Tubing For Gas Service

For maximum safety and the prevention of surface defects in any gas system, it is recommended that tubing wall thicknesses are not less than those shown in this table:

Tube O.D.	Suggested Minimum Wall Thickness
1/16"	.028"
1/8"	.028"
1/4"	.028"
5/16"	.035"
3/8"	.035"
1/2"	.041"
5/8"	.052"
3/4"	.062"
7/8"	.073"
1"	.083"
1-1/4"	.104"
1-1/2"	.125"
2"	.167"

Light gases such as helium, hydrogen, nitrogen, etc. have very small molecules, which can escape through even the smallest leak path created by surface defects on the tubing. As the tube OD increases, so does the likelihood of a scratch or other surface defect interfering with proper sealing.

For the most successful connection for gas service, all installation instructions should be followed carefully and the heavier permissible wall thickness of tubing should be selected. A heavy wall thickness resists ferrule action more than a thin wall thickness. This allows the ferrules to coin out minor surface imperfections. A thin wall tube will collapse, offering little resistance to ferrule action during assembly. This reduces the chance of coining out surface defects, which is essential for gas service.

Tubing Handling

Scratches on tube OD are a potential source of problems in leak-tight tubing systems. Good handling practices can greatly reduce scratches and protect tubing surface finishes.

Tubing should never be dragged out of a tubing rack. Particularly in sizes 3/4" and larger, the weight of the tubing being retrieved is sufficient to gouge the OD if there are any burrs on the ends of the other tubes in the rack.

Tubing should never be dragged across cement, asphalt, gravel or any other surface, which could scratch the surface and create potential leak paths.

Sharp tube cutters should be maintained and tube ends should always be deburred. This allows easier entrance of the tube into the fitting bore and helps to assure that the tubing will go all the way through the ferrules without damaging the ferrule's sealing edge.