

Products for fire defence applications from Corus Tubes

Our INFIRE™ tube has been specifically developed for use by industry-leaders in sprinkler systems and for conveyance of water for fire suppression.

Choice of sizes from 25mm to 150mm nominal bore, available in medium weight.

INFIRE™ tube offers many advantages:

- Rigid and structurally sound
- Class A1 fire rating
- Thermal stability during typical operating conditions
- Choice of plain or grooved ends
- Supplied red-painted
- Supplied in exact cut lengths (-0/+5mm tolerance)
- Supported by a team of designated account managers and technical staff



Chemical composition (cast analysis) and mechanical properties

Steel Grade		Chemical Composition %				Mechanical Properties		
Steel Name	Steel Number	C max	Mn max	P max	S max	Upper Yield Strength R _{eH} min (MPa)	Tensile Strength R _m (MPa)	Elongation A min %
S195T	1.0026	0,20	1,40	0,035	0,030	195	320 to 520	20

Tube data

Nominal Bore		Outside Diameter		Wall Thickness	Medium Weight Weight per metre Plain end/grooved (kg/m)
NB (mm)	(inch)	Max (mm)	Min (mm)	T (mm)	
25	1	34.2	33.3	3.2	2.4
32	1 1/4	42.9	42.0	3.2	3.1
40	1 1/2	48.8	47.9	3.2	3.6
50	2	60.8	59.7	3.6	5.0
65	2 1/2	76.6	75.3	3.6	6.4
80	3	89.5	88.0	4.0	8.4
100	4	115.0	113.1	4.5	12.2
125	5	140.8	138.5	5.0	16.6
150	6	166.5	163.9	5.0	19.8

General

INFIRE™ tube is manufactured in accordance with BS EN 10255^[1] and is supplied in either hot finished or cold formed conditions (at our discretion). INFIRE™ tube typically has the internal weld bead left in place. When present, the height of the internal bead is controlled to 60% max of the nominal wall thickness. INFIRE™ tube is not recommended for applications applicable to the European Directive 93/23/EC^[2] (the Pressure Equipment Directive, or PED).

INFIRE™ tube is not recommended for bending – the British Automatic Fire Sprinkler Association (BAFSA) state that pipe work in sprinkler systems should never be bent because the effect of bending may reduce the internal bore of the pipe and thus reduce the rate of water delivery.^[3]

Operating temperature

INFIRE™ tube is not recommended for elevated temperature use. BS EN 10225^[4] does not provide elevated temperature mechanical data.

End finishes

INFIRE™ tube can be supplied with plain or pre-grooved ends.

Pressure ratings

- For butt-welded pipe work systems, the pressures as shown below apply.

Nominal Bore NB		Maximum operating pressure water/air ambient temperature (Bar)
(mm)	(inch)	
25	1	50.0
32-40	1 ¼ – 1 ½	40.0
50-80	2 – 3	28.0
100-150	4 – 6	25.0

For INFIRE™ tube with pre-grooved ends, the type of grooved coupling used, and its installation, may determine the maximum operating pressure.* For INFIRE™ tube being used with suitable grooved couplings, the maximum permissible tube pressures shown above are valid.

Test Certification

Corus operates a Quality Assurance system conforming to BS EN ISO 9001^[9]. INFIRE™ tube is subjected to non-specific inspection and testing in accordance with BS EN 10021^[4] and can be supplied with either a 2.1 type Certificate of Compliance or a 2.2 Test Report in accordance with BS EN 10204^[5].

A Corus 2.2 Test Report can be supplied if requested at the time of order showing the chemical composition (ladle analysis) together with a tensile test result (yield strength, tensile strength and elongation) representative of the product.

Leak tightness

INFIRE™ tube is eddy current tested, in accordance with BS EN 10246-1^[6].

Compliance with European directives

BS EN 10225^[4] has been prepared in accordance with the Construction Products Directive (89/106/EEC)^[7] and Mandate M/131^[8]. For applications where the PED applies, Corus Tubes recommends the use of INSTALL+™ tube – dual certified to BS EN 10255^[1] and BS EN 10217-1^[10], which carries a presumption of conformity with European Directive 93/23/EC^[2] (PED).

Fire Rating

In accordance with section 8.7 of BS EN 10225^[4] INFIRE™ tube is class A1 and therefore does not need to be tested for reaction to fire.

For additional information, please contact Corus Tubes.

* Please consult the relevant manufacturer's technical data.

References

[1] BS EN 10255: 2004-A1: 2007 Non-alloy steel tubes suitable for welding and threading. Technical delivery conditions.
 [2] European Directive 97/23/EC concerning pressure equipment.
 [3] BAFSA Sprinkler Yearbook 2007/2008, [p121], www.basa.org.
 [4] BS EN 10021: 2006 General technical delivery requirements for steel products.
 [5] BS EN 10204: 2004 Metallic materials. Types of inspection documents.
 [6] BS EN 10246-1: 1996 Non-destructive testing of steel tubes. Part 1: Automatic electromagnetic testing of seamless and welded (except submerged arc welded) ferromagnetic steel tubes for verification of hydraulic leak-tightness.
 [7] Directive 89/106/EEC relating to construction products.
 [8] Mandate M/131 – Pipes, tanks and ancillaries not in contact with water intended for human consumption.
 [9] BS EN ISO 9001: 2008 Quality management systems requirements.
 [10] BS EN 10217-1: 2002-A1: 2006 Welded steel tubes for pressure purposes. Technical delivery conditions. Part 1: Non-alloy steel tubes with specified room temperature properties.

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