

Install® Plus: Mechanical suitability

Our hot-finished tubes can be used with added confidence

Tata Steel Install® Plus product range, with its wide choice in size, gauge and finishes, ensures the tube is equally suitable for new, whole system design as well as for general maintenance applications.

Install® Plus multi-certified, hot-finished tube is manufactured to a proven process undergoing rigorous control for uniformity and exacting tolerances.

The hot-finished product undergoes a normalising process, providing a uniform stress free tube, with consistent mechanical properties and improved ductility, resulting in a tube that can be cold worked with added confidence.



Suitability for threading

Install® Plus tube can be supplied with 'Screwed and Socketed' (S&S) ends (screwed both ends, with one socket fitted).

The screwed ends are taper external threads conforming to EN10226-1 (equivalent to BS21) and the sockets are heavy type parallel internal threaded sockets conforming to EN10241 (equivalent to BS1387 & BS1740).

Heavy and medium weight Install® Plus tube is also suitable for site threading. To ensure trouble free threading, the threading machine must be maintained in good condition and an appropriate thread cutting lubricant employed.

Care must also be taken to produce a thread of the correct size. Whilst specialist thread gauges are unlikely to be available on site, for gauging purposes we recommend using the fitting that the tube will be mated to.

Suitability for bending

Install® Plus tube is particularly suitable for hot and cold bending, although for successful bending the equipment used needs to be correctly set-up.

The following centre line bend radii should not be less than:

- 3D for hot bending.
- 5D for cold bending.
(where D = tube outside diameter).

Bending of galvanised tube

Galvanised tube cannot be hot bent without damaging the coating.

For cold bending of galvanised tube, we recommend that the bend radius should not be less than 8D.

It should be noted that there is a risk of disbondment of the zinc coating during bending.

To ensure that service life is not compromised, any such disbondment should be repaired by the application of a zinc rich paint (per EN ISO1461).

Suitability for welding

Self colour tube is suitable for all types of metal arc and gas welding without any special precautions.

Care should be exercised to ensure that fittings being welded to tubes are also of weldable quality.

The steel sockets supplied with Install® Plus tube are fully weldable.

For welding of red-painted Install® Plus tube, specific health and safety precautions may be necessary.

We recommend that surfaces are taken back to bare steel and adequately prepared prior to welding.

Additional care and attention is required if welding galvanised tube.

However, this is not recommended as welding can damage the zinc coating and adequate post welded surface repair may not be possible.

Suitable health and safety precautions should also be taken.

Site roll-grooving

Install® Plus is available pre-grooved, either red-painted or galvanised, for fabrication, installation time and cost savings.

If site grooving is required Install® Plus tube can be roll-grooved, provided suitable precautions are taken.

For example:

- Ensure that the tube is adequately prepared prior to grooving.
- Ensure that the site equipment is correctly set-up and maintained.
- Tube ends sealing surfaces must be free from burrs, projections and indentations.
- Grooving must be carried out fully in line with the coupling manufacturer's recommendations.

Galvanised disbondment

It should be noted that there is a risk of disbondment of galvanised coatings during roll-grooving, particularly in the tube bore directly underneath the groove.

The zinc used when galvanising results in a soft layer, as well as an interface layer with the carbon steel. During manipulation the softer exposed zinc can flake off.

However, the protective interface layer is typically still intact and so should still provide corrosion protection.

However, any disbondment should be addressed to ensure no sharp edges remain, that may damage the elastomer seal in the grooved coupling.

Any such disbondment should be repaired by the application of a zinc rich paint (per EN ISO1461).

Technical support

Our Customer Technical Services (CTS) experts are on hand to answer any tube mechanical suitability enquiries.

Please contact us via the Tubes Technical Helpline: +44 (0) 1536 404561



www.tatasteelconstruction.com

Tata Steel

P. O. Box 101, Weldon Road,
Corby, Northants, NN17 5UA
United Kingdom
T: +44 (0) 1536 402121

Tubes Technical Helpline

T: +44 (0) 1536 404561
F: +44 (0) 1536 404111
E: technicalmarketing@tatasteel.com

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