

Product Technical Submission: Inline™ 265

BS EN10217-2/ISO3183/API5L - P265GH/L245N/B Hot-finished Carbon Steel Tube.

Inline™ 265 brings a fresh approach to HFW (High Frequency Welded) pressure tubes for specialist building, engineering and industrial services.

Hot-finished for true application and service life benefits, as well as being generally equivalent to, and interchangeable with, comparable seamless alternatives.



1. Tata Steel

- Tata Steel is the UK's largest manufacturer of premium, high quality, carbon steel tubes.
- Our **Inline™ 265** hot-finished tube is made at our manufacturing sites in Corby and Hartlepool UK using steel strip, also made by Tata Steel in Port Talbot, South Wales, UK.
- As we manufacture both the steel and the tube, we can ensure full product traceability as well as control and consistency of steel and product properties and characteristics.
- Our multi-certified tubes are hot finished to deliver a rationalised and simplified approach to satisfy the widest range of pipework applications.

2. Hot-finished for proven benefits

- Tube produced by Tata Steel is High Frequency Welded (HFW), resulting in a tube with consistent properties and enhanced ductility.
- Our **Inline™ 265** tubes are hot finished so do not contain a Heat Affected Zone (HAZ), a highly stressed area of weakness adjacent to the weld line.
- They can therefore be more readily manipulated without the risk of failure, have improved weldability and pressure integrity and deliver improved performance and service life compared with cold-formed alternatives.

3. Multi-certified - making life easier

- By manufacturing and testing to the highest quality standards, we are able to provide a tube that covers the widest range of application and end-user requirements.
- Not only does **Inline™ 265** meet the requirements of the key BS EN10217-2 standard, it also covers the mechanical and dimensional properties of the equivalent grades in ISO3183/API5L plus as a range of other industrial and legacy standards.
- Specifying a BS EN10217-2 (Part 2) tube grade is the only way to technically ensure that a hot-finished GH (Get Hot) product is supplied, one that also includes validation for elevated temperature use.

4. Product statements: Inline™ 265

- **Inline™ 265** is available in sizes 50nb (2") to 500nb (20") in a range of wall thicknesses (refer to Section 7).

(Note: for sizes up to and including 150nb, we would also recommend consideration of **Install® Plus 235** as a suitable alternative - depending on pressure and temperature requirements).

- Hot-finished for improved manipulation, installation, performance and service life benefits.

- Multi-certified to satisfy a wider range of applications, including seamless substitution.
- Has a design temperature of: -20 to 400°C.
- Is available with Plain or Bevelled ends.
- Can be supplied Self-colour (all sizes) or Varnished (>OD219.1mm).

5. Servicing a wider range of applications

- **Inline™ 265** has been specifically developed for use in a wide range of building and industrial services applications (please refer to our full technical literature for examples of typical applications).

Low pressure gas (≤16bar)	Specialist industrial HVAC conveyance
Steam services	Petrochemical
Process plant (-20°C to 400°C)	LPG & fuel oils (self colour products only)
On-shore gas/line pipe	Industrial conveyance at low to moderate pressure

6. Compliance statements

- **Inline™ 265** is fully aligned with the Pressure Equipment Directive (PED).

7. Product technical data

Size range - typical UK offering

Thread size	Specified Outside Diameter		Thickness (mm)									
	R (inch)	OD (mm)	NB	3.9	5.5	6.0	6.4	7.10	7.9	8.2	9.3	9.5
2	60.3	50.0	STD Sch40									
3	88.9	80.0		STD Sch40								
4	114.3	100.0			STD Sch40							
6	168.3	150.0						STD Sch40				
8	219.10	200.0					Sch20			Sch40		
10	273.00	250.0					Sch20				Sch40	
12	323.90	300.0					Sch20					STD
14	355.60	350.0							Sch20			Sch30
16	406.40	400.0							Sch20			Sch30
18	457.00	450.0							Sch20			STD
20	508.00	500.0										Sch20

STD = Standard Weight, Sch = Schedule, Other sizes may be available upon request

Key characteristics

Product brands		Inline 265
Delivery condition & size range	Cold Hot WLA (Weld Line Anneal)	N/A OD60.3 - 168.3mm OD219.1 - 508.0mm
Main targeted application		Specialist building & engineering services Industrial, process and linepipe solutions (gas ≤16bar only)
Primary grade/min yield strength MPa		265 (min yield 290MPa for sizes >OD219.1mm)
Tensile strength MPa		415-555
Elongation (longitudinal min) %		23
Standard temperature range (°C)		-20 to 400
Low temp option (request at time of order)		-40 may be confirmed if application data is confirmed
Suitable substitute for seamless		Yes

Standards and regulations covered

	Standard	Grade	Type	Inline 265
Standards & grades	EN 10217-1	P265TR1	W	Primary Standard
	EN 10217-2	P265GH/TC1	W	
	EN 10208-1	L245GA	W	
	ISO 3183	L245	W	
	API 5L	Grade B (PSL1 & 2)	W	
Regulations	Pressure Equipment Directive (PED)			Full compliance
	AD 2000 Merkblatt W 4			Full compliance
	CE Marking Construction Products Directive (CPD)			N/A

	Standard	Grade	Type	Inline 265
Generally equivalent standards & grades	ASTM A106	Grade B	S	
		Grade C	S	
	ASTM A53	Grade B	W/S	
	ISO 3183	L245	S	
	EN 10208-1	L245GA	S	
	API 5L	Grade B (PSL1 & 2)	S	
	EN10216-2	P265GH/TC1	S	

Key: W = Welded S = Seamless

OD (mm) (NB) (inches)	Thickness (mm)	Designation		Mass (kg/m)	Length/Weight (m/tonne)	Recommended Maximum Operating Pressure (bar)	
		Strength	Schedule			Ambient Temp	Elevated Temp 400°C
60.3 (50) (2")	3.91	STD	40	5.42	184.5	148	69
88.9 (80) (3")	5.49	STD	40	11.31	88.4	142	66
114.3 (100) (4")	6.02	STD	40	16.02	62.4	121	56
168.3 (150) (6")	7.11	STD	40	28.22	35.4	97	45
219.1 (200) (8")	6.35		20	33.57	29.8	65	32
	8.18	STD	40	42.65	23.5	85	40
273.0 (250) (10")	6.35		20	42.09	23.8	52	25
	9.27	STD	40	60.50	16.5	77	37
323.9 (300) (12")	6.35		20	50.11	20.0	44	21
	9.53	STD		73.65	13.6	66	32
355.6 (350) (14")	7.92		20	67.74	14.8	50	24
	9.53	STD	30	81.08	12.3	60	29
406.4 (400) (16")	7.92		20	77.63	12.9	44	21
	9.53	STD	30	92.98	10.8	53	25
457.1 (450) (18")	7.92		20	87.49	11.4	39	19
	9.53	STD		104.84	9.5	47	23
508.0 (500) (20")	9.53	STD	20	116.78	8.6	42	20

Please refer to our full product brochure and TST41 for confirmation of exact technical specifications covered.

8. Internal weld bead removed

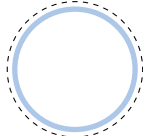
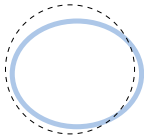
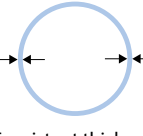
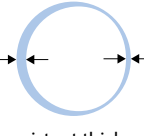
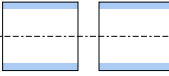
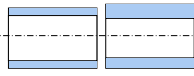
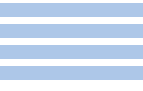

• **Inline™ 265** products are fully trimmed, both externally and internally, thereby providing a clear, unrestricted tube bore and, dispelling an incorrectly held belief that the internal weld bead is normally left in place on HFW (High Frequency Welded) products.

9. An alternative to seamless tubes

• **Inline™ 265** has the same supply condition, composition; steel grade designation and steel number as comparable seamless products, and can therefore be considered as interchangeable.

• **Inline™ 265** is therefore an ideal substitute for comparable hot finished carbon steel seamless products, delivering real benefits, and providing the flexibility to service both welded and seamless market requirements.

• As well as price, HFW tubes also have a number of technical advantages over seamless that that can be promoted when talking with end-users.

	Advantages of HFW Welded	Disadvantages of Seamless
Ovality	 Consistent roundness	 Out of roundness
Wall	 Consistent thickness	 Inonsistent thickness
End matching	 Consistent	 Inconsistent
Length tolerances	 Fixed length as standard (mm)	 Random length as standard (mm)

10. Life expectancy and warranty

- The lifespan of any carbon steel tube is dependent on a range of factors, including the specific service conditions, a satisfactory installation practice, a proper maintenance procedure and the use of appropriate corrosion protection, inhibitors or other suitable practices.
- Properly installed and protected **Inline™ 265** can have a service life of +25 years. Service life of +40 years may be possible. REF TATA STEEL TUBES PRODUCT DATA SHEET TST60 or contact our technical team for full details.

11. Temperature range

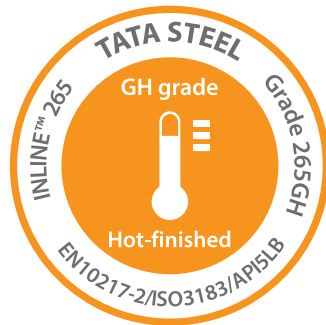
- **Inline™ 265** is suitable for design temperatures from -20 to +400°C, and is supplied in accordance with BS EN10217-2, with guaranteed elevated temperature properties, in accordance with Table 5, up to and including 400°C.

12. Technical support

- For any technical enquires or requests for further information, including **Inline™ 265** technical brochures and training packages, please contact the Tubes Helpline on **+44 (0) 1536 404561**.

13. Additional information

- Our **Inline™ 265** product brochure (**Install Plus 235 & Inline™ 265** Mini Guide – Ref TST186) provides confirmation of the information contained within this document. This can be downloaded from our website. Alternatively, please contact our technical team for a copy.



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