 15	25	58.50	26.53	–	–	–	500	1170.00	530.61
2 x 1½ x ¾		50 x 40 x 20	20	49.20	22.31	–	–	–	400	984.00	446.26
2 x 1½ x 1		50 x 40 x 25	20	53.20	24.13	–	–	–	400	1064.00	482.54
2 x 1½ x 1¼		50 x 40 x 32	15	44.70	20.27	–	–	–	300	894.00	405.44
2 x 1½ x 1½		50 x 40 x 40	15	48.60	22.04	–	–	–	300	972.00	440.82
2 x 1½ x 2		50 x 40 x 50	15	55.50	25.17	–	–	–	300	1110.00	503.40
2 x 2 x ½		50 x 50 x 15	20	54.80	24.85	–	–	–	400	1096.00	497.05
2 x 2 x ¾		50 x 50 x 20	20	57.20	25.94	–	–	–	400	1144.00	518.82
2 x 2 x 1	B	50 x 50 x 25	15	45.75	20.75	–	–	–	300	915.00	414.97
2 x 2 x 1¼		50 x 50 x 32	15	50.70	22.99	–	–	–	300	1014.00	459.86
2 x 2 x 1½		50 x 50 x 40	15	53.85	24.42	–	–	–	300	1077.00	488.44
2 x 2 x 2½		50 x 50 x 65	–	–	–	–	–	–	100	517.00	234.47

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Cast Iron Threaded Fittings

Class 125 (Standard)

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 366: SCREWED HEX COUPLING (PAGE 47)											
1		25	60	49.20	22.31	–	–	–	2340	1918.80	870.20
FIGURE 367: CONCENTRIC REDUCER (PAGE 48)											
1 x ½ (Hex)	B	25 x 15	80	43.20	19.59	–	–	–	3120	1684.80	764.08
1 x ¾ (Hex)	B	25 x 20	70	44.10	20.00	–	–	–	2730	1719.90	780.00
1¼ x ¾		32 x 20	–	–	–	–	–	–	2000	1800.00	816.33
2 x 1		50 x 25	–	–	–	–	–	–	390	713.70	323.67
FIGURE 383: HEX BUSHING (PAGE 50–51)											
1½ x ¼		40 x 8	25	11.75	5.33	50	23.50	10.66	2400	1128.00	511.56
1½ x ⅜		40 x 10	25	11.75	5.33	50	23.50	10.66	2400	1128.00	511.56
1½ x ½		40 x 15	25	10.50	4.76	50	21.00	9.52	2400	1008.00	457.14
1½ x ¾	B	40 x 20	25	11.75	5.33	50	23.50	10.66	2400	1128.00	511.56
1½ x 1	B	40 x 25	25	12.50	5.67	50	25.00	11.34	2400	1200.00	544.22
2 x ¼		50 x 8	15	11.25	5.10	30	22.50	10.20	1440	1080.00	489.80
2 x ⅜		50 x 10	15	11.25	5.10	30	22.50	10.20	1440	1080.00	489.80
2 x ½		50 x 15	15	10.50	4.76	30	21.00	9.52	1440	1008.00	457.14
2 x ¾		50 x 20	15	10.65	4.83	30	21.30	9.66	1440	1022.40	463.67
2 x 1	B	50 x 25	15	10.95	4.97	30	21.90	9.93	1440	1051.20	476.73
2 x 1¼	B	50 x 32	15	12.15	5.51	30	24.30	11.02	1440	1166.40	528.98
2½ x 1¼		65 x 32	20	24.80	11.25	–	–	–	400	496.00	224.94
3 x 2		80 x 50	–	–	–	–	–	–	200	380.00	172.34
4 x 2		100 x 50	20	62.20	28.21	–	–	–	400	1244.00	564.17
FIGURE 387: SQUARE HEAD PLUGS, CORED (PAGE 52)											
¾		20	120	15.60	7.07	240	31.20	14.15	11520	1497.60	679.18
1	B G	25	60	15.00	6.80	120	30.00	13.61	5760	1440.00	653.06
1¼	B G	32	30	11.70	5.31	60	23.40	10.61	2880	1123.20	509.39
1½	B	40	25	12.50	5.67	50	25.00	11.34	2400	1200.00	544.22
2	B G	50	15	12.30	5.58	30	24.60	11.16	1440	1180.80	535.51
2½		65	10	13.20	5.99	20	26.40	11.97	960	1267.20	574.69
3		80	–	–	–	–	–	–	600	1122.00	508.84
4		100	–	–	–	–	–	–	100	400.00	181.41
FIGURE 388: SQUARE HEAD PLUGS, SOLID (PAGE 52)											
½		15	150	15.00	6.80	300	30.00	13.61	14400	1440.00	653.06
¾		20	120	20.40	9.25	240	40.80	18.50	11520	1958.40	888.16
1	B	25	60	19.20	8.71	120	38.40	17.41	5760	1843.20	835.92
1¼		32	30	15.90	7.21	60	31.80	14.42	2880	1526.40	692.24
1½		40	25	19.00	8.62	50	38.00	17.23	2400	1824.00	827.21
2		50	15	18.45	8.37	30	36.90	16.73	1440	1771.20	803.27
2½		65	10	20.00	9.07	20	40.00	18.14	200	400.00	181.41
FIGURE 390: COUNTER SUNK PLUGS (PAGE 52)											
1		25	60	12.00	5.44	120	24.00	10.88	5760	1152.00	522.45
1¼		32	30	9.60	4.35	60	19.20	8.71	2880	921.60	417.96
1½		40	25	11.75	5.33	50	23.50	10.66	2400	1128.00	511.56
2		50	15	12.60	5.71	30	25.20	11.43	1440	1209.60	548.57
2½		65	10	14.00	6.35	–	–	–	200	280.00	126.98

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Cast Iron Drainage Fittings

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 701: 90° SHORT TURN ELBOW (PAGE 56)										
1½	40	–	–	–	–	–	–	780	1489.80	675.65
2	50	–	–	–	–	–	–	400	1216.00	551.47
FIGURE 701R: 90° REDUCING SHORT TURN ELBOW (PAGE 56)										
1½ x 1¼	40 x 32	–	–	–	–	–	–	975	1647.75	747.28
FIGURE 702: 90° LONG TURN ELBOW (PAGE 56)										
1½	40	–	–	–	–	–	–	400	896.00	406.35
2	50	–	–	–	–	–	–	300	1083.00	491.16
4	100	20	328.00	148.75	–	–	–	–	–	–
FIGURE 703: 60° SHORT TURN ELBOW (PAGE 56)										
1½	40	–	–	–	–	–	–	780	1825.20	827.76
FIGURE 705: 45° SHORT TURN ELBOW (PAGE 57)										
1½	40	–	–	–	–	–	–	975	1667.25	756.12
2	50	–	–	–	–	–	–	400	1116.00	506.12
FIGURE 707: 22 ½° ELBOW (PAGE 57)										
1½	40	–	–	–	–	–	–	975	1608.75	729.59
FIGURE 726: 90° SHORT TURN Y-BRANCH TEE PATTERN (PAGE 60)										
1½	40	–	–	–	–	–	–	300	927.00	420.41
2	50	–	–	–	–	–	–	200	1016.00	460.77
FIGURE 727: 90°REDUCING SHORT TURN Y-BRANCH TEE PATTERN (PAGE 60)										
2 x 2 x 1½	50 x 50 x 40	–	–	–	–	–	–	200	832.00	377.32
FIGURE 734: 45° Y-BRANCH (PAGE 61)										
1½	40	–	–	–	–	–	–	300	1209.00	548.30
FIGURE 754: BATH P-TRAP (PAGE 62)										
1½	40	–	–	–	–	–	–	200	774.00	351.02

Cast Iron Flanged Fittings

Class 125 (Standard)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 801: 90° FLANGED ELBOW (PAGE 64)										
3	80	–	–	–	–	–	–	70	1680.00	761.90
4	100	–	–	–	–	–	–	40	1640.00	743.76
6	150	–	–	–	–	–	–	20	1360.00	616.78
FIGURE 811: FLANGED TEE (PAGE 67)										
4	100	–	–	–	–	–	–	27	1728.00	783.67
6	150	–	–	–	–	–	–	13	1365.00	619.05
8	200	–	–	–	–	–	–	7	1155.00	523.81

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Iron Flanges

Class 125 (Standard)

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1011: COMPANION FLANGE (PAGE 73)										
2 x 6	50 x 152	–	–	–	–	–	–	700	2800.00	1269.84
3 x 7½	80 x 191	–	–	–	–	–	–	400	3052.00	1384.13
4 x 9	100 x 229	–	–	–	–	–	–	250	2937.50	1332.20

High Hub Flanges for C.I. Pipe

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 1010T: CAST IRON FLANGES FOR CAST IRON PIPE (PAGE 76)										
4	100	10	130.00	58.96	–	–	–	–	–	–
6	150	10	172.00	78.00	–	–	–	–	–	–
8	200	10	290.00	131.52	–	–	–	–	–	–

Steel Pipe Bushings, Plugs & Caps

Merchant Steel

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
HEX BUSHINGS (PAGE 81)										
¼ x ⅛	8 x 6	100	2.00	0.91	–	–	–	24000	480.00	217.69
⅜ x ⅛	10 x 6	100	5.00	2.27	–	–	–	32400	1620.00	734.69
⅜ x ¼	10 x 8	100	3.00	1.36	–	–	–	32400	972.00	440.82
½ x ⅛	15 x 6	100	11.00	4.99	–	–	–	20000	2200.00	997.73
½ x ¼	15 x 8	100	5.00	2.27	–	–	–	24000	1200.00	544.22
½ x ⅜	15 x 10	100	6.00	2.72	–	–	–	24000	1440.00	653.06
¾ x ⅛	20 x 6	100	21.00	9.52	–	–	–	12000	2520.00	1142.86
¾ x ¼	20 x 8	100	18.00	8.16	–	–	–	12000	2160.00	979.59
¾ x ⅜	20 x 10	100	15.00	6.80	–	–	–	15000	2250.00	1020.41
¾ x ½	20 x 15	100	10.00	4.54	–	–	–	18000	1800.00	816.33
COUNTERSUNK PLUGS: SQUARE SOCKET (PAGE 81)										
⅛	6	100	2.00	0.91	–	–	–	–	–	–
¼	8	100	4.00	1.81	–	–	–	10400	416.00	188.66
⅜	10	100	6.00	2.72	–	–	–	10400	624.00	282.99
½	15	100	12.00	5.44	–	–	–	10400	1248.00	565.99
¾	20	50	9.50	4.31	–	–	–	5200	988.00	448.07
1	25	75	16.50	7.48	–	–	–	–	–	–
1¼	32	25	9.25	4.20	–	–	–	–	–	–
1½	40	25	11.75	5.33	–	–	–	–	–	–
2	50	20	16.80	7.62	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Steel Pipe Bushings, Plugs & Caps

Merchant Steel

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
COUNTERSUNK PLUGS: HEX SOCKET (PAGE 81)										
⅛	6	100	2.00	0.91	–	–	–	10400	208.00	94.33
¼	8	100	4.00	1.81	–	–	–	10400	416.00	188.66
⅜	10	100	6.00	2.72	–	–	–	10400	624.00	282.99
½	15	100	12.00	5.44	–	–	–	10400	1248.00	565.99
¾	20	100	19.00	8.62	–	–	–	5200	988.00	448.07
1	25	75	15.75	7.14	150	31.50	14.29	–	–	–
1¼	32	25	9.50	4.31	–	–	–	–	–	–
1½	40	25	11.00	4.99	–	–	–	–	–	–
2	50	20	17.00	7.71	–	–	–	–	–	–
FLUSH BUSHINGS (PAGE 82)										
¼ x ⅛	8 x 6	100	1.00	0.45	–	–	–	10400	104.00	47.17
⅜ x ⅛	10 x 6	100	3.00	1.36	–	–	–	10400	312.00	141.50
⅜ x ¼	10 x 8	100	2.00	0.91	–	–	–	10400	208.00	94.33
½ x ¼	15 x 8	100	5.00	2.27	–	–	–	10400	520.00	235.83
½ x ⅜	15 x 10	100	3.00	1.36	–	–	–	10400	312.00	141.50
CAPS (PAGE 82)										
⅛	6	100	2.00	0.91	–	–	–	32400	648.00	293.88
⅛	8	100	3.00	1.36	–	–	–	8000	240.00	108.84
⅜	10	100	6.00	2.72	–	–	–	20000	1200.00	544.22
½	15	100	11.00	4.99	–	–	–	12000	1320.00	598.64
¾	20	100	14.00	6.35	–	–	–	5200	728.00	330.16

Steel Pipe Plugs & Hose Fittings

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
SOLID SQUARE HEAD PLUGS (PAGE 82)										
⅛	6	100	2.00	0.91	–	–	–	10400	208.00	94.33
¼	8	100	4.00	1.81	–	–	–	10400	416.00	188.66
⅜	10	100	6.00	2.72	–	–	–	10400	624.00	282.99
½	15	100	12.00	5.44	–	–	–	10400	1248.00	565.99
¾	20	50	9.50	4.31	–	–	–	5200	988.00	448.07
1	25	50	17.00	7.71	–	–	–	–	–	–
1¼	32	25	13.75	6.24	–	–	–	–	–	–
1½	40	25	20.50	9.30	–	–	–	–	–	–
2	50	10	13.50	6.12	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Steel Pipe Couplings

Merchant Couplings, Standard

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 336: FULL, STRAIGHT TAPPED (PAGE 90)											
⅛	B G	6	100	3.00	1.36	–	–	–	36000	1080.00	489.80
¼	B G	8	100	7.00	3.17	–	–	–	21000	1470.00	666.67
⅜	B	10	100	10.00	4.54	–	–	–	16800	1680.00	761.90
½	B G	15	100	18.00	8.16	–	–	–	10000	1800.00	816.33
¾	B G	20	50	13.00	5.90	–	–	–	5000	1300.00	589.57
1	B G	25	30	12.60	5.71	–	–	–	3000	1260.00	571.43
1¼	B	32	25	12.50	5.67	–	–	–	2500	1250.00	566.89
1½	B	40	25	16.75	7.60	–	–	–	1500	1005.00	455.78
2	B	50	20	20.60	9.34	–	–	–	1200	1236.00	560.54
FIGURE 336: FULL, TAPER TAPERED (PAGE 90)											
⅛	B G	6	100	3.00	1.36	–	–	–	–	–	–
¼	B G	8	100	7.00	3.17	–	–	–	–	–	–
⅜	B	10	100	10.00	4.54	–	–	–	–	–	–
½	B G	15	100	18.00	8.16	–	–	–	–	–	–
¾	B G	20	50	13.00	5.90	–	–	–	–	–	–
1	B G	25	30	12.60	5.71	–	–	–	–	–	–
1¼	B	32	25	12.50	5.67	–	–	–	–	–	–
1½	B	40	25	16.75	7.60	–	–	–	–	–	–
2	B	50	20	20.60	9.34	–	–	–	–	–	–
2½		65	–	–	–	–	–	–	1080	2322.00	1053.06
3		80	–	–	–	–	–	–	680	2352.80	1067.03
4		100	–	–	–	–	–	–	392	1909.04	865.78
FIGURE 336: HALF, STRAIGHT TAPPED (PAGE 90)											
⅛		6	200	2.00	–.91	–	–	–	–	–	–
¼	B	8	200	6.00	2.72	–	–	–	–	–	–
⅜		10	200	10.00	4.54	–	–	–	–	–	–
½	B	15	200	16.00	7.26	–	–	–	–	–	–
¾	B	20	200	24.00	10.88	–	–	–	–	–	–
1		25	100	18.00	8.16	–	–	–	–	–	–
1¼		32	50	11.50	5.22	–	–	–	–	–	–
1½		40	50	16.00	7.26	–	–	–	–	–	–
2		50	25	11.75	5.33	–	–	–	–	–	–
2½		65	15	14.40	6.53	–	–	–	–	–	–
3		80	150	240.00	108.84	–	–	–	–	–	–
FIGURE 336: HALF, TAPER TAPPED (PAGE 90)											
⅛		6	100	1.00	–.45	–	–	–	–	–	–
¼	B	8	100	3.00	1.36	–	–	–	–	–	–
⅜		10	100	5.00	2.27	–	–	–	–	–	–
½	B	15	100	8.00	3.63	–	–	–	–	–	–
¾	B	20	100	12.00	5.44	–	–	–	–	–	–
1		25	100	18.00	8.16	–	–	–	–	–	–
1¼		32	50	11.50	5.22	–	–	–	–	–	–
1½		40	50	16.00	7.26	–	–	–	–	–	–
2		50	25	11.75	5.33	–	–	–	–	–	–
2½		65	15	14.40	6.53	–	–	–	–	–	–
3		80	150	240.00	108.84	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Steel Pipe Couplings

Merchant Couplings

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 337: EXTRA STRONG (XS), FULL (PAGE 91)										
⅛	6	100	4.00	1.81	–	–	–	–	–	–
¼	8	100	10.00	4.54	–	–	–	–	–	–
⅜	10	100	15.00	6.80	–	–	–	–	–	–
½	15	100	27.00	12.24	–	–	–	–	–	–
¾	20	50	19.50	8.84	–	–	–	–	–	–
1	25	25	20.50	9.30	–	–	–	–	–	–
1¼	32	25	27.00	12.24	–	–	–	–	–	–
1½	40	20	19.60	8.89	–	–	–	–	–	–
2 B	50	15	29.25	13.27	–	–	–	–	–	–
FIGURE 337: EXTRA STRONG (XS), HALF (PAGE 91)										
⅛	6	200	4.00	1.81	–	–	–	–	–	–
¼	8	200	10.00	4.54	–	–	–	–	–	–
⅜	10	200	14.00	6.35	–	–	–	–	–	–
½	15	200	26.00	11.79	–	–	–	–	–	–
¾	20	100	19.00	8.62	–	–	–	–	–	–
1	25	50	21.00	9.52	–	–	–	–	–	–
1¼	32	50	29.00	13.15	–	–	–	–	–	–
1½	40	50	25.00	11.34	–	–	–	–	–	–
2	50	30	32.10	14.56	–	–	–	–	–	–
FIGURE 346: STANDARD, RIGHT & LEFT (PAGE 92)										
⅛	6	100	3.00	1.36	–	–	–	–	–	–
¼	8	100	7.00	3.17	–	–	–	–	–	–
⅜	10	100	9.00	4.08	–	–	–	–	–	–
½	15	100	17.00	7.71	–	–	–	–	–	–
¾	20	50	13.00	5.90	–	–	–	–	–	–
1	25	30	12.00	5.44	–	–	–	–	–	–
1¼	32	25	12.00	5.44	–	–	–	–	–	–
1½	40	25	16.75	7.60	–	–	–	–	–	–
2	50	20	21.00	9.52	–	–	–	–	–	–
FIGURE 347: EXTRA STRONG (XS), RIGHT & LEFT (PAGE 92)										
¼	8	100	9.00	4.08	–	–	–	–	–	–
⅜	10	100	140.00	63.49	–	–	–	–	–	–
½	15	100	25.00	11.34	–	–	–	–	–	–
¾	20	50	18.00	8.16	–	–	–	–	–	–
1¼	32	25	27.00	12.24	–	–	–	–	–	–
1½	40	25	23.75	10.77	–	–	–	–	–	–
2	50	15	30.15	13.67	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Steel Pipe Couplings

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 348: API LINE PIPE COUPLINGS (PAGE 93)										
⅛	6	100	4.00	1.81	–	–	–	–	–	–
¼	8	100	10.00	4.54	–	–	–	–	–	–
⅜	10	100	13.00	5.90	–	–	–	–	–	–
½	15	100	24.00	10.88	–	–	–	–	–	–
¾	20	50	17.50	7.94	–	–	–	–	–	–
1	25	25	13.00	5.90	–	–	–	–	–	–
1¼	32	25	25.00	11.34	–	–	–	–	–	–
1½	40	20	17.60	7.98	–	–	–	–	–	–
2	50	15	27.45	12.45	–	–	–	–	–	–
FIGURE 379: SHALLOW WELL COUPLINGS (PAGE 94)										
1¼	32	25	25.75	11.68	–	–	–	–	–	–
1½	40	20	18.00	8.16	–	–	–	–	–	–
2	50	15	27.90	12.65	–	–	–	–	–	–
FIGURE 380: WATER WELL REAMED & DRIFTED COUPLINGS (PAGE 94)										
1¼	32	25	15.00	6.80	–	–	–	–	–	–
1½	40	25	21.00	9.52	–	–	–	–	–	–
2	50	15	23.70	10.75	–	–	–	–	–	–
FIGURE 381: #9 DRIVE COUPLINGS (PAGE 94)										
1¼	32	25	25.00	11.34	–	–	–	–	–	–
1½	40	25	21.00	9.52	–	–	–	–	–	–
2	50	15	32.10	14.56	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 2000 Threaded

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2101: 90° ELBOWS (PAGE 96)											
1/4		8	25	4.50	2.04	–	–	–	9600	1728.00	783.67
3/8		10	25	7.00	3.17	–	–	–	9600	2688.00	1219.05
1/2	B	15	25	13.75	6.24	–	–	–	4500	2475.00	1122.45
3/4		20	25	18.00	8.16	–	–	–	2500	1800.00	816.33
1	B	25	25	30.50	13.83	–	–	–	1500	1830.00	829.93
1 1/4		32	10	16.50	7.48	–	–	–	800	1320.00	598.64
1 1/2		40	5	10.60	4.81	–	–	–	500	1060.00	480.73
2	B	50	5	18.90	8.57	–	–	–	420	1587.60	720.00
2 1/2		65	–	–	–	–	–	–	180	1170.00	530.61
3		80	–	–	–	–	–	–	128	1420.80	644.35
4		100	–	–	–	–	–	–	48	1070.40	485.44
FIGURE 2102: 45° ELBOWS (PAGE 96)											
1/4		8	25	4.00	1.81	–	–	–	9600	1536.00	696.60
3/8		10	25	6.25	2.83	–	–	–	9600	2400.00	1088.44
1/2		15	25	12.00	5.44	–	–	–	4500	2160.00	979.59
3/4		20	25	14.25	6.46	–	–	–	2500	1425.00	646.26
1		25	25	22.00	9.98	–	–	–	2100	1848.00	838.10
1 1/4		32	10	13.20	5.99	–	–	–	500	660.00	299.32
1 1/2		40	5	8.10	3.67	–	–	–	900	1458.00	661.22
2		50	5	14.15	6.42	–	–	–	420	1188.60	539.05
2 1/2		65	–	–	–	–	–	–	180	1386.00	628.57
3		80	–	–	–	–	–	–	128	1536.00	696.60
FIGURE 2103: TEES (PAGE 97)											
1/4		8	25	6.25	2.83	–	–	–	4500	1125.00	510.20
3/8		10	25	9.25	4.20	–	–	–	4500	1665.00	755.10
1/2	B	15	25	15.50	7.03	–	–	–	2500	1550.00	702.95
3/4		20	25	10.75	4.88	–	–	–	2000	860.00	390.02
1	B	25	25	33.25	15.08	–	–	–	1500	1995.00	904.76
1 1/4		32	10	21.00	9.52	–	–	–	840	1764.00	800.00
1 1/2		40	5	14.00	6.35	–	–	–	400	1120.00	507.94
2	B	50	5	22.50	10.20	–	–	–	300	1350.00	612.24
2 1/2		65	–	–	–	–	–	–	192	1747.20	792.38
3		80	–	–	–	–	–	–	128	1728.00	783.67
4		100	–	–	–	–	–	–	48	1536.00	696.60
FIGURE 2104: CROSSES (PAGE 97)											
1/4		8	25	12.50	5.67	–	–	–	9600	4800.00	2176.87
3/8		10	25	10.00	4.54	–	–	–	4500	1800.00	816.33
1/2		15	25	21.25	9.64	–	–	–	2500	2125.00	963.72
3/4		20	10	11.00	4.99	–	–	–	1000	1100.00	498.87
1		25	10	17.00	7.71	–	–	–	1000	1700.00	770.98
1 1/4		32	10	24.00	10.88	–	–	–	500	1200.00	544.22
1 1/2		40	5	16.00	7.26	–	–	–	400	1280.00	580.50
2		50	5	26.00	11.79	–	–	–	420	2184.00	990.48

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 3000 Threaded

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2111: 90° ELBOWS (PAGE 98)										
1/8	6	25	5.75	2.61	–	–	–	9600	2208.00	1001.36
1/4	8	25	8.75	3.97	–	–	–	9600	3360.00	1523.81
3/8	10	25	16.50	7.48	–	–	–	4500	2970.00	1346.94
1/2	15	25	23.25	10.54	–	–	–	2000	1860.00	843.54
3/4	20	10	14.80	6.71	–	–	–	1200	1776.00	805.44
1 B	25	10	23.00	10.43	–	–	–	800	1840.00	834.47
1 1/4	32	5	13.40	6.08	–	–	–	500	1340.00	607.71
1 1/2	40	5	26.50	12.02	–	–	–	360	1908.00	865.31
2	50	5	29.25	13.27	–	–	–	360	2106.00	955.10
2 1/2	65	–	–	–	–	–	–	180	1800.00	816.33
3	80	–	–	–	–	–	–	128	2201.60	998.46
4	100	–	–	–	–	–	–	48	1406.40	637.82
FIGURE 2112: 45° ELBOWS (PAGE 98)										
1/8	6	25	4.50	2.04	–	–	–	9600	1728.00	783.67
1/4	8	25	6.25	2.83	–	–	–	9600	2400.00	1088.44
3/8	10	25	13.25	6.01	–	–	–	4500	2385.00	1081.63
1/2	15	25	19.50	8.84	–	–	–	2000	1560.00	707.48
3/4	20	10	12.00	5.44	–	–	–	4500	5400.00	2448.98
1	25	10	19.00	8.62	–	–	–	1000	1900.00	861.68
1 1/4	32	10	23.00	10.43	–	–	–	900	2070.00	938.78
1 1/2	40	5	20.80	9.43	–	–	–	400	1664.00	754.65
2	50	5	25.60	11.61	–	–	–	420	2150.40	975.24
2 1/2	65	–	–	–	–	–	–	180	1386.00	628.57
3	80	–	–	–	–	–	–	128	1536.00	696.60
4	100	–	–	–	–	–	–	48	945.60	428.84
FIGURE 2114: TEES (PAGE 98)										
1/8	6	25	7.75	3.51	–	–	–	4800	1488.00	674.83
1/4	8	25	10.50	4.76	–	–	–	4500	1890.00	857.14
3/8	10	25	23.25	10.54	–	–	–	2500	2325.00	1054.42
1/2	15	25	30.00	13.61	–	–	–	2000	2400.00	1088.44
3/4	20	10	18.40	8.34	–	–	–	800	1472.00	667.57
1	25	10	30.50	13.83	–	–	–	720	2196.00	995.92
1 1/4	32	5	18.10	8.21	–	–	–	500	1810.00	820.86
1 1/2	40	5	33.25	15.08	–	–	–	300	1995.00	904.76
2	50	5	35.75	16.21	–	–	–	300	2145.00	972.79
2 1/2	65	–	–	–	–	–	–	192	2630.40	1192.93
3	80	–	–	–	–	–	–	128	2688.00	1219.05
4	100	–	–	–	–	–	–	48	1824.00	827.21
FIGURE 2115: CROSSES (PAGE 99)										
1/2	15	25	35.00	15.87	–	–	–	1500	2100.00	952.38
3/4	20	10	21.00	9.52	–	–	–	1000	2100.00	952.38
1	25	5	17.50	7.94	–	–	–	500	1750.00	793.65
1 1/4	32	5	21.50	9.75	–	–	–	400	1720.00	780.05
1 1/2	40	5	41.00	18.59	–	–	–	300	2460.00	1115.65
2	50	5	42.00	19.05	–	–	–	300	2520.00	1142.86
2 1/2	65	–	–	–	–	–	–	–	–	–
3	80	–	–	–	–	–	–	–	–	–
4	100	–	–	–	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 3000 Threaded

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2113: 90° STREET ELBOWS (PAGE 99)											
1/4		8	25	5.75	2.61	–	–	–	9600	2208.00	1001.36
3/8		10	25	9.50	4.31	–	–	–	4500	1710.00	775.51
1/2		15	25	13.25	6.01	–	–	–	4500	2385.00	1081.63
3/4		20	25	22.00	9.98	–	–	–	2000	1760.00	798.19
1		25	10	14.00	6.35	–	–	–	1000	1400.00	634.92
1 1/4		32	5	12.00	5.44	–	–	–	900	2160.00	979.59
1 1/2		40	5	14.50	6.58	–	–	–	500	1450.00	657.60
2		50	5	25.00	11.34	–	–	–	300	1500.00	680.27
FIGURE 2117: COUPLINGS (PAGE 100)											
1/8		6	50	7.00	3.17	–	–	–	–	–	–
1/4	B	8	50	5.00	2.27	–	–	–	16200	1620.00	734.69
3/8		10	50	6.50	2.95	–	–	–	12000	1560.00	707.48
1/2	B	15	50	14.00	6.35	–	–	–	6000	1680.00	761.90
3/4	B	20	50	22.00	9.98	–	–	–	4000	1760.00	798.19
1	B	25	25	27.00	12.24	–	–	–	2000	2160.00	979.59
1 1/4		32	10	16.80	7.62	–	–	–	1200	2016.00	914.29
1 1/2		40	12	26.04	11.81	–	–	–	960	2083.20	944.76
2	B	50	10	32.00	14.51	–	–	–	480	1536.00	696.60
2 1/2		65	5	23.50	10.66	–	–	–	300	1410.00	639.46
3		80	–	–	–	–	–	–	200	1360.00	616.78
4		100	–	–	–	–	–	–	96	1180.80	535.51
FIGURE 2119: HALF COUPLINGS (PAGE 100)											
1/8		6	100	5.00	2.27	–	–	–	–	–	–
1/4	B	8	100	4.00	1.81	–	–	–	32400	1296.00	587.76
3/8		10	100	6.00	2.72	–	–	–	24000	1440.00	653.06
1/2	B	15	50	6.00	2.72	–	–	–	12000	1440.00	653.06
3/4		20	100	21.00	9.52	–	–	–	8000	1680.00	761.90
1	B	25	25	10.75	4.88	–	–	–	4500	1935.00	877.55
1 1/4		32	20	15.20	6.89	–	–	–	–	–	–
1 1/2		40	20	22.80	10.34	–	–	–	1600	1824.00	827.21
2	B	50	10	15.00	6.80	–	–	–	1200	1800.00	816.33
2 1/2		65	10	24.00	10.88	–	–	–	–	–	–
3		80	8	26.00	11.79	–	–	–	288	936.00	424.49
4		100	4	25.00	11.34	–	–	–	–	–	–
FIGURE 2120: PIPE CAPS (PAGE 101)											
1/8		6	100	7.00	3.17	–	–	–	–	–	–
1/4		8	100	8.00	3.63	–	–	–	–	–	–
3/8		10	50	5.50	2.49	–	–	–	–	–	–
1/2		15	20	4.60	2.09	–	–	–	–	–	–
3/4		20	20	8.00	3.63	–	–	–	–	–	–
1		25	25	19.75	8.96	–	–	–	2500	1975.00	895.69
1 1/4		32	10	12.10	5.49	–	–	–	1800	2178.00	987.76
1 1/2		40	10	17.50	7.94	–	–	–	1800	3150.00	1428.57
2		50	25	61.50	27.89	–	–	–	–	–	–
2 1/2		65	6	26.22	11.89	–	–	–	480	2097.60	951.29
3		80	–	–	–	–	–	–	300	1950.00	884.35
4		100	–	–	–	–	–	–	192	2169.60	983.95

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 3000 Threaded

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 2118: REDUCING COUPLINGS (PAGE 101)										
1/4 x 1/8	8 x 6	25	2.50	1.13	–	–	–	–	–	–
3/8 x 1/8	10 x 6	25	3.75	1.70	–	–	–	–	–	–
3/8 x 1/4	10 x 8	50	7.50	3.40	–	–	–	–	–	–
1/2 x 1/8	15 x 6	50	17.50	7.94	–	–	–	5000	1750.00	793.65
1/2 x 1/4	15 x 8	50	17.50	7.94	–	–	–	6000	2100.00	952.38
1/2 x 3/8	15 x 10	50	17.50	7.94	–	–	–	–	–	–
3/4 x 1/8	20 x 6	25	13.00	5.90	–	–	–	3000	1560.00	707.48
3/4 x 1/4	20 x 8	25	13.00	5.90	–	–	–	3750	1950.00	884.35
3/4 x 3/8	20 x 10	25	13.00	5.90	–	–	–	3750	1950.00	884.35
3/4 x 1/2	20 x 15	25	13.00	5.90	–	–	–	3750	1950.00	884.35
1 x 1/8	25 x 6	25	27.50	12.47	–	–	–	–	–	–
1 x 1/4	25 x 8	25	27.50	12.47	–	–	–	2000	2200.00	997.73
1 x 3/8	25 x 10	25	27.50	12.47	–	–	–	2000	2200.00	997.73
1 x 1/2	25 x 15	25	27.50	12.47	–	–	–	2000	2200.00	997.73
1 x 3/4	25 x 20	25	27.50	12.47	–	–	–	2000	2200.00	997.73
1 1/4 x 1/8	32 x 6	20	41.60	18.87	–	–	–	–	–	–
1 1/4 x 1/4	32 x 8	20	41.60	18.87	–	–	–	–	–	–
1 1/4 x 3/8	32 x 10	20	41.60	18.87	–	–	–	–	–	–
1 1/4 x 1/2	32 x 15	10	20.80	9.43	–	–	–	–	–	–
1 1/4 x 3/4	32 x 20	20	41.60	18.87	–	–	–	–	–	–
1 1/4 x 1	32 x 25	10	20.80	9.43	–	–	–	1000	2080.00	943.31
1 1/2 x 1/8	40 x 6	10	29.30	13.29	–	–	–	–	–	–
1 1/2 x 1/4	40 x 8	10	29.30	13.29	–	–	–	–	–	–
1 1/2 x 3/8	40 x 10	10	29.30	13.29	–	–	–	–	–	–
1 1/2 x 1/2	40 x 15	10	29.30	13.29	–	–	–	800	2344.00	1063.04
1 1/2 x 3/4	40 x 20	10	29.30	13.29	–	–	–	800	2344.00	1063.04
1 1/2 x 1	40 x 25	10	29.30	13.29	–	–	–	800	2344.00	1063.04
1 1/2 x 1 1/4	40 x 32	10	29.30	13.29	–	–	–	800	2344.00	1063.04
2 x 1/8	50 x 6	5	22.00	9.98	–	–	–	–	–	–
2 x 1/4	50 x 8	5	22.00	9.98	–	–	–	–	–	–
2 x 3/8	50 x 10	5	22.00	9.98	–	–	–	–	–	–
2 x 1/2	50 x 15	5	22.00	9.98	–	–	–	–	–	–
2 x 3/4	50 x 20	5	22.00	9.98	–	–	–	–	–	–
2 x 1	50 x 25	8	35.20	15.96	–	–	–	–	–	–
2 x 1 1/4	50 x 32	8	35.20	15.96	–	–	–	–	–	–
2 x 1 1/2	50 x 40	8	35.20	15.96	–	–	–	–	–	–
2 1/2 x 2	65 x 50	6	45.00	20.41	–	–	–	–	–	–
3 x 2	80 x 50	4	44.00	19.95	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 6000 Threaded

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 2131: 90° ELBOWS (PAGE 102)										
1/2	15	25	37.50	17.01	–	–	–	1500	2250.00	1020.41
3/4	20	15	39.00	17.69	–	–	–	900	2340.00	1061.22
1	25	5	17.50	7.94	–	–	–	500	1750.00	793.65
1 1/4	32	5	30.00	13.61	–	–	–	420	2520.00	1142.86
1 1/2	40	5	40.00	18.14	–	–	–	360	2880.00	1306.12
2	50	2	26.00	11.79	–	–	–	120	1560.00	707.48
FIGURE 2132: 45° ELBOWS (PAGE 102)										
1/2	15	25	56.25	25.51	–	–	–	–	–	–
3/4	20	25	57.50	26.08	–	–	–	–	–	–
1	25	5	13.45	6.10	–	–	–	–	–	–
1 1/4	32	5	23.45	10.63	–	–	–	–	–	–
1 1/2	40	4	22.40	10.16	–	–	–	–	–	–
2	50	2	19.00	8.62	–	–	–	200	1900.00	861.68
FIGURE 2134: TEES (PAGE 102)										
1/2	15	20	42.00	19.05	–	–	–	1200	2520.00	1142.86
3/4	20	10	33.70	15.28	–	–	–	840	2830.80	1283.81
1	25	5	22.50	10.20	–	–	–	400	1800.00	816.33
1 1/4	32	5	37.50	17.01	–	–	–	300	2250.00	1020.41
1 1/2	40	3	31.50	14.29	–	–	–	240	2520.00	1142.86
2	50	2	34.80	15.78	–	–	–	120	2088.00	946.94
FIGURE 2135: CROSSES (PAGE 103)										
1/2	15	15	39.00	17.69	–	–	–	–	–	–
3/4	20	5	21.50	9.75	–	–	–	–	–	–
1	25	5	28.50	12.93	–	–	–	–	–	–
1 1/4	32	5	48.00	21.77	–	–	–	–	–	–
1 1/2	40	4	45.60	20.68	–	–	–	–	–	–
2	50	2	42.80	19.41	–	–	–	–	–	–
FIGURE 2137: COUPLINGS (PAGE 104)										
1/4	8	20	6.00	2.72	–	–	–	–	–	–
3/8	10	50	22.50	10.20	–	–	–	–	–	–
1/2	15	25	17.50	7.94	–	–	–	3000	2100.00	952.38
3/4	20	20	23.00	10.43	–	–	–	–	–	–
1	25	10	18.30	8.30	–	–	–	–	–	–
1 1/4	32	10	20.80	9.43	–	–	–	800	1664.00	754.65
1 1/2	40	8	31.60	14.33	–	–	–	–	–	–
2	50	4	26.00	11.79	–	–	–	–	–	–
FIGURE 2141: HALF COUPLINGS (PAGE 104)										
1/4	8	50	6.50	2.95	–	–	–	–	–	–
3/8	10	50	11.00	4.99	–	–	–	–	–	–
1/2	15	50	17.50	7.94	–	–	–	–	–	–
3/4	20	50	23.00	10.43	–	–	–	–	–	–
1	25	10	9.50	4.31	–	–	–	2000	1900.00	861.68
1 1/4	32	25	27.50	12.47	–	–	–	–	–	–
1 1/2	40	20	42.40	19.23	–	–	–	–	–	–
2	50	10	30.00	13.61	–	–	–	–	–	–
FIGURE 2143: PIPE CAPS (PAGE 105)										
1/2	15	20	8.20	3.72	–	–	–	–	–	–
3/4	20	20	11.40	5.17	–	–	–	–	–	–
1	25	10	11.70	5.31	–	–	–	–	–	–
1 1/4	32	5	7.10	3.22	–	–	–	–	–	–
1 1/2	40	5	10.85	4.92	–	–	–	–	–	–
2	50	5	18.30	8.30	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 3000 Socket Weld

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2150: 90° ELBOWS (PAGE 106)											
1/8		6	25	6.25	2.83	–	–	–	–	–	–
1/4		8	25	7.75	3.51	–	–	–	9600	2976.00	1349.66
3/8		10	25	7.75	3.51	–	–	–	9600	2976.00	1349.66
1/2		15	25	13.25	6.01	–	–	–	4500	2385.00	1081.63
3/4	B	20	25	16.00	7.26	–	–	–	2500	1600.00	725.62
1	B	25	25	23.75	10.77	–	–	–	1500	1425.00	646.26
1 1/4		32	10	16.00	7.26	–	–	–	1000	1600.00	725.62
1 1/2		40	5	10.60	4.81	–	–	–	500	1060.00	480.73
2	B	50	5	18.30	8.30	–	–	–	420	1537.20	697.14
2 1/2		65	–	–	–	–	–	–	180	1098.00	497.96
3		80	–	–	–	–	–	–	128	1241.60	563.08
4		100	–	–	–	–	–	–	48	1104.00	500.68
FIGURE 2151: 45° ELBOWS (PAGE 106)											
1/8		6	25	4.50	2.04	–	–	–	–	–	–
1/4		8	25	4.00	1.81	–	–	–	9600	1536.00	696.60
3/8		10	25	4.50	2.04	–	–	–	9600	1728.00	783.67
1/2		15	25	10.75	4.88	–	–	–	4500	1935.00	877.55
3/4		20	25	14.50	6.58	–	–	–	4500	2610.00	1183.67
1		25	25	22.50	10.20	–	–	–	2000	1800.00	816.33
1 1/4		32	10	13.00	5.90	–	–	–	1000	1300.00	589.57
1 1/2		40	5	7.85	3.56	–	–	–	900	1413.00	640.82
2		50	5	13.65	6.19	–	–	–	420	1146.60	520.00
2 1/2		65	–	–	–	–	–	–	180	1350.00	612.24
4		100	–	–	–	–	–	–	128	2534.40	1149.39
FIGURE 2152: TEES (PAGE 107)											
1/8		6	20	5.60	2.54	–	–	–	–	–	–
1/4		8	20	4.80	2.18	–	–	–	9600	2304.00	1044.90
3/8		10	20	7.60	3.45	–	–	–	4500	1710.00	775.51
1/2		15	25	16.25	7.37	–	–	–	2500	1625.00	736.96
3/4		20	25	21.50	9.75	–	–	–	2000	1720.00	780.05
1		25	25	34.25	15.53	–	–	–	1500	2055.00	931.97
1 1/4		32	10	20.00	9.07	–	–	–	840	1680.00	761.90
1 1/2		40	5	14.00	6.35	–	–	–	500	1400.00	634.92
2		50	5	19.25	8.73	–	–	–	300	1155.00	523.81
2 1/2		65	–	–	–	–	–	–	192	1574.40	714.01
3		80	–	–	–	–	–	–	128	1536.00	696.60
FIGURE 2153: CROSSES (PAGE 107)											
1/8		6	25	11.25	5.10	–	–	–	–	–	–
1/4		8	25	9.50	4.31	–	–	–	–	–	–
3/8		10	25	8.00	3.63	–	–	–	–	–	–
1/2		15	25	20.25	9.18	–	–	–	4500	3645.00	1653.06
3/4		20	10	11.00	4.99	–	–	–	1500	1650.00	748.30
1		25	10	15.60	7.07	–	–	–	–	–	–
1 1/4		32	5	12.20	5.53	–	–	–	–	–	–
1 1/2		40	5	16.25	7.37	–	–	–	–	–	–
2		50	5	26.00	11.79	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 3000 Socket Weld

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2154: COUPLINGS (PAGE 108)										
1/8	6	50	4.00	1.81	–	–	–	18000	1440.00	653.06
1/4	8	50	5.00	2.27	–	–	–	–	–	–
3/8	10	25	4.00	1.81	–	–	–	–	–	–
1/2	15	50	10.50	4.76	–	–	–	7500	1575.00	714.29
3/4	20	40	16.00	7.26	–	–	–	4800	1920.00	870.75
1 B	25	20	11.00	4.99	–	–	–	2400	1320.00	598.64
1 1/4 B	32	25	18.75	8.50	–	–	–	2000	1500.00	680.27
1 1/2	40	20	22.00	9.98	–	–	–	1600	1760.00	798.19
2	50	10	16.50	7.48	–	–	–	800	1320.00	598.64
2 1/2	65	10	32.50	14.74	–	–	–	–	–	–
3	80	5	25.50	11.56	–	–	–	400	2040.00	925.17
4	100	4	30.00	13.61	–	–	–	–	–	–
FIGURE 2155: HALF COUPLINGS (PAGE 109)										
1/8	6	50	4.50	2.04	–	–	–	–	–	–
1/4	8	50	6.00	2.72	–	–	–	–	–	–
3/8	10	25	5.75	2.61	–	–	–	–	–	–
1/2	15	25	7.00	3.17	–	–	–	–	–	–
3/4	20	30	12.90	5.85	–	–	–	4500	1935.00	877.55
1	25	20	13.20	5.99	–	–	–	–	–	–
1 1/4	32	10	11.00	4.99	–	–	–	–	–	–
1 1/2	40	10	10.60	4.81	–	–	–	–	–	–
2	50	10	21.50	9.75	–	–	–	–	–	–
FIGURE 2156: REDUCING COUPLINGS (PAGE 109)										
1/2 x 1/4	15 x 8	25	8.75	3.97	–	–	–	6000	2100.00	952.38
1/2 x 3/8	15 x 10	25	8.75	3.97	–	–	–	6000	2100.00	952.38
3/4 x 1/2	20 x 15	30	17.40	7.89	–	–	–	4500	2610.00	1183.67
1 x 1/2	25 x 15	20	22.00	9.98	–	–	–	2000	2200.00	997.73
1 x 3/4	25 x 20	20	22.00	9.98	–	–	–	–	–	–
1 1/4 x 1/2	32 x 15	10	14.60	6.62	–	–	–	1200	1752.00	794.56
1 1/4 x 1	32 x 25	10	14.60	6.62	–	–	–	–	–	–
1 1/2 x 1/2	40 x 15	10	19.80	8.98	–	–	–	1200	2376.00	1077.55
1 1/2 x 3/4	40 x 20	10	19.80	8.98	–	–	–	–	–	–
1 1/2 x 1	40 x 25	10	19.80	8.98	–	–	–	–	–	–
1 1/2 x 1 1/4	40 x 32	10	19.80	8.98	–	–	–	–	–	–
2 x 1/2	50 x 15	10	35.00	15.87	–	–	–	600	2100.00	952.38
2 x 1	50 x 25	10	35.00	15.87	–	–	–	–	–	–
2 x 1 1/4	50 x 32	10	35.00	15.87	–	–	–	–	–	–
2 x 1 1/2	50 x 40	10	35.00	15.87	–	–	–	–	–	–
FIGURE 2157: PIPE CAPS (PAGE 110)										
1	25	25	15.00	6.80	–	–	–	–	–	–
1 1/4	32	10	9.60	4.35	–	–	–	1800	1728.00	783.67
1 1/2	40	10	12.00	5.44	–	–	–	–	–	–
2	50	25	50.00	22.68	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Class 6000 Socket Weld

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 2170: 90° ELBOWS (PAGE 111)										
1/2	15	20	18.00	8.16	–	–	–	2000	1800.00	816.33
3/4	20	15	22.50	10.20	–	–	–	–	–	–
1	25	5	11.60	5.26	–	–	–	800	1856.00	841.72
1 1/4	32	5	15.00	6.80	–	–	–	–	–	–
1 1/2	40	5	27.50	12.47	–	–	–	240	1320.00	598.64
2	50	2	13.00	5.90	–	–	–	–	–	–
FIGURE 2171: 45° ELBOWS (PAGE 111)										
1/2	15	25	19.00	8.62	–	–	–	–	–	–
3/4	20	15	18.00	8.16	–	–	–	–	–	–
1	25	5	10.00	4.54	–	–	–	–	–	–
1 1/4	32	5	11.75	5.33	–	–	–	–	–	–
1 1/2	40	5	21.00	9.52	–	–	–	540	2268.00	1028.57
2	50	2	11.70	5.31	–	–	–	–	–	–
FIGURE 2172: TEES (PAGE 112)										
1/2	15	20	23.20	10.52	–	–	–	2000	2320.00	1052.15
3/4	20	10	20.00	9.07	–	–	–	1000	2000.00	907.03
1	25	5	15.80	7.17	–	–	–	–	–	–
1 1/4	32	5	18.10	8.21	–	–	–	–	–	–
1 1/2	40	3	21.30	9.66	–	–	–	–	–	–
2	50	2	17.80	8.07	–	–	–	–	–	–
FIGURE 2173: CROSSES (PAGE 112)										
1/2	15	15	21.00	9.52	–	–	–	–	–	–
3/4	20	5	11.50	5.22	–	–	–	–	–	–
1	25	5	19.00	8.62	–	–	–	–	–	–
1 1/4	32	5	23.50	10.66	–	–	–	–	–	–
1 1/2	40	3	26.10	11.84	–	–	–	–	–	–
FIGURE 2174: COUPLINGS (PAGE 113)										
1/2	15	25	13.25	6.01	–	–	–	–	–	–
3/4	20	25	14.00	6.35	–	–	–	–	–	–
1	25	10	9.20	4.17	–	–	–	–	–	–
1 1/4	32	10	11.60	5.26	–	–	–	–	–	–
1 1/2	40	5	12.85	5.83	–	–	–	–	–	–
2	50	6	28.50	12.93	–	–	–	480	2280.00	1034.01
FIGURE 2175: HALF COUPLINGS (PAGE 113)										
1/2	15	25	14.00	6.35	–	–	–	–	–	–
3/4	20	25	23.75	10.77	–	–	–	–	–	–
1	25	25	28.00	12.70	–	–	–	–	–	–
1 1/4	32	25	46.75	21.20	–	–	–	–	–	–
1 1/2	40	10	28.70	13.02	–	–	–	–	–	–
2	50	5	18.10	8.21	–	–	–	–	–	–
FIGURE 2177: PIPE CAPS (PAGE 114)										
1/2	15	25	10.50	4.76	–	–	–	–	–	–
3/4	20	15	8.70	3.95	–	–	–	–	–	–
1	25	10	12.10	5.49	–	–	–	–	–	–
1 1/4	32	15	15.00	6.80	–	–	–	–	–	–
1 1/2	40	5	10.60	4.81	–	–	–	–	–	–
2	50	5	24.35	11.04	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

High Pressure Plugs

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2122: SQUARE HEAD PLUGS (PAGE 115)											
1/8		6	100	2.00	0.91	–	–	–	–	–	–
1/4		8	100	3.00	1.36	–	–	–	–	–	–
3/8		10	100	6.00	2.72	–	–	–	–	–	–
1/2		15	100	10.00	4.54	–	–	–	20000	2000.00	907.03
3/4	B	20	50	9.00	4.08	–	–	–	10000	1800.00	816.33
1	B	25	25	9.50	4.31	–	–	–	5000	1900.00	861.68
1 1/4		32	25	15.50	7.03	–	–	–	3000	1860.00	843.54
1 1/2		40	10	8.80	3.99	–	–	–	2400	2112.00	957.82
2		50	15	21.00	9.52	–	–	–	–	–	–
2 1/2		65	10	22.00	9.98	–	–	–	–	–	–
3		80	10	34.00	15.42	–	–	–	–	–	–
FIGURE 2142: HEX HEAD PLUGS (PAGE 115)											
1/8		6	100	3.00	1.36	–	–	–	–	–	–
1/4	B	8	100	5.00	2.27	–	–	–	32400	1620.00	734.69
3/8		10	100	9.00	4.08	–	–	–	–	–	–
1/2	B	15	100	13.00	5.90	–	–	–	12000	1560.00	707.48
3/4	B	20	50	13.50	6.12	–	–	–	8000	2160.00	979.59
1	B	25	25	12.00	5.44	–	–	–	4000	1920.00	870.75
1 1/4		32	20	18.80	8.53	–	–	–	2400	2256.00	1023.13
1 1/2		40	10	12.00	5.44	–	–	–	–	–	–
2	B	50	10	24.00	10.88	–	–	–	–	–	–
3		80	5	24.00	10.88	–	–	–	–	–	–
FIGURE 2121: ROUND HEAD PLUGS (PAGE 115)											
1/8		6	100	5.00	2.27	–	–	–	–	–	–
1/4		8	100	10.00	4.54	–	–	–	–	–	–
3/8		10	50	8.00	3.63	–	–	–	–	–	–
1/2		15	50	14.00	6.35	–	–	–	–	–	–
3/4		20	25	10.50	4.76	–	–	–	–	–	–
1		25	15	12.30	5.58	–	–	–	–	–	–
1 1/4		32	15	18.00	8.16	–	–	–	–	–	–
1 1/2		40	15	22.50	10.20	–	–	–	–	–	–
2		50	8	25.60	11.61	–	–	–	–	–	–

Forged Steel Fittings

High Pressure Bushings

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2140: FLUSH BUSHINGS (PAGE 116)										
1/2 x 3/8	15 x 10	50	3.00	1.36	–	–	–	16200	972.00	440.82
3/4 x 3/8	20 x 10	50	4.50	2.04	–	–	–	16200	1458.00	661.22
3/4 x 1/2	20 x 15	50	4.50	2.04	–	–	–	16200	1458.00	661.22
1 x 1/2	25 x 15	50	6.00	2.72	–	–	–	12000	1440.00	653.06
1 x 3/4	25 x 20	50	6.00	2.72	–	–	–	12000	1440.00	653.06
1 1/4 x 3/4	32 x 20	–	–	–	–	–	–	3750	562.50	255.10
1 1/4 x 1	32 x 25	50	7.50	3.40	–	–	–	9000	1350.00	612.24
2 x 3/4	50 x 20	–	–	–	–	–	–	2250	787.50	357.14
2 x 1 1/2	50 x 40	20	7.00	3.17	–	–	–	3600	1260.00	571.43

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

High Pressure Bushings

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 2139: HEX HEAD BUSHINGS (PAGE 116)										
1/4 x 1/8	8 x 6	100	2.00	0.91	–	–	–	32400	648.00	293.88
3/8 x 1/8	10 x 6	100	3.00	1.36	–	–	–	–	–	–
3/8 x 1/4	10 x 8	100	3.00	1.36	–	–	–	32400	972.00	440.82
1/2 x 1/8	15 x 6	100	6.00	2.72	–	–	–	20000	1200.00	544.22
1/2 x 1/4	15 x 8	100	6.00	2.72	–	–	–	24000	1440.00	653.06
1/2 x 3/8	15 x 10	100	6.00	2.72	–	–	–	24000	1440.00	653.06
3/4 x 1/8	20 x 6	50	5.50	2.49	–	–	–	10000	1100.00	498.87
3/4 x 1/4	20 x 8	50	5.50	2.49	–	–	–	12000	1320.00	598.64
3/4 x 3/8	20 x 10	50	5.50	2.49	–	–	–	12000	1320.00	598.64
3/4 x 1/2	20 x 15	50	5.50	2.49	–	–	–	12000	1320.00	598.64
1 x 1/8	25 x 6	50	10.00	4.54	–	–	–	4500	900.00	408.16
1 x 1/4	25 x 8	50	10.00	4.54	–	–	–	4500	900.00	408.16
1 x 3/8	25 x 10	50	10.00	4.54	–	–	–	6000	1200.00	544.22
1 x 1/2	25 x 15	50	10.00	4.54	–	–	–	7500	1500.00	680.27
1 x 3/4	25 x 20	50	10.00	4.54	–	–	–	9000	1800.00	816.33
1 1/4 x 1/8	32 x 6	25	10.00	4.54	–	–	–	–	–	–
1 1/4 x 1/4	32 x 8	25	10.00	4.54	–	–	–	–	–	–
1 1/4 x 3/8	32 x 10	25	10.00	4.54	–	–	–	–	–	–
1 1/4 x 1/2	32 x 15	25	10.00	4.54	–	–	–	–	–	–
1 1/4 x 3/4	32 x 20	25	10.00	4.54	–	–	–	–	–	–
1 1/4 x 1	32 x 25	25	10.00	4.54	–	–	–	4500	1800.00	816.33
1 1/2 x 1/8	40 x 6	20	10.00	4.54	–	–	–	1800	900.00	408.16
1 1/2 x 1/4	40 x 8	20	10.00	4.54	–	–	–	2400	1200.00	544.22
1 1/2 x 3/8	40 x 10	20	10.00	4.54	–	–	–	2400	1200.00	544.22
1 1/2 x 1/2	40 x 15	20	10.00	4.54	–	–	–	–	–	–
1 1/2 x 3/4	40 x 20	20	10.00	4.54	–	–	–	–	–	–
1 1/2 x 1	40 x 25	20	10.00	4.54	–	–	–	3600	1800.00	816.33
1 1/2 x 1 1/4	40 x 32	20	10.00	4.54	–	–	–	3600	1800.00	816.33
2 x 1/8	50 x 6	12	10.20	4.63	–	–	–	–	–	–
2 x 1/4	50 x 8	12	10.20	4.63	–	–	–	–	–	–
2 x 3/8	50 x 10	12	10.20	4.63	–	–	–	–	–	–
2 x 1/2	50 x 15	12	10.20	4.63	–	–	–	1440	1224.00	555.10
2 x 3/4	50 x 20	12	10.20	4.63	–	–	–	1440	1224.00	555.10
2 x 1	50 x 25	12	10.20	4.63	–	–	–	1440	1224.00	555.10
2 x 1 1/4	50 x 32	12	10.20	4.63	–	–	–	2160	1836.00	832.65
2 x 1 1/2	50 x 40	12	10.20	4.63	–	–	–	2160	1836.00	832.65
2 1/2 x 1 1/4	65 x 32	10	12.00	5.44	–	–	–	–	–	–
2 1/2 x 1 1/2	65 x 40	10	12.00	5.44	–	–	–	–	–	–
3 x 3/4	80 x 20	5	13.00	5.90	–	–	–	–	–	–
3 x 1 1/4	80 x 32	5	13.00	5.90	–	–	–	–	–	–
3 x 2	80 x 50	12	31.20	14.15	–	–	–	–	–	–
4 x 3	100 x 80	5	35.00	15.87	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Fittings

Socket-Weld Reducer Inserts

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
SOCKET-WELD REDUCER INSERTS: CLASS 3000 (PAGE 117)										
½ x ¼	15 x 8	50	9.00	4.08	–	–	–	–	–	–
½ x ⅜	15 x 10	50	9.00	4.08	–	–	–	–	–	–
¾ x ¼	20 x 8	50	12.50	5.67	–	–	–	8000	2000.00	907.03
¾ x ⅜	20 x 10	50	12.50	5.67	–	–	–	10000	2500.00	1133.79
¾ x ½	20 x 15	50	12.50	5.67	–	–	–	–	–	–
1 x ½	25 x 15	50	17.50	7.94	–	–	–	6000	2100.00	952.38
1 x ¾	25 x 20	50	17.50	7.94	–	–	–	5000	1750.00	793.65
1¼ x ⅜	32 x 10	25	14.00	6.35	–	–	–	3750	2100.00	952.38
1¼ x ½	32 x 15	25	14.00	6.35	–	–	–	3000	1680.00	761.90
1¼ x ¾	32 x 20	25	14.00	6.35	–	–	–	3750	2100.00	952.38
1¼ x 1	32 x 25	25	14.00	6.35	–	–	–	3000	1680.00	761.90
1½ x ½	40 x 15	10	6.20	2.81	–	–	–	1800	1116.00	506.12
1½ x ¾	40 x 20	20	12.40	5.62	–	–	–	1800	1116.00	506.12
1½ x 1	40 x 25	12	7.44	3.37	–	–	–	–	–	–
1½ x 1¼	40 x 32	12	7.44	3.37	–	–	–	–	–	–
2 x ½	50 x 15	10	15.00	6.80	–	–	–	–	–	–
2 x ¾	50 x 20	10	15.00	6.80	–	–	–	–	–	–
2 x 1	50 x 25	10	15.00	6.80	–	–	–	–	–	–
2 x 1¼	50 x 32	10	15.00	6.80	–	–	–	–	–	–
2 x 1½	50 x 40	10	15.00	6.80	–	–	–	–	–	–
2½ x 2	65 x 50	10	30.00	13.61	–	–	–	–	–	–

Forged Steel Unions

Class 3000 Threaded & Socket-Weld

Size			Cartons			Master Container			Pallets		
			No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS		*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 2125: THREADED UNION (PAGE 119)											
¼		8	25	7.50	3.40	–	–	–	–	–	–
⅜		10	25	12.50	5.67	–	–	–	–	–	–
½	B	15	25	17.50	7.94	–	–	–	–	–	–
¾		20	25	30.00	13.61	–	–	–	–	–	–
1	B	25	10	17.00	7.71	–	–	–	–	–	–
1¼		32	10	25.00	11.34	–	–	–	–	–	–
1½		40	5	16.50	7.48	–	–	–	–	–	–
2		50	5	26.50	12.02	–	–	–	–	–	–
2½		65	5	43.00	19.50	–	–	–	–	–	–
3		80	4	50.80	23.04	–	–	–	–	–	–
FIGURE 2126: SOCKET-WELD UNION (PAGE 119)											
¼		8	25	7.50	3.40	–	–	–	–	–	–
⅜		10	25	12.50	5.67	–	–	–	–	–	–
½		15	25	17.50	7.94	–	–	–	–	–	–
¾		20	25	30.00	13.61	–	–	–	–	–	–
1		25	10	17.00	7.71	–	–	–	–	–	–
1¼		32	10	25.00	11.34	–	–	–	–	–	–
1½		40	5	16.50	7.48	–	–	–	–	–	–
2		50	5	26.50	12.02	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Forged Steel Unions

Class 6000 Threaded & Socket-Weld

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 2127: THREADED UNION (PAGE 120)										
¼	8	25	15.00	6.80	–	–	–	–	–	–
½	15	10	14.00	6.35	–	–	–	–	–	–
¾	20	10	20.00	9.07	–	–	–	–	–	–
1	25	10	31.00	14.06	–	–	–	–	–	–
1¼	32	5	29.50	13.38	–	–	–	–	–	–
1½	40	10	66.00	29.93	–	–	–	–	–	–
2	50	5	52.50	23.81	–	–	–	–	–	–
FIGURE 2128: SOCKET-WELD UNION (PAGE 120)										
½	15	25	35.00	15.87	–	–	–	–	–	–

Catawissa

Wing Unions

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	DN		lbs	kg		lbs	kg		lbs	kg
FIGURE 100: LUG UNION (PAGE 132)										
2 B	50	12	75.00	34.01	–	–	–	336	2100.00	952.38
2½	65	8	80.40	36.46	–	–	–	224	2251.20	1020.95
3	80	6	81.90	37.14	–	–	–	168	2293.20	1040.00
4	100	2	44.00	19.95	–	–	–	56	1232.00	558.73
6	150	–	–	–	–	–	–	28	1283.80	582.22
8	200	–	–	–	–	–	–	28	1866.20	846.35
FIGURE 100C: LUG UNION (PAGE 132)										
2 B	50	12	81.00	36.73	–	–	–	336	2268.00	1028.57
FIGURE 200: LUG UNION (PAGE 133)										
1 B	25	36	63.00	28.57	–	–	–	1008	1764.00	800.00
1¼	32	25	56.25	25.51	–	–	–	700	1575.00	714.29
1½	40	24	66.00	29.93	–	–	–	672	1848.00	838.10
2	50	14	78.40	35.56	–	–	–	392	2195.20	995.56
2 (Ductile Iron) B	50	14	66.50	30.16	–	–	–	392	1862.00	844.44
2½	65	8	85.60	38.82	–	–	–	224	2396.80	1086.98
3	80	6	77.10	34.97	–	–	–	168	2158.80	979.05
4	100	4	74.80	33.92	–	–	–	112	2094.40	949.84
FIGURE 200: BUTTWELD ENDS, SCHEDULE 40, UNION (PAGE 134)										
2	50	14	77.00	34.92	–	–	–	–	–	–
3	80	6	87.00	39.46	–	–	–	–	–	–
4	100	4	83.60	37.91	–	–	–	–	–	–
FIGURE 200C: LUG UNION (PAGE 134)										
1 B	25	36	68.40	31.02	–	–	–	1008	1915.20	868.57
2 B	50	6	34.50	15.65	–	–	–	300	1725.00	782.31

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Catawissa
Wing Unions

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 206: LUG UNION (PAGE 135)										
1	25	25	56.25	25.51	–	–	–	700	1575.00	714.29
1¼	32	24	66.00	29.93	–	–	–	672	1848.00	838.10
1½	40	36	63.00	28.57	–	–	–	1008	1764.00	800.00
2	50	14	66.50	30.16	–	–	–	392	1862.00	844.44
2½	65	8	85.60	38.82	–	–	–	–	–	–
3	80	6	78.00	35.37	–	–	–	168	2184.00	990.48
4	100	4	74.80	33.92	–	–	–	112	2094.40	949.84
6	150	–	–	–	–	–	–	28	1290.80	585.40
FIGURE 206: BUTTWELD ENDS, SCHEDULE 40, UNION (PAGE 136)										
2	50	14	84.00	38.10	–	–	–	–	–	–
3	80	6	87.00	39.46	–	–	–	–	–	–
4	100	4	83.60	37.91	–	–	–	–	–	–
FIGURE 211: INSULATING UNION (PAGE 137)										
1	25	30	70.20	31.84	–	–	–	840	1965.60	891.43
2	50	12	74.88	33.96	–	–	–	336	2096.64	950.86
FIGURE 300: LUG UNION (PAGE 137)										
1	25	30	66.30	30.07	–	–	–	840	1856.40	841.90
2	50	12	72.00	32.65	–	–	–	336	2016.00	914.29
2½	65	8	87.04	39.47	–	–	–	224	2437.12	1105.27
3	80	6	85.50	38.78	–	–	–	168	2394.00	1085.71
4	100	4	82.76	37.53	–	–	–	112	2317.28	1050.92
FIGURE 400: LUG UNION (PAGE 138)										
2	50	6	66.30	30.07	–	–	–	168	1856.40	841.90
3	80	3	60.00	27.21	–	–	–	84	1680.00	761.90
4	100	2	58.30	26.44	–	–	–	56	1632.40	740.32
FIGURE 400: BUTTWELD ENDS, SCHEDULE 80, UNION (PAGE 139)										
2	50	6	64.50	29.25	–	–	–	–	–	–
FIGURE 600: LUG UNION (PAGE 139)										
1	25	25	91.25	41.38	–	–	–	700	2555.00	1158.73
1½	40	7	0.07	0.03	–	–	–	–	–	–
2	50	4	62.56	28.37	–	–	–	112	1751.68	794.41
3	80	3	0.03	0.01	–	–	–	–	–	–
4	100	2	0.02	0.01	–	–	–	–	–	–
FIGURE 602: LUG UNION (PAGE 140)										
1	25	25	88.75	40.25	–	–	–	700	2485.00	1126.98
1½	40	7	66.78	30.29	–	–	–	196	1869.84	848.00
2	50	6	74.40	33.74	–	–	–	168	2083.20	944.76
3	80	3	66.90	30.34	–	–	–	84	1873.20	849.52
4	100	2	64.36	29.19	–	–	–	56	1802.08	817.27
FIGURE 602: BUTTWELD ENDS, SCHEDULE 80, UNION (PAGE 141)										
2	50	6	72.72	32.98	–	–	–	–	–	–
3	80	3	63.75	28.91	–	–	–	–	–	–
4	100	2	56.50	25.62	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Catawissa
Wing Unions

Size		Cartons			Master Container			Pallets		
		No. Pcs.	Weight		No. Pcs.	Weight		No. Pcs.	Weight	
NPS	*DN*		lbs	*kg*		lbs	*kg*		lbs	*kg*
FIGURE 607: LUG UNION (PAGE 141)										
1½	40	7	62.72	28.44	–	–	–	196	1756.16	796.44
2	50	4	58.56	26.56	–	–	–	112	1639.68	743.62
FIGURE 1002: LUG UNION (PAGE 142)										
1	25	25	90.50	41.04	–	–	–	700	2534.00	1149.21
1½	40	7	66.78	30.29	–	–	–	–	–	–
2	50	6	78.00	35.37	–	–	–	168	2184.00	990.48
3	80	3	67.20	30.48	–	–	–	84	1881.60	853.33
4	100	3	101.46	46.01	–	–	–	84	2840.88	1288.38
FIGURE 1002: BUTTWELD ENDS, SCHEDULE 160, UNION (PAGE 143)										
2	50	6	85.50	38.78	–	–	–	–	–	–
3	80	3	63.75	28.91	–	–	–	–	–	–
4	100	2	63.00	28.57	–	–	–	–	–	–
FIGURE 1002: BUTTWELD ENDS, SCHEDULE XXH, UNION (PAGE 143)										
2	50	6	78.96	35.81	–	–	–	–	–	–
3	80	3	76.56	34.72	–	–	–	–	–	–
4	100	2	68.08	30.88	–	–	–	–	–	–
FIGURE 1502: LUG UNION (PAGE 144)										
1½	40	7	108.22	49.08	–	–	–	–	–	–
2	50	4	77.84	35.30	–	–	–	112	2179.52	988.44
3	80	2	60.96	27.65	–	–	–	56	1706.88	774.10
FIGURE 1502: BUTTWELD ENDS, SCHEDULE XXH, UNION (PAGE 144)										
1½	40	7	110.25	50.00	–	–	–	–	–	–
2	50	4	82.32	37.33	–	–	–	112	2304.96	1045.33
3	80	2	55.96	25.38	–	–	–	56	1566.88	710.60
FIGURE S1A: HIGH SPEED UNION (PAGE 145)										
1	25	36	54.00	24.49	–	–	–	–	–	–
2	50	19	85.50	38.78	–	–	–	–	–	–

Weights are for black fittings. B Sold in box only, black. G Sold in box only, galvanized.

Standards and Specifications

	Dimensions	Material	Galvanizing****	Thread	Pressure Rating	Federal/Other
MALLEABLE IRON FITTINGS						
Class 150/PN 20	ASME B16.3•	ASTM A-197	ASTM A-153	ASME B1 20.1+	ASME B16.3•	ASME B16.3**
Class 300/PN 50	ASME B16.3•	ASTM A-197	ASTM A-153	ASME B1 20.1+	ASME B16.3•	
MALLEABLE IRON UNIONS						
Class 150/PN 20	ASME B16.39•	ASTM A-197	ASTM A-153	ASME B1 20.1+	ASME B16.39•	ASME B16.39***
Class 250	ASME B16.39•	ASTM A-197	ASTM A-153	ASME B1 20.1+	ASME B16.39•	
Class 300/PN 50	ASME B16.39•	ASTM A-197	ASTM A-153	ASME B1 20.1+	ASME B16.39•	
CAST IRON THREADED FITTINGS						
Class 125	ASME B16.4•	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1+	ASME B16.4•	ASME B16.4■
Class 250	ASME B16.4•	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1+	ASME B16.4•	ASME B16.4■
CAST IRON PLUGS AND BUSHINGS						
	ASME B16.14•	ASTM A- 126 (A)	ASTM A-153	ASME B1.20.1+	ASME B16.14•	WW-P-471
CAST IRON DRAINAGE THREADED FITTINGS						
	ASME B16.12•	ASTM A-126 (A)	ASTM A-153	ASME B1.20.1+	ASME B16.12•	
CAST IRON FLANGES AND FLANGED FITTINGS						
Class 125 (1"-12")	ASME B16.1•	ASTM A- 126 (A) or (B)	ASTM A-153	ASME B1.20.1+	ASME B16.1	ASME B16.1•
Class 125 (14"-up)	ASME B16.1•	ASTM A-126 (B)	ASTM A-153	ASME B1.20.1+	ASME B16.1	ASME B16.1•
Class 250 (1"-12")	ASME B16.1•	ASTM A- 126 (A) or (B)	ASTM A-153	ASME B1.20.1+	ASME B16.1	ASME B16.1•
Class 250 (14"-up)	ASME B16.1•	ASTM A-126 (B)	ASTM A-153	ASME B1.20.1+	ASME B16.1	ASME B16.1•
FORGED STEEL THREADED FITTINGS						
Class 2000, 3000, 6000	ASME B16.11•	ASTM AI05, ASTM A182, ASTM A350		ASMEB1.20.1+	ASME B16.11•	
PIPE NIPPLES						
Steel Pipe - Welded	ASTM A733	ASTM A53 Type F or Type E		ASME B1.20.1+		WWN 351
Steel Pipe - Seamless (High Temp.)	ASTM A733	ASTM A106 Gr. B		ASME B1.20.1+		WWN 351
Brass		ASTM B43		ASME B1.20.1+		WWN 351

*The standard
•an American National standard (ANSI)
+ASME B1.20.1 was ANSI B2.1
■Formerly WW-P-501
**Formerly WW-P-521
***Formerly WW-U-531
****ASTM B 633. Type I, SC 4, may be supplied as alternate zinc coating per applicable ASME B16 product standard.

Conditions and Terms of Sale

1. **CONTROLLING PROVISIONS:** These terms and conditions shall control with respect to any purchase order or sale of Seller's products. No waiver, alteration or modification of these terms and conditions whether on Buyer's purchase order or otherwise shall be valid unless the waiver, alteration or modification is specifically accepted in writing and signed by an authorized representative of Seller.

2. **DELIVERY:** Seller will make every effort to complete delivery of products as indicated on Seller's acceptance of an order, but Seller assumes no responsibility or liability, and will accept no back-charge, for loss or damage due to delay or inability to deliver caused by acts of God, war, labor difficulties, accident, delays of carriers, by contractors or suppliers, inability to obtain materials, shortages of fuel and energy, or any other causes of any kind whatever beyond the control of Seller. Seller may terminate any contract of sale of its products without liability of any nature, by written notice to Buyer, in the event that the delay in delivery or performance resulting from any of the aforesaid causes shall continue for a period of sixty (60) days. Under no circumstances shall Seller be liable for any special or consequential damages or for loss, damage, or expense (whether or not based on negligence) directly or indirectly arising from delays or failure to give notice of delay.

3. **WARRANTY:** Seller warrants for one year from the date of shipment Seller's manufactured products to the extent that Seller will replace those having defects in materials or workmanship when used for the purpose and in the manner which Seller recommends. If Seller's examination shall disclose to its satisfaction that the products are defective, and an adjustment is required, the amount of such adjustment shall not exceed the net sales price of the defective products only and no allowance will be made for labor or expense of repairing or replacing defective products or workmanship or damage resulting from the same. Seller warrants the products which it sells of other manufacturers to the extent of the warranties of their respective makers. Where engineering design or fabrication work is supplied, buyer's acceptance of Seller's design or of delivery of work shall relieve Seller of all further obligation, other than as expressed in Seller's product warranty. THIS IS SELLER'S SOLE WARRANTY. SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED: and ALL IMPLIED WARRANTIES OF MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED SELLER'S AFORE STATED OBLIGATION ARE HEREBY DISCLAIMED BY SELLER and EXCLUDED FROM THIS WARRANTY. Seller neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of its engineering designs or products. This warranty shall not apply to any products or parts of products which (a) have been repaired or altered outside of Seller's factory, in any manner; or (b) have been subjected to misuse, negligence or accidents; or (c) have been used in a manner contrary to Seller's instructions or recommendations. Seller shall not be responsible for design errors due to inaccurate or incomplete information supplied by Buyer or its representatives.

4. **SELLER'S LIABILITY:** Seller will not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether based upon warranty (except for the obligation accepted by Seller under "Warranty" above), contract or negligence arising in connection with the design, manufacture, sale, use or repair of the products or of the engineering designs supplied to Buyer.

5. **RETURNS:** Seller cannot accept return of any products unless its written permission has been first obtained, in which case same will be credited subject to the following: (a) All material returned must, on its arrival at Seller's plant, be found to be in first-class condition; if not, cost of putting in saleable condition will be deducted from credit memoranda. (b) A handling charge deduction of twenty percent (20%) will be made from all credit memoranda issued for material returned. (c) Transportation charges, if not prepaid, will be deducted from credit memoranda.

6. **SHIPMENTS:** All products sent out will be carefully examined, counted and packed. The cost of any special packing or special handling caused by Buyer's requirements or requests shall be added to the amount of the order. No claim for shortages will be allowed unless made in writing within ten (10) days of receipt of a shipment. Claims for products damaged or lost in transit should be made on the carrier, as Seller's responsibility ceases, and title passes, on delivery to the carrier.

7. **SPECIAL PRODUCTS:** Orders covering special or non-standard products are not subject to cancellation except on such terms as Seller many specify on application.

8. **PRICES and DESIGNS:** Prices and designs are subject to change without notice. All prices are F.O.B. Point of Shipment, unless otherwise stated.

9. **TAXES:** The amount of any sales, excise or other taxes, if any, applicable to the products covered by this order, shall be added to the purchase price and shall be paid by Buyer unless Buyer provides Seller with an exemption certificate acceptable to the taxing authorities.

10. **NUCLEAR PLANTS:** Where the products, engineering design or fabrication is for nuclear plant applications, Buyer agrees: (a) to take all necessary steps to add Seller as an insured under the American Nuclear Insurers' (ANI) pool and under the Mutual Atomic Energy Reinsurance Pool (MAERP) for property damage and liability insurance and if necessary steps could have been taken, but are not taken, Buyer shall hold Seller harmless against all such losses which could have been thus covered, (b) to hold Seller harmless with respect to any personal injury (or death), property damage or other loss in a nuclear incident which is caused directly or indirectly by defective design, material, or workmanship furnished by Seller and which is covered by insurance maintained by Buyer (or which could be so covered but with respect to which Buyer has elected to self-insure), and further agrees to waive subrogation by its carriers of such insurance against Seller, and (c) as to nuclear hazards for which Buyer cannot obtain insurance coverage, the liability of Seller for any personal injury (or death), property damage or other loss directly caused by defective design, material, or workmanship furnished by Seller shall not exceed the value of the material furnished by Seller at the time of the loss occurrence.

11. **MINIMUM INVOICE:** $25.00 plus transportation.

12. **TERMS:** Cash, net 30 days unless otherwise specified.

General Assembly of Threaded Fittings

1) Inspect both male and female components prior to assembly.
   - Threads should be free from mechanical damage, dirt, chips and excess cutting oil.
   - Clean or replace components as necessary.

2) Application of pipe dope
   - Use a pipe dope that is fast drying, sets-up to a semi hard condition and is vibration resistant. Alternately, an anaerobic sealant may be utilized.
   - Thoroughly mix the thread sealant prior to application.
   - Apply a thick even coat to the male threads only. Best application is achieved with a brush stiff enough to force sealant down to the root of the threads.

3) Joint Makeup
   - For sizes up to and including 1 1/2" pipe, wrench tight makeup is considered three full turns past handtight. Handtight engagement for 1/2" through 2" thread varies from 4 1/2 turns to 5 turns.
   - For 2 1/2" through 4" sizes, wrench tight makeup is considered two full turns past handtight. Handtight engagement for 2 1/2" through 4" thread varies from 5 1/2 turns to 6 3/4 turns.

MULTIPLY	BY	TO OBTAIN
Atmosphere	0.001316	Torrs
Atmospheres	76	Cms. of mercury
"	29.92	Inches of mercury
"	33.9	Feet of water
"	14.7	Lbs./sq. inch
Barrels—Oil	42	Gallons
Barrels—Cement	376	Lbs.—cement
Bags or Sacks—Cement	94	Lbs—cement
Board—feet	144 sq. in. x 1 in	Cubic in.
British Thermal Units	777.5	Foot lbs.
" " "	0.0003927	Horsepower—hrs.
" " "	0.0002928	Kilowatt—hrs.
" " "	0.00001	Therms
B.T.U./min	12.96	Foot lbs./sec
	0.02356	Horsepower
" "	0.01757	Kilowatts
" "	17.57	Watts
Centimeters	0.3937	Inches
Cubic centimeters	0.00003531	Cubic ft.
" "	0.06102	Cubic inches
" "	0.000001308	Cubic yards
" "	0.0002642	Gallons
" "	0.03381	Ounces (Fluid)
Cubic Cm./min	0.002118	Cu. ft./hr.
" " / "	0.0002641	Gal./min.
Cubic feet	1728	Cubic in.
" "	7.48052	Gallons
Cubic inches	0.0005787	Cubic feet
" "	0.00002143	Cubic yards
" "	0.004329	Gallons
Cubic meters	35.31	Cu. ft.
" "	61.023	Cu. In.
" "	1.308	Cu. yds.
" "	264.2	Gallons
Cubic yards	27	Cu. ft.
Degrees (angle)	60	Minutes
" "	0.01745	Radians
" "	3600	Seconds
Degrees/sec	0.01745	Radians/sec.
" "	0.1667	Revolutions/min.
" / "	0.002778	Revolutions/sec.
English Viscosity Units	14.88	Poises
Feet	30.48	Centimeters
"	12	Inches
"	0.3048	Meters
Feet of water	0.0295	Atmosphere
" " "	0.8826	In. of mercury
	62.43	Lbs./sq. ft.
" " "	0.4335	Lbs./sq. in.
Feet/sec	0.6818	Miles/hr.
Foot lbs	0.001286	Br. Thermal Units
" "	0.000000505	Horsepower hrs.
" "	3.766E-07	Kilowatt hrs.
Foot lbs./min	0.001286	B.T.U./min.
" " / "	0.01667	Ft. lbs./sec.
" " / "	0.0000303	Horsepower
" " / "	0.0000266	Kilowatts
Foot lbs./sec	0.0717	B.T.U./min.
" " / "	0.001818	Horsepower
" " / "	0.001356	Kilowatts
Gallons	3785	Cubic centimeters
"	0.1337	Cubic feet
"	231	Cubic inches
Gallons (Imperial)	1.20095	U.S. gallons
" (U.S.)	0.83267	Imperial gallons
Gallons water	8.3453	Pounds of water
Gallons/min	0.002228	Cu. ft./sec.
" / "	8.0208	Cu. ft./hr.
Grams	0.03527	Ounces
"	0.002205	Pounds
Grams/cu. cm	62.43	Pounds/cu. ft.
" / " "	0.03613	Pounds/cu.in.
Horsepower	42.44	B.T.U./min.
"	33000	Ft. lbs./min.
"	0.55	Ft. lbs./sec.
	0.7457	Kilowatts
Horsepower (boiler)	33,479 .	B.T.U./hr.
" "	9.803	Kilowatts

MULTIPLY	BY	TO OBTAIN
Horsepower hours	0.2547	British Thermal Units
" "	7457	Kilowatt hours
Inches	2.54	Centimeters
Inches of mercury	0.03342	Atmospheres
" " "	1.133	Ft. of water
" " "	70.73	Lbs./sq. ft.
" " "	0.4912	Lbs./sq. in.
Inches of water	0.002458	Atmospheres
" " "	0.07355	Inches of mercury
" " "	5.202	Lbs./sq. ft.
" " "	0.03613	Lbs./sq. in.
" " "	0.5781	Ounces/sq.in.
Kilograms	2.205	Lbs.
Kgs./meter	0.672	Lbs./ft.
Kgs./sq. meter	0.003281	Feet of water
" / " "	0.2048	Lbs./sq. ft.
" /" "	0.001422	Lbs./sq. in.
Kilometers	3281	Feet
"	0.6214	Miles
"	0.1094	Yards
Kilometers/hr	27.78	Centimeters/sec.
" /"	54.68	Feet/min.
" /"	0.9113	Feet/sec.
" /"	0.6214	Miles/hr.
Kilowatts	56.92	B.T.Units/min.
"	44250	Ft. lbs./min.
"	737.6	Ft. lbs./sec.
"	1.341	Horsepower
"	0.1	Watts
Kilowatt hrs	0.3415	B.T.U.
" "	0.000002655	Ft. lbs.
" "	1.341	Horsepower-hrs.
Liters	0.03531	Cu. ft.
"	61.02	Cu. in.
"	0.2642	Gallons
Meters	100	Centimeters
"	3.281	Feet
"	39.37	Inches
"	1.094	Yards
Meters/sec	196.8	Ft./min.
Millimeters	0.1	Centimeters
"	0.03937	Inches
Ounces .	437.5	Grains
"	28.349527	Grams
"	0.0625	Pounds
Pounds .	16	Ounces
"	7	Grains
"	453.5924	Grams
Pounds of water	0.01602	Cu. ft.
" " "	27.68	Cu. in.
" " "	0.1198	Gallons
Pounds/cu. ft	0.0005787	Lbs./cu. in.
Pounds/cu. in	1728	Lbs./cu. ft.
Radians	57.3	Degrees
"	0.3438	Minutes
"	0.637	Quadrants
Radians / sec	57.3	Degrees/sec.
" / "	0.1592	Revolutions/sec.
" / "	9.549	Revolutions/min.
Revolutions	360	Degrees
"	4	Quadrants
"	6.283	Radians
Revolutions/min	6	Degrees/sec
" / "	0.1047	Radians/sec.
/ "	0.01667	Revolutions/sec.
Temp. (°C) +273	1	Abs. temp. Co
" +17.78	1.8	Temp. (°F)
Temp. (°F) +460	1	Abs. temp. (°F)
" -32	39942	Temp. (°C)
Torr	760	Atmospheres
Torr	1	mm Hg
Watts	0.05692	B.T. Units/min.
"	44.26	Ft. lbs./min.
"	0.001341	Horsepower
"	0.01	Kilowatts
Yards	91.44	Centimeters
"	3	Feet
"	36	Inches
"	0.9144	Meters

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NOTES

NOTES

Today Anvil® International is the largest and most complete fitting and hanger manufacturer in the world.

2004 Anvil® International acquires Star Pipe Products, Building and Construction Divisions (SPF) and forms AnvilStar™ Fire Products Division.

2001 Anvil® International acquires Merit® Manufacturing and Beck Manufacturing.

2000 The industry's trusted manufacturer of pipe fittings, hangers and grooved fittings is renamed Anvil® International, Inc.

1999 Tyco sells the distribution and manufacturing operations known up to this point as "Grinnell Supply Sales", but keeps the Grinnell® trademark.

1994 J.B. Smith™ and Catawissa™ join the Grinnell Supply Sales and Manufacturing division.

1969 Grinnell Co. acquired by International Telephone and Telegraph. Two years later, ITT divests the Fire Protection Division, but keeps the manufacturing and sales divisions that will become known as Anvil® International.

1960 Gruvlok® line of grooved fittings is introduced.

1919 General Fire Extinguisher Co. becomes Grinnell Co.

1909 Frederick Grinnell opens a foundry in Cranston, RI. Companies express interest in buying its piping products, laying the groundwork for what would become the Grinnell Supply Sales Division. It would be these manufacturing and sales operations that eventually become Anvil® International.

1850 Providence Steam & Gas Pipe Co. is formed, and Frederick Grinnell purchases a controlling interest.

TRUSTED FOR 150 YEARS

We built our reputation from the ground up.

Anvil's history stretches back to the mid 1800s, when a company named Grinnell® began providing its customers with the finest quality pipe products. Since 2000, those quality products and services—and the people who provide them—have been known as Anvil® International. Anvil® customers receive the quality and integrity that have been building strong connections in both products and business relationships for over 150 years.

Focused Product Line:

Anvil® Malleable and Cast Iron Fittings

Anvil® Hangers, Supports and Struts

Beck Welded Pipe Nipples

Anvil® Seamless Pipe Nipples

Anvil® Steel Pipe Couplings and Small Steel Fittings

Merit® Tee-Lets and Drop Nipples

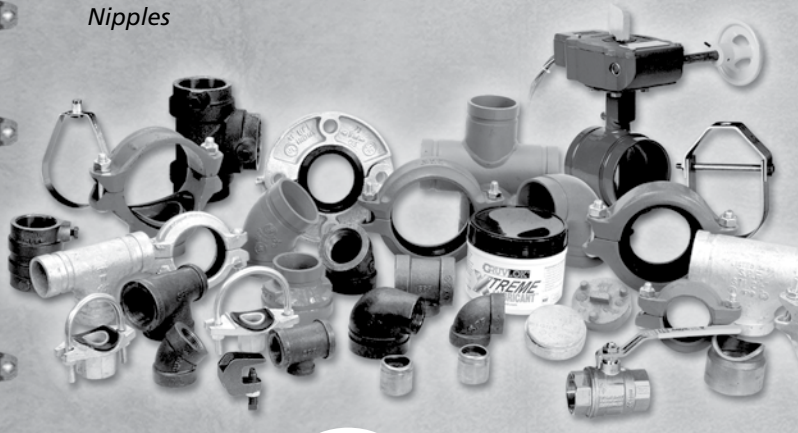
Gruvlok® Couplings, Fittings and Valves

SPF™ Malleable and Cast and Ductile Iron Fittings

SPF™ Grooved Fittings and O'Lets

J.B. Smith Swage Nipples and Bull Plugs

Catawissa® Wing Unions and Check Valves



Grinnell® is a registered trademark of Grinnell Corporation, a Tyco International Ltd. company.

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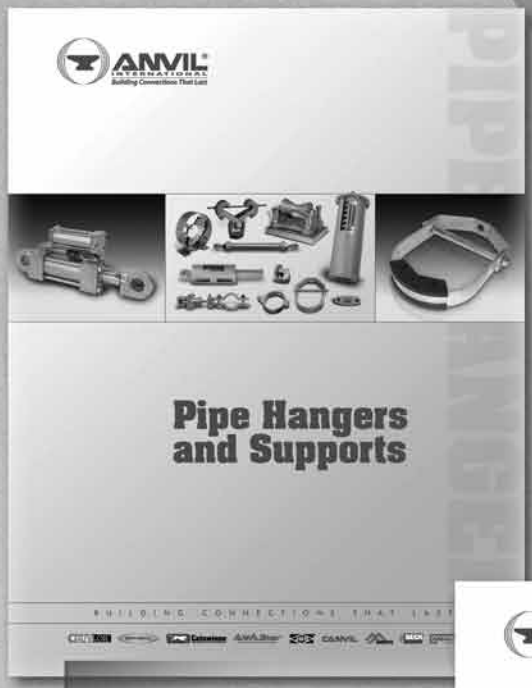
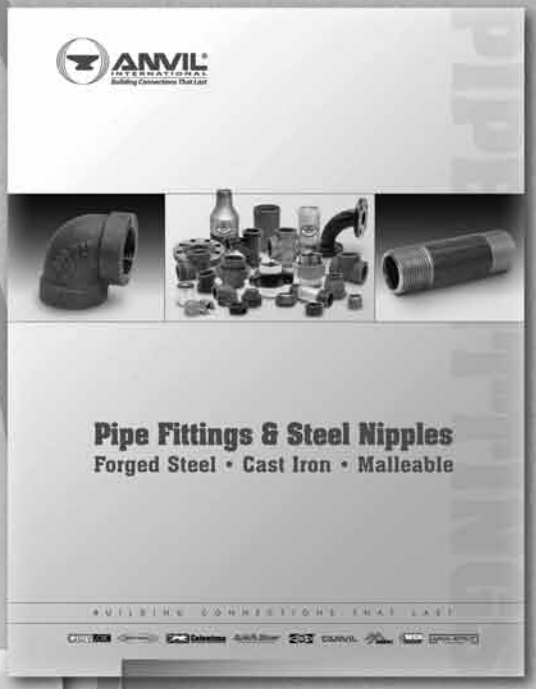
www.anvilintl.com



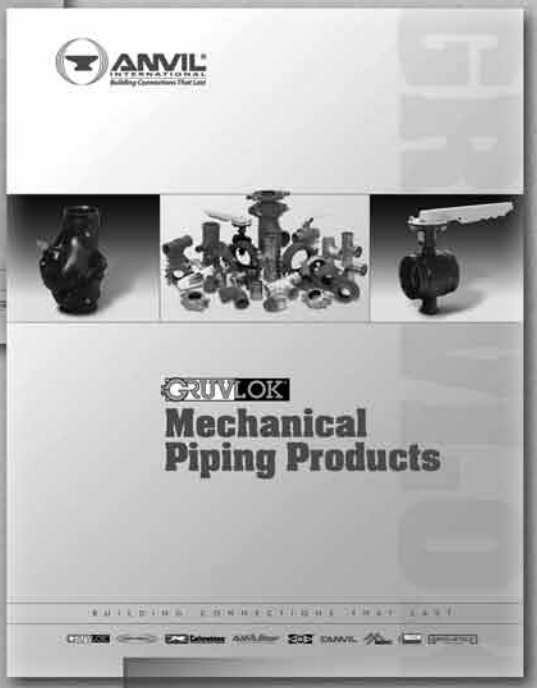
Pipe Hangers & Support Catalog
Order Document #165



Pipe Fittings Catalog
Order Document #010

Anvil-Strut Metal Framing Product & Engineering Catalog
Order Document #125

Pipe Fitters Handbook
Order Document #030



Gruvlok Mechanical Piping Products Catalog
Order Document #040

BRANDS OF ANVIL INTERNATIONAL

Anvil® product lines include malleable and cast iron fittings, unions and flanges; seamless steel pipe nipples; steel pipe couplings; universal anvilets; forged steel fittings and unions; pipe hangers and supports; threaded rod; and engineered hangers.

The Gruvlok® product line consists of couplings for grooved and plain-end fittings, butterfly valves and check valves; flanges; pump protection components; pipe grooving tools; as well as copper and stainless steel system components.

Anvil-Strut™ products include a complete line of channel in stock lengths of 10 and 20 feet, with custom lengths available upon request. A variety of fittings and accessories are also offered. All products can be ordered in an assortment of finishes and material choices including SupR-Green™, Zinc Trivalent Chromium, pre-galvanized, hot-dipped galvanized, electro-galvanized, aluminum, plain, and stainless steel.

JB Smith™ is the leading manufacturer of oil country tubular fittings, swages and bull plugs – all meeting API specifications. Offering tubing nipples, casing nipples as well as a full line of traditional line pipe and oil country threads in every schedule, JB Smith is the resource for all your oilfield needs.

Catawissa™ NACE and API approved wing unions for Standard Service are offered in non-pressure seal ends as well as threaded and butt weld, and are interchangeable with most leading union manufacturers. Fully traceable and available with complete mill certifications, Catawissa's oilfield wing union product line includes the standard ball-and-cone design plus our unique Figure 300 Flat Face design, where space and pipe line separation are a consideration.

The SPF/Anvil™ product line includes a variety of internationally sourced products such as grooved couplings, fittings and flanges, cast iron, malleable iron and ductile iron threaded fittings, steel pipe nipples, as well as o'lets.

The Merit® product line includes a variety of tee-lets, drop nipples, and steel welding flanges for fire protection applications. Most Merit products are UL/ULC Listed, FM Approved, and rated from 175 to 300 psi.

Beck steel pipe nipples and steel pipe couplings are manufactured in accordance with the ASTM A733 Standard Specification for Welded and Seamless Carbon Steel and Stainless Steel Pipe Nipples. Steel pipe couplings are manufactured in accordance with the ASTM A865 Standard Specification for Threaded Couplings, Steel, Black or Zinc-Coated (Galvanized) Welded or Seamless, for Use in Steel Pipe Joints. Beck API couplings are manufactured in accordance with the API Specification for line pipe.

Canvil® manufactures low pressure hexagon reducer bushings, as well as plugs and hex caps up to 1" in diameter in various finishes including Oil Treat, Phosphate and Electro Galvanized. In addition, Canvil manufactures A105 hex or round material in class 3000 and 6000 pound, forged steel couplings and bar stock products offered as either as normalized (A105N) or non-normalized (A105) that are fully traceable for mechanicals and chemistry through our MTR program.

Anvil EPS-Engineered Pipe Supports are products used to support piping systems under thermal, seismic, and other dynamic loading conditions. The product line encompasses variable spring hangers, constant supports, sway struts and snubbers as well as standard and special design clamps. Anvil EPS brings the highest quality products and innovative engineering solutions to common and uncommon piping system problems.

ANVIL® INTERNATIONAL
Building Connections That Last

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Northern Region
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University Park, IL 60484

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Southern Region
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Irving, TX 75061

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Toll Free: 1-800-451-4414

Eastern Region
Regional Distribution Center

SERVICING: Connecticut, Delaware, Florida, Georgia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North and South Carolina, East Pennsylvania, Rhode Island, Vermont, Virginia

800 Malleable Road
Columbia, PA 17512

Western Region
Regional Distribution Center

SERVICING: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

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