

Install® Plus: Manufacturing

UK manufactured, multi-certified, hot-finished tube

The Install® Plus multi-certified, hot-finished tube range is manufactured in the UK using a rigorous, well proven process. Install® Plus has been specifically developed to satisfy a wide range of building, mechanical and industrial pipework applications from -20 to 300°C.

The new Tata Steel red paint coating provides enhanced corrosion protection and extended service life. Customers also have the added confidence of knowing that every product in the range is fully traceable.



Robust processes

Tata Steel benefits from being a fully integrated steel maker. We make our own steel coil in Port Talbot, Wales and convert it into tube via a number of tube-forming and finishing processes at our sites in Corby (sizes ≤OD165.1mm) and Hartlepool (sizes ≥OD219.1mm).

Throughout manufacture, our skilled people undertake tube forming to a well established and proven set of robust processes.

Key manufacturing features

Install® Plus is made using high quality fully killed steel, which is deoxidised and treated with nitrogen-binding elements, to eliminate strain age embrittlement in service.

Our tube is supplied with lower sulphur levels than the EN10255 maximum limits, providing improved ductility.

Controlled, High Frequency Induction (HFI) welded tube manufacturing (>100KHz) provides a robust and structurally sound integral join.

Hot-finished advantage

At Corby, our hot-finished products are processed at specifically selected furnace temperatures ensuring the desired fully normalised and re-crystallised fine grain microstructure and stress relief of the Heat Affected Zone (HAZ).

Our Hartlepool site uses normalised strip and Weld Line Annealing (WLA) to remove the HAZ.

Hot-finished tubes provide consistent mechanical properties and improved ductility delivering true application benefits, compared to cold-formed alternatives that suffer from internal stresses and inconsistent properties.

Manufacturing approvals

Install® Plus is manufactured and CE marked to both CAT3 (fuel, gas, air) and CAT4 (water) in accordance with EN10255 Annex ZA and the Construction Products Regulations (CPR).

For CAT3 our manufacturing processes have been independently audited and approved.

Tata Steel has obtained independently verified welder approvals, welding procedure approvals and quality management system approvals for their HFI tube.

This ensures that our conveyance and pressure tube products are completely suitable for all categories of pressure equipment under the Pressure Equipment Directive (PED) 2014/68/EC. Please refer to our regulatory compliance datasheet for additional details.

We operate a Quality Assurance system conforming to EN ISO 9001.

Our tube mills also satisfy a wide range of other inspection and manufacturing approvals, please contact one of our Customer Technical Services experts for further information.

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Product testing

Install® Plus tube is subjected to a standard regime of non destructive and destructive testing to ensure specified properties are achieved.

Product testing is carried out at all stages of the manufacturing process to ensure Install® Plus tube meets international standards and customer expectations in full.

Weld-seam integrity

The HFI weld seam is structurally sound, and of an equivalent strength to the rest of the tube body.

It is able to withstand excessive force and is not a weak point, thereby dispelling an incorrectly held belief.

Weld integrity is demonstrated by a weldline Eddy Current (EC to BS EN ISO10893-2) and Ultrasonic Test (UT to BS EN ISO10893-11), plus either a full tube bend test on sizes up to 60.3mm OD or a drift expansion or flattening test in larger diameters.

Weld bead removal

The internal weld bead of Install® Plus tubes are trimmed and removed as standard.

This provides tubes with a clear, unrestricted tube bore that can provide fabrication and installation benefits and reduces the risk of internal corrosion initiation.

All our conveyance and pressure tube products are provided externally trimmed as standard.

Leak tightness

As well as weld seam integrity testing an additional full body EC test to EN ISO10893-1 is also undertaken on all Corby sizes after hot-finishing to ensure leak tightness.

Hydrostatic testing is used to demonstrate leak tightness for products from our Hartlepool mill.

Length tolerances

Install® Plus tube can be supplied in standard (-0/+150mm) or exact cut length (-0/+4mm) tolerances. Please consult our account managers for additional information.

Maximum flexibility

Our flexible finishing processes provide a choice of surface and end finishes:

- Self-colour.
- Water based paints.
- Galvanised.
- Polymer coating options.
- Plain end.
- Screwed & socketed (S&S).
- Grooved.

Screwed & socketed

For Install® Plus tube supplied with 'Screwed & Socketed' (S&S) ends (screwed both ends, with one socket fitted), the screwed ends are taper threads conforming to EN 10226-1 and the sockets are heavy type parallel threaded steel sockets conforming to EN 10241. Please refer to our pressure rating data sheet for pressure integrity information across different applications and temperatures.

Pre-grooved

Install® Plus tubes can be supplied with pre-grooved ends that are compatible with all leading couplings. Please refer to our pre-grooved data sheet for grooved dimensional and pressure integrity information.

New Tata Steel red paint

Install® Plus is now supplied as standard with new improved Tata Steel red paint, which provides enhanced corrosion protection and extended service life. This has been validated by our R&D coating experts and a leading University (please refer to the new Tata Steel red paint datasheet for full details).

Other coating options

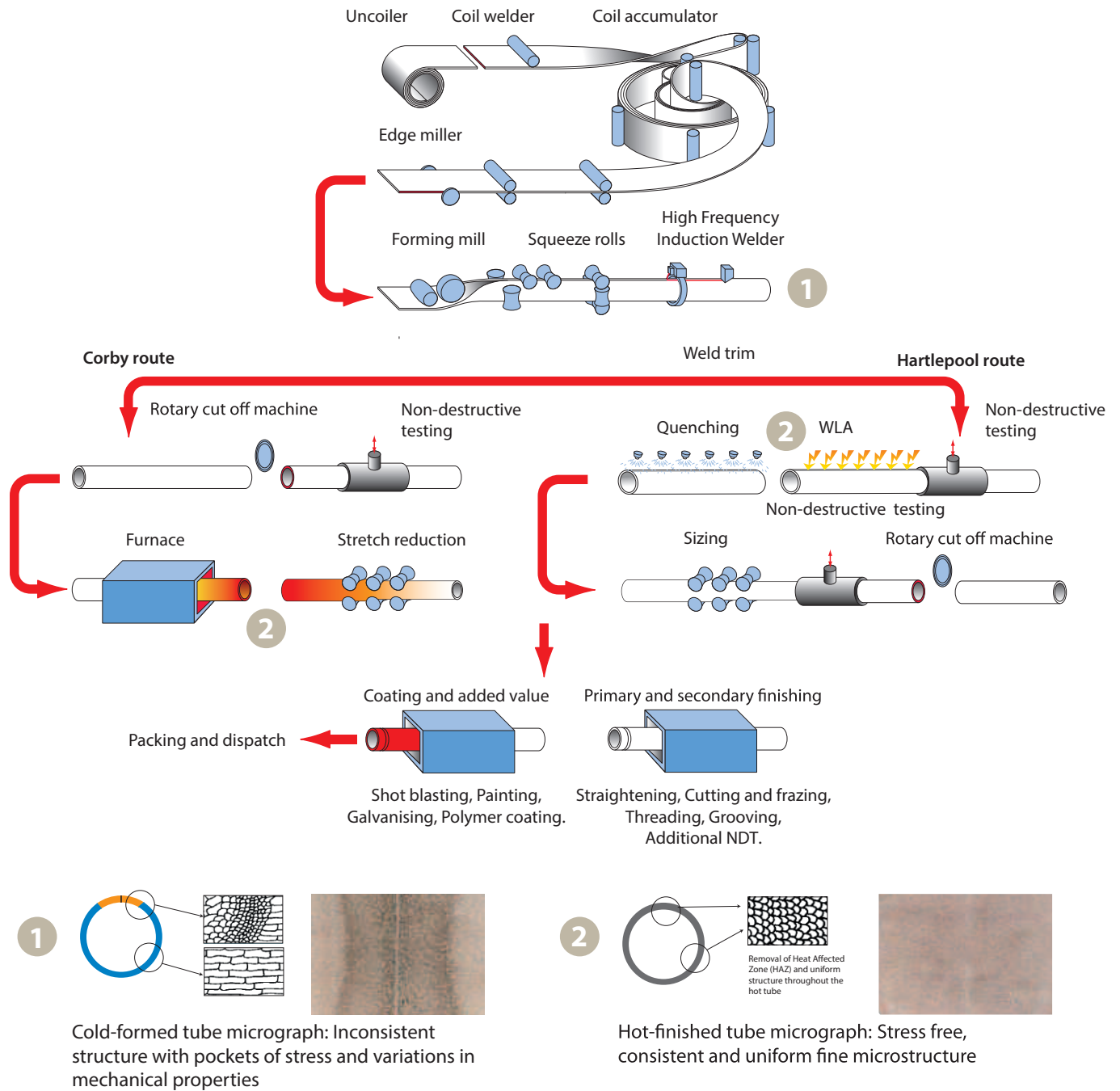
We are also able to supply a range of polymer coating and galvanised tube options. Please refer to the relevant datasheet or contact us for additional details.

Tube marking

Our painted and galvanised Install® Plus tubes are continuously ink line marked or stencilled (depending on size) and clearly show the Tata Steel brand and relevant product information (i.e. key manufacturing standards, CE marking, size and gauge). Each product also carries a datecode for manufacturing traceability and quality control.



The manufacturing process



Installation benefits

Our tubes are fully suitable for bending, threading, grooving, flaring and welding. Our S&S and grooved ends provide effective jointing solution for quick and easy installation. Install® Plus can also be used with confidence with other commercially available fittings.

Our commitment to excellence

At Tata Steel we are committed to providing our customers with proven, world class products backed up with first class service and support.

We are keen to share our knowledge and expertise with customers. In addition to our own metallurgists, we have access to engineers and scientists specialising in steel within the Tata Steel Research, Development and Technology division.

We offer technical advice on many aspects of our conveyance products and their application including advice on pressure ratings, product life cycle, suitability for bending and sustainability etc.

We work closely with established and reputable stockholders to ensure that our products are widely and readily available. For large, bulk orders, we are happy to consider direct delivery to end-users.



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