

## Pipework Solutions from Tata Steel: Regulatory compliance

A dedicated range of PED aligned tubes to satisfy all your application needs

This datasheet provides guidance on the High Frequency Induction (HFI) welded tube specifications, and the Tata branded products to use, where the application is covered by the European Pressure Equipment Directive 2014/68/EC (PED).

Since 30 May 2002 use of the PED has been obligatory throughout the European Union (EU). The directive ensures free movement of goods within the EU whilst ensuring essential safety requirements are satisfied.

### Pressure equipment

The PED applies to pressure equipment placed on the market by manufacturers or distributors within the EU.

However, it does not apply to the assembly of pressure equipment on sites under the responsibility of the user, as in the case of industrial installations. In such cases appropriate National safety regulations will still apply.

Steel tube in itself is not classified, nor can it be classified as pressure equipment.

Tube produced in a continuous process from coil (i.e. HFI welded tube) is considered as a material (see PED guideline 7/25) in contrast to tube made from plate, which is considered as a component.

Therefore, in the context of the PED, Tata Steel is a material manufacturer, and NOT a manufacturer of pressure equipment.

### Applications under the PED

When the application is within the scope of the PED, the tube used will fall into one of the following categories, subject to the type of product being conveyed (liquid or gas, non hazardous or hazardous), the maximum working pressure, temperature and the nominal tube diameter.

- Sound Engineering Practice (SEP).
- Category I.
- Category II.
- Category III.

Full details of the different categories, and when which one applies, can be found in the actual 2014/68/EC document.

### Design stage

During the design stage, the end-user must establish which of the above categories applies to the tube being used, in either the pressure equipment or pipework.

The higher the category, the higher the level of quality assurance that is applied to the manufacture and testing of the pressure equipment, and to the materials used in its construction.

### Excluded applications

There are wide ranges of applications specifically excluded from the PED. These are summarised as follows (for the full list of exclusions, the PED itself should be consulted):

- Pressure equipment operating not higher than 0.5 Bar.
- Pipelines for conveyance of fluids to or from onshore or offshore installations.
- Water distribution systems (including fire sprinkler systems).

- Radiators and pipes in warm water heating systems.
- Turbines, internal combustion and steam engines etc.
- Other exclusions include: Nuclear applications, blast furnaces and ships.

### CE marking to the PED

Under the PED it is the final item of pressure equipment, pipework system or assembly placed on the market that must be CE marked. Materials, such as tube, cannot be CE marked under the PED.

Whilst some Tata Steel multi-certified products, are supplied with CE marking, the CE mark relates to the European Construction Products Regulations (CPR) and not the PED.

Pressure equipment operating within the Sound Engineering Practice category does not require, and is not permitted to be CE marked in accordance with the PED.

### Presumption of conformity

For piping in categories I to III a presumption of conformity with the PED is conferred where the tube grade used is in accordance with a product standard harmonised with the PED, i.e. welded tube to EN10217.

This presumption of conformity will be necessary where there is a requirement to CE mark the pressure equipment.

Where tube grades in accordance with specifications other than EN10217 are used, it is the responsibility of the end-user to demonstrate that the tube satisfies the essential safety requirements of the Directive, either by obtaining a European approval of pressure equipment materials (EAM) or a particular material appraisal (PMA).

However, for simplicity, the use of tube in accordance with a PED harmonised standard i.e. EN10217 is strongly recommended (Table 1).

**Table 1**

Category	Examples of tube specification
SEP*	EN10217
	EN10255
	API 5L / ISO3183
	ASTM A53
I, II and III	EN10217

\* **Note:** Hollow sections to specifications such as EN10210 and EN10219 are not normally tested for leak tightness during manufacture and consequently the use of hollow sections for SEP applications cannot be recommended, except when the material is also certified to EN10217.

### Tata Steel quality assurance

We operate Quality Assurance systems conforming to Annex I clause 4.3 of the PED, i.e. approved by a recognised third party organisation operating within the EU. Tata Steel can therefore supply EN10217 grades of steel tubes suitable for all categories under the PED.

In accordance with EN764-5:2002 (Pressure Equipment – Part 5: Compliance with Inspection Documentation of Materials), tubes supplied with Test Reports type 2.2 may be used for all pressure equipment except main pressure bearing parts in categories II to IV where the tube must be certified with inspection certificates type 3.1 or 3.2.

Tata Steel includes the following statement on product descriptions contained on order acknowledgements and inspection documents “If tested, material characteristics (Annex I) PED clause 7.5 are guaranteed” i.e. elongation 14% minimum and pipe body Charpy 27J at 20°C.

### Product traceability

For the presumption of conformity to be valid, the stockist and manufacturer of the pressure equipment must maintain the product traceability supplied with the tube.

To enable the finished pressure equipment to be CE marked, the manufacturer of the pressure equipment must (in addition to several other requirements) hold valid inspection documents (test certificates) for all the materials used in the production of the pressure equipment.

### Tata Steel EN10217 grades

Tata Steel has developed a range of dedicated, multi-certified HFI tubes suitable for applications where the PED may apply. Table 2 shows the applicable Tata Steel brand and its alignment to the appropriate EN10217 grade(s).

**Table 2**

Standard	Grade	Tata Steel offering
EN10217-1	P195TR1/2, P235TR1	Install® Plus 235, Inflow™ CDC 235 or Inflow™ Plus 235
EN10217-1	P235TR2	Install® Plus 235 or Inflow™ Plus 235
EN10217-1	P265TR1, P265TR2	Inline™ 265
EN10217-2	P235GH	Install® Plus 235, Inflow™ Plus 235 or Inline™ 245
EN10217-2	P265GH	Inline™ 265
EN10217-3	P355N, P355NH	Inflow™ Plus 355 or Inline™ Plus 360
EN10217-4	P265NL	Unbranded

### Install® Plus and Inline™

CE marking of tubes to EN10255 is possible under the CPR (Construction Product Regulation). It must therefore be noted that CE marking of EN10255 relates solely to the CPR and has no relevance to the PED.

Our Install® Plus tube is multi-certified with a range of applicable industry standards, including EN10217-2 P235GH TC1, allowing it to be used with confidence in either building services (CPR) or moderate pressure PED applications where 2.2 certification is acceptable.

Install® Plus has presumption of conformity under the PED supported by Tata Steel property guarantees at elevated temperature (up to 300°C).

PR EN10255:2012 now allows sizes >OD 165.1mm, these are now covered by our Inline™ tube, and for those applicable sizes CE marking to the CPR will be applied. Please refer to the relevant Inline™ product literature for full details.

### Disclaimer

This document is provided for guidance only. It refers only to technical suitability and does not absolve the user from legal obligations at any stage.

For suitability and compatibility of non Tata Steel fittings please contact your fittings supplier for further information.

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