

## Tubing Specifications

### Carbon Steel Tubing

Seamless, soft annealed carbon steel tubing to ASTM A 179, Din 2391 or equivalent. 4-1 safety factor considering tensile strength of 47,000 psi at room temperature. For higher temperature service, apply the reducing factors for elevated temperature operation as specified in Table 302.3 1A and 304.1.2 of the code for pressure piping in ANSI B31.3.

Recommended tube hardness is RB 72 or less.

The tubing should be suitable for bending and flaring and free of all surface defects and imperfections.

### Stainless Steel Tubing

Seamless, annealed 304 or 316 Stainless Steel tubing to ASTM A 269 or A 213 or equivalent. 4-1 safety factor considering tensile strength of 75,000 psi at room temperature.

Tube hardness should not exceed RB 80. The preferable hardness range is RB 70-74.

Tubing should be suitable for bending and flaring, and should be free of any surface defects and imperfections. A derating factor must be used for drawn and welded tubing.

### Copper Tubing

Annealed, soft, seamless copper tubing to ASTM B 75 or equivalent. 5-1 safety factor considering tensile strength of 30,000 psi at room temperature. Maximum hardness of the tubing is not to exceed RB 50. Preferred hardness range is RB 40-45.

## Thread Specifications

Brennan's connectors have one or more tubing end connections and there are a variety of pipe threads for which Brennan's Double-Ferrule Tube Fittings are available. Two of the most popular thread connections are the American National Pipe Thread (NPT) and the British Standard Pipe Threads (BSP). These threads meet the standards of individual countries as well as the codified ISO standards. All Brennan fittings with pipe threads or stud end threads conform to the specifications below:

- American National Pipe Thread (NPT): Reference specification ASA B2.1; 1960
- ISO Parallel Pipe Thread (British Standard Pipe Thread): Reference specifications BS 2779, ISO 228/1, DIN 259, JIS B 0202, IS 2643
- ISO Taper Pipe Thread (British Standard Pipe Taper Thread): Reference specifications BS 21, ISO 7/1, DIN 2999, JIS B0203, IS 554
- Unified National Pipe Threads: Reference specifications ASA B1.1; 1964

