Benteler Distribution

Your reliable and trusted partner of choice

Fully killed, hot rolled seamless tubes in fine grain, weldable steel, in normalised condition for offshore applications available from our UK stock.

Applicable and related standards

- EN 10225 S355 G15+N
- API 5L X52N MOD. PSL2
- NORSOK MDS Y-22
- ISO 3183 L360N MOD. PSL2
- BS 7191 GRADE 355 MOD.

- Certification EN 10204 3.2 by Lloyd's
- Hydrostatically tested according to specification
- Ultrasonically tested (ISO3183 and EN 10893-8+10)
- NACE MR 0175 / ISO 15156-2
- European manufacture

- Double random lengths with bevelled ends or cut to length
- Varied quantities – from small single cuts to full project volumes
- Stock, packaged or bulk supplies

Dedicated transport

- National coverage from our 4 regional UK warehouses
- Internationally from more than 50 locations in over 30 countries
- Uniform, TÜV approved, processes to ISO9001 from all sites

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Midlands: West Bromwich, B70 9PL
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EN 10225 S355 G15+N / X52N MOD. / NORSOK MDS Y-22

High yield seamless tubes for offshore applications

BENTELER
Distribution

Technical information

High yield seamless tubes for offshore applications




Chemical composition (heat analysis)

60.3 mm ≤ 141.3 mm OD t ≤ 40.0 mm

	C	Si	Mn	P	S	Cr	Mo	Ni	N	V	Al	Cu	Nb	Ti
min		0.250												
max	0.150	0.450	1.600	0.025	0.007	0.250	0.080	0.300	0.014	0.080	0.060	0.350	0.040	0.020

> 141.3 mm OD t ≤ 40.0 mm

	C	Si	Mn	P	S	Cr	Mo	Ni	N	V	Al	Cu	Nb	Ti
min		0.250												
max	0.140	0.450	1.600	0.025	0.007	0.250	0.080	0.300	0.014	0.080	0.060	0.350	0.040	0.020

> 141.3 mm OD t > 40.0 mm ≤ 50.8 mm

	C	Si	Mn	P	S	Cr	Mo	Ni	N	V	Al	Cu	Nb	Ti
min		0.250												
max	0.160	0.450	1.600	0.025	0.007	0.250	0.080	0.300	0.014	0.080	0.060	0.350	0.040	0.020

Residuals restrictions

Cr + Mo + Ni + Cu ≤ 0.800%
Nb + V ≤ 0.100%
Nb + V + Ti ≤ 0.120%

CEV

according to EN 10225 § 8.2.3.4

t ≤ 40.0 mm	0.43 max
t > 40.0 mm ≤ 50.8 mm	0.44 max

Pcm

according to EN 10225 § 8.2.3.4

t ≤ 40.0 mm	0.25 max
t > 40.0 mm ≤ 50.8 mm	for information only

Dimension tolerances (according to EN 10210 – 2)

Outside diameter	± 1% with ± 0.5 mm min and ± 10.0 mm max
Thickness	– 10.0% (a, b)
Out of roundness	2% where OD to thickness ratio ≤ 100 (c)
Straightness	0.2% of total manufactured length and 3 mm over any 1 m length
Mass	+ 8.0% / – 6.0% on individual delivered lengths (d)
Bevelled ends	≤ 30.0 mm thick: bevelled ends > 30.0 mm thick: plain ends

Mechanical properties

Tensile test according to EN 10225 with the following requirements

t (mm)	Yield strength R_{eH} min[1] (MPa)	Tensile strength R_m (MPa)	Elongation A_{min} (%)	Maximum ratio R_e/R_m (%)
≤ 20.0	355	460 – 620	22	0.88
>20.0 ≤ 40.0	345	460 – 620	22	0.88
>40.0 ≤ 50.8	345	460 – 760	22	0.88

[1] Where the upper yield strength is not defined, the 0.2% proof stress R_p 0.2 shall be determined.

Impact test according to EN 10225 with the following requirements

t (mm)	Longitudinal direction Test temperature – 40°C (Joules min)	Transversal direction Test temperature – 50°C (Joules min)
> 6.0 ≤ 50.8	50	50
≥ 5.0 ≤ 6.0	25 average / 18 individual	No test required
< 5.0	No test required	No test required

Notes

(a) Positive deviation is limited by the tolerance on mass
(b) Seamless sections > 10.0% but not > 12.5% of nominal thickness may occur in smooth transition areas over but not > 25.0% of the circumference.
(c) Where the diameter to thickness ratio > 100, the out-of-roundness tolerance shall be agreed.
(d) Tolerance stated is for seamless tubes (± 6.0% for welded tubes)