



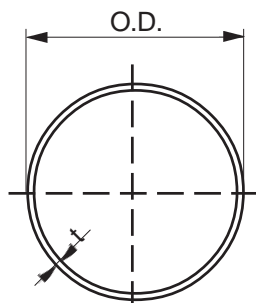
Tubing

Stock codes A010xx (x: see below)

15 Mar 2012

Stock code	Tube material and type	O.D. [mm]	t [mm]	Mass (kg/m)	Length* [mm]	Inside bead
A01000	1.4404 EN 10217-7 welded tube	8,0	1,0	0,17	5800	max. 0,2 mm
A01005	1.4404 EN 10217-7 welded tube	12,0	1,2	0,32	5800	max. 0,2 mm
A01015	1.4404 EN 10217-7 welded tube	16,0	1,5	0,54	5800	max. 0,2 mm
A01020	1.4404 EN 10217-7 welded tube	20,0	2,0	0,89	5800	max. 0,2 mm
A01025	1.4404 EN 10217-7 welded tube	25,0	2,0	1,13	5800	max. 0,2 mm
A01030	1.4404 EN 10217-7 welded tube	30,0	2,5	1,69	5800	max. 0,2 mm
A01035	1.4404 EN 10217-7 welded tube	38,0	3,0	2,59	5800	max. 0,2 mm

*) If not specified differently in the purchase order.



Max. pressures defined by Marioff:

Working P	Test P	Pipe size
200 bar	300 bar	Ø 8 - 20 mm
140 bar	210 bar	Ø 25 - 38 mm

O.D.= tube outer diameter Ø
t = wall thickness

Tube manufacturing specification	
Tolerance classes	EN 10217-7/EN ISO 1127: D4/T3
Surface finishing and welding	Outside bead removed by grinding. No weld defects like undercut, incomplete welding, lack of fusion or negative weld bead allowed (internal of external). Roundness to be ensured.
Pipe end	Perpendicular
Yield point	R _p 0,2 min.240 N/mm ² 50°C
Heat treatment	Annealed
Hardness	HRB 72 - 82 / HV ₁ 130 - 160
Product marking	"HI-FOG sprinkler system" & manufacturer's markings (with charge number)
Testing	100% eddy current testing or hydraulic testing to test pressure.
Tube cleaning	Pickled or cleaned inside by other means. No loose particles allowed.
Delivery state	Cleaned inside, sealed at both ends
Material certificate	3.1 (EN 10204)
Packing	In wooden package
Design specification EN13480-3 and DNV Rules for classification of ships, Part 4, Chapter 1	
Welding factor	Z=1
Corrosion allowance	c ₀ = 0
Bending allowance	According to DNV Rules for ships, Part 4 and EN 13480-3
Bending radius	R/D ≥ 2,5



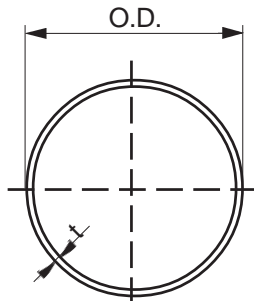
Tubing

Stock codes A01xxx (x: see below)

15 Mar 2012

Stock code	Tube material and type	O.D. [mm]	t [mm]	Mass (kg/m)	Length* [mm]	Inside bead
A01060	1.4404 EN 10217-7 welded tube	60,3	3,91	5,45	5800	max. 0,5 mm
A01080	1.4404 EN 10217-7 welded tube	76,1	5,00	8,93	12000	max. 0,5 mm
A01090	1.4404 EN 10217-7 welded tube	88,9	5,00	10,54	12000	max. 0,5 mm
A01110	1.4404 EN 10217-7 welded tube	101,6	6,00	14,41	12000	max. 0,5 mm
A01130	1.4404 EN 10217-7 welded tube	114,3	7,00	18,87	12000	max. 0,5 mm

*) If not specified differently in the purchase order.



Max. pressures defined by Marioff:

Working P	Test P	Pipe size
140 bar	210 bar	Ø 60,3 - 114,3 mm

O.D.= tube outer diameter Ø
t = wall thickness

Tube manufacturing specification	
Tolerance classes	EN 10217-7/EN ISO 1227: D3/T3
Surface finishing and welding	Outside bead removed by grinding. No weld undercut, incomplete welding, lack of fusion or negative weld bead allowed (internal or external). Roundness to be ensured.
Pipe end	Perpendicular
Yield point	240 N/mm ² 50°C
Heat treatment	Annealed
Hardness	TBA
Product marking	“HI-FOG sprinkler system” & manufacturer’s markings (with charge number)
Testing	100% eddy current testing or hydraulic testing to test pressure.
Tube cleaning	Pickled or cleaned inside by other means. No loose particles allowed.
Delivery state	Cleaned inside, sealed at both ends
Material certificate	3.1 (EN 10204)
Packing	In wooden package
Design specification EN 13480-3:2002 Issue 2 (2005-08) for D60,3 - D114,3 pipes	
Design specification DNV Rules for classification of ships, Part 4, Chapter 1 for D60,3 pipe	
Welding factor	Z=1
Corrosion allowance	c ₀ = 0
Bending allowance	According to EN 13480-3
Bending radius	see page 3

Bending radius

Minimum bending radius for tubes is calculated according to EN 13480-3:2002 Issue 2 (2005-08).

O.D [mm]	min bending radius [mm]
60,3	$R/D \geq 2,5$
76,1	210
88,9	270
101,6	300
114,3	350

See also figure below (source: SFS-EN 13480-4 (2002-09-09)).

Optimal range for the longitudinal weld seam at bend; recommendation:

