



CORUS

INSTALL+™

Dual Certified (BS EN 10255 & 10217-1) Pressure Ratings

Our considerable experience in the conveyance product market means we understand the customer's needs. Customers can rely on the integrity of our conveyance tube and the quality of our services.

INSTALL+™ (dual certified to BS EN 10255^[1] & 10217-1^[2]) tube with suitable joints can be used up to the maximum operating pressures as shown in this document.

Pressure ratings are, however, a function of the size and type of joint used, its integrity, and the effectiveness of the jointing technique, local service conditions, support conditions and maintenance practices etc. As a result, it is therefore not considered practical to lay down precise limits for working pressures, so the information provided is for guidance only, and industrial best-practices need to be followed.



'Screwed and Socketed' (S&S) joints

The standard joint specified in BS EN 10255^[1] is the taper threaded tube and parallel threaded sockets (taper/parallel) 'Screwed and Socketed' (S&S) joint. We supply this type of joint on our INSTALL+™ products. This is the standard jointing system that is widely used for low or moderate pressures. For suggested maximum operating pressures at operating temperatures of -7 to +260°C, please refer to **Table 1**.

However, for applications involving threaded joints in exposed pipe-work in sizes above 50 nominal bore, the use of taper/parallel joints are not recommended. For these applications, we recommend the use of: Taper threaded tube and taper threaded steel sockets (taper/taper); Malleable iron fittings (parallel or taper threads); steel flanges or alternative effective jointing technologies.

For taper/taper joints refer to **Table 2** for suggested maximum operating pressures, at operational temperatures -7 to +260°C.

We also strongly recommend that all exposed steel in tubes and fittings are protected during installation to prevent subsequent corrosion. An example would be exposed bare metal as a result of threading of the tube.

Varying limitations on working pressures may exist as a result of regulatory requirements or codes of practice, please consult with the relevant bodies for confirmation of actual requirements.

Table 1: Suggested maximum operating pressures for taper/parallel screwed and socketed joints

Maximum operating pressure (Bar)					
Nominal Bore NB		Water		Air or steam at 260°C max	
(mm)	(inch)	Tube weight		Tube weight	
		Medium	Heavy	Medium	Heavy
15	1/2	21.0	24.0	10.0	12.0
20	3/4	21.0	24.0	10.0	12.0
25	1	21.0	24.0	10.0	12.0
32	1 1/4	17.0	21.0	9.0	10.0
40	1 1/2	17.0	21.0	9.0	10.0
50	2	14.0	17.0	7.0	9.0
65	2 1/2	14.0	17.0	7.0	9.0
80	3	14.0	17.0	7.0	9.0
100	4	10.0	14.0	5.5	7.0
125	5	10.0	14.0	5.5	7.0
150	6	9.0	10.0	4.0	5.5

Table 2: Suggested maximum operating pressure for taper/taper screwed and socketed joints

Maximum operating pressure (Bar)					
Nominal Bore NB		Water		Air or steam at 260°C max	
(mm)	(inch)	Tube weight		Tube weight	
		Medium	Heavy	Medium	Heavy
15	1/2	35.0	42.0	17.0	21.0
20	3/4	35.0	42.0	17.0	21.0
25	1	35.0	42.0	17.0	21.0
32	1 1/4	28.0	35.0	14.0	17.0
40	1 1/2	28.0	31.0	14.0	17.0
50	2	24.0	31.0	12.0	15.0
65	2 1/2	24.0	31.0	12.0	15.0
80	3	21.0	28.0	10.0	14.0
100	4	17.0	21.0	8.0	10.0
125	5	17.0	21.0	8.0	10.0
150	6	14.0	17.0	7.0	8.0

INSTALL+™ Pressure data

Welded joints

Table 3 shows working pressures that are permissible for tubes utilising welded joints, for operating temperatures -7 to +260°C.

Flanged joints

INSTALL+™ tube is suitable for use with matching flanged joints.

For INSTALL+™ tube being used with welded on flanged joints, the permissible tube operating pressures shown in Table 3 are valid. The type of flange joint used and its installation may determine the maximum operating pressure and temperature*. For other forms of flanging please consult the relevant manufacturers.

Grooved joints

INSTALL+™ tube is now available with pre-grooved ends.

For INSTALL+™ tube being used with grooved couplings, the permissible tube working pressures shown in Table 3 are valid. The type of grooved coupling used and its installation may determine the maximum operating pressure and temperature*.

* Please consult the relevant manufacturer's technical data

Compression fittings

INSTALL+™ tube with plain ends can be used with compression fittings. The type of compression fitting, and its installation may determine the maximum operating pressure and temperature*.

Table 3: Suggested maximum operating pressures for tubes utilising welded joints etc

Nominal Bore NB (mm) (inch)		Maximum operating pressure (Bar) -7 to +260°C max	
		Medium	Heavy
15-25	1/2-1	50.0	60.0
32-40	1 1/4-1 1/2	40.0	50.0
50-80	2-3	28.0	36.0
100-150	4-6	25.0	30.0

IMPORTANT – Natural Gas services: INSTALL+™ medium and heavy tube is suitable for gas service, but pressures are restricted to 1 Bar maximum for threaded tube.

Additional information

It may be possible to demonstrate higher tube test and working pressures through calculation. In such cases, a better understanding of the tubes application, service conditions etc will be required. Please contact our technical engineers for guidance.

References

- [1] BS EN 10255: 2004-A1: 2007 Non-alloy steel tubes suitable for welding and threading. Technical delivery conditions.
- [2] BS EN 10217-1: 2002-A1: Welded steel tubes for pressure purposes. Technical delivery conditions. Part 1: Non-alloy steel tubes with specified room temperature properties.

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