

EN 10255 ERW steel tube

EN 10255 ERW steel tube from TPMC is produced by high-frequency welding of steel strip, featuring a longitudinal weld seam, precise dimensions, and lightweight construction.

FM Approved, it provides reliable performance in water-based fire protection systems, including wet, dry, deluge, and preaction pipelines.

Additionally, our TPMC tube is ideal for welding or threading and suitable for conveying water, gas, air, as well as for general structural applications.



- Certificate: FM Approved
- Standard: EN 10255 S195T welded (W) / NFPA 13 / NFPA 14
- Length: 6m / 5.8m / 11.8m / 12m / 20ft, etc.
- End: Plain: square cut
Beveled: 30° angle (+5°/-0°)
Roll-grooved: per ISO 6182-12
Threaded (NPT): per ASME B1.20.1
Threaded (BSPT): per ISO 7-1 / BS 21
- Surface: FBE / polyester resin powder
Water-based red or black paint
Hot-dip galvanized / duplex coating
Plastic lining (PE, UPVC, etc.)

Available sizes for Heavy series tube

Outside diameter			Wall thickness		Weight	Test pressure	Ref. No.
NPS	DN	OD (mm)	Series	T (mm)	kg/m	MPa	
1/2"	15	21.3	Heavy	3.2	1.44	5.0	P0601-H (ISO)
3/4"	20	26.9	Heavy	3.2	1.87	5.0	P0602-H (ISO)
1"	25	33.7	Heavy	4.0	2.93	5.0	P0603-H (ISO)
1-1/4"	32	42.4	Heavy	4.0	3.79	5.0	P0604-H (ISO)
1-1/2"	40	48.3	Heavy	4.0	4.37	5.0	P0605-H (ISO)
2"	50	60.3	Heavy	4.5	6.19	5.0	P0606-H (ISO)
2-1/2"	65	76.1	Heavy	4.5	7.93	5.0	P0607-H (ISO)
3"	80	88.9	Heavy	5.0	10.30	5.0	P0608-H (ISO)
4"	100	114.3	Heavy	5.4	14.50	5.0	P0609-H (ISO)
5"	125	139.7	Heavy	5.4	17.90	5.0	P0610-H (ISO)
6"	150	165.1	Heavy	5.4	21.30	5.0	P0611-H (ISO)

EN 10255 ERW steel tube

Available sizes for Medium series tube

Outside diameter			Wall thickness		Weight	Test pressure	Ref. No.
NPS	DN	OD (mm)	Series	T (mm)	kg/m	MPa	
1/2"	15	21.3	Medium	2.6	1.21	5.0	P0601-M (FM)
3/4"	20	26.9	Medium	2.6	1.56	5.0	P0602-M (FM)
1"	25	33.7	Medium	3.2	2.41	5.0	P0603-M (FM)
1-1/4"	32	42.4	Medium	3.2	3.10	5.0	P0604-M (FM)
1-1/2"	40	48.3	Medium	3.2	3.56	5.0	P0605-M (FM)
2"	50	60.3	Medium	3.6	5.03	5.0	P0606-M (FM)
2-1/2"	65	76.1	Medium	3.6	6.42	5.0	P0607-M (FM)
3"	80	88.9	Medium	4.0	8.36	5.0	P0608-M (FM)
4"	100	114.3	Medium	4.5	12.20	5.0	P0609-M (FM)
5"	125	139.7	Medium	5.0	16.60	5.0	P0610-M (FM)
6"	150	165.1	Medium	5.0	19.80	5.0	P0611-M (FM)

Available sizes for Type L tube

Outside diameter			Wall thickness		Weight	Test pressure	Ref. No.
NPS	DN	OD (mm)	Series	T (mm)	kg/m	MPa	
1/2"	15	21.3	Type L	2.3	1.08	5.0	P0601-L (ISO)
3/4"	20	26.9	Type L	2.3	1.40	5.0	P0602-L (ISO)
1"	25	33.7	Type L	2.9	2.20	5.0	P0603-L (ISO)
1-1/4"	32	42.4	Type L	2.9	2.82	5.0	P0604-L (ISO)
1-1/2"	40	48.3	Type L	2.9	3.25	5.0	P0605-L (ISO)
2"	50	60.3	Type L	3.2	4.51	5.0	P0606-L (ISO)
2-1/2"	65	76.1	Type L	3.2	5.75	5.0	P0607-L (ISO)
3"	80	88.9	Type L	3.2	6.76	5.0	P0608-L (ISO)
4"	100	114.3	Type L	3.6	9.83	5.0	P0609-L (ISO)
5"	125	139.7	Type L	4.5	15.00	5.0	P0610-L (ISO)
6"	150	165.1	Type L	4.5	17.80	5.0	P0611-L (ISO)

EN 10255 ERW steel tube

Available sizes for Type L1 tube

Outside diameter			Wall thickness		Weight	Test pressure	Ref. No.
NPS	DN	OD (mm)	Series	T (mm)	kg/m	MPa	
1/2"	15	21.3	Type L1	2.3	1.08	5.0	P0601-L1 (ISO)
3/4"	20	26.9	Type L1	2.3	1.39	5.0	P0602-L1 (ISO)
1"	25	33.7	Type L1	2.9	2.20	5.0	P0603-L1 (ISO)
1-1/4"	32	42.4	Type L1	2.9	2.82	5.0	P0604-L1 (ISO)
1-1/2"	40	48.3	Type L1	2.9	3.24	5.0	P0605-L1 (ISO)
2"	50	60.3	Type L1	3.2	4.49	5.0	P0606-L1 (ISO)
2-1/2"	65	76.1	Type L1	3.2	5.73	5.0	P0607-L1 (ISO)
3"	80	88.9	Type L1	3.6	7.55	5.0	P0608-L1 (ISO)
4"	100	114.3	Type L1	4.0	10.80	5.0	P0609-L1 (ISO)

Available sizes for Type L2 tube

Outside diameter			Wall thickness		Weight	Test pressure	Ref. No.
NPS	DN	OD (mm)	Series	T (mm)	kg/m	MPa	
1/2"	15	21.3	Type L2	2.0	0.95	5.0	P0601-L2 (ISO)
3/4"	20	26.9	Type L2	2.3	1.38	5.0	P0602-L2 (ISO)
1"	25	33.7	Type L2	2.6	1.98	5.0	P0603-L2 (ISO)
1-1/4"	32	42.4	Type L2	2.6	2.54	5.0	P0604-L2 (ISO)
1-1/2"	40	48.3	Type L2	2.9	3.23	5.0	P0605-L2 (ISO)
2"	50	60.3	Type L2	2.9	4.08	5.0	P0606-L2 (ISO)
2-1/2"	65	76.1	Type L2	3.2	5.71	5.0	P0607-L2 (ISO)
3"	80	88.9	Type L2	3.2	6.72	5.0	P0608-L2 (ISO)
4"	100	114.3	Type L2	3.6	9.75	5.0	P0609-L2 (ISO)

Chemical composition (%) per EN 10255 S195T welded

C	Mn	P	S
≤ 0.20	≤ 1.40	≤ 0.035	≤ 0.030

EN 10255 ERW steel tube

Mechanical properties per EN 10255 S195T welded

Upper yield strength ReH (MPa)	Tensile strength Rm (MPa)	Elongation A (%)
≥ 195	320 ~ 520	≥ 20



Standard requirements

- Weld seam: External bead trimmed flush; internal seam height $\leq 60\%$ of wall thickness.
- Heat treatment: Type L cold formed tubes shall be heat treated. Others may be at manufacturer's discretion.
- Tensile test: Tensile, yield, and elongation tested per standard.
- Bend test: Bare tubes $\leq \text{DN } 50$, cold bent 90° around specified former, no cracks.
- Flattening test: Bare tubes $> \text{DN } 50$, cold flattened to 75% OD (weld no cracks) and 60% OD (base metal no cracks).

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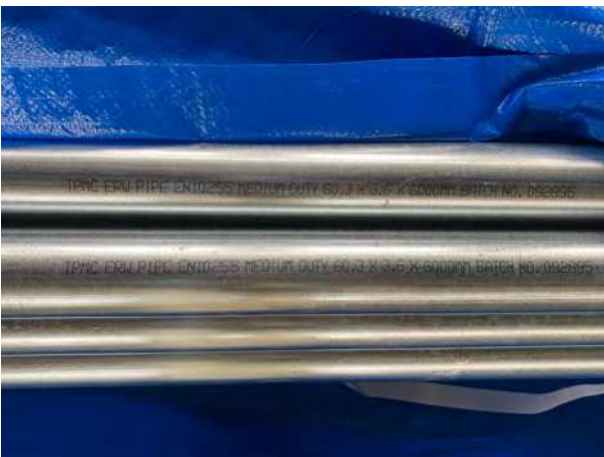
Leak tightness test

- Each tube (before threading, if applicable) shall be hydrostatically tested at a minimum pressure of 50 bar, held for at least 5 seconds with no leakage.
- At the manufacturer's discretion, an electromagnetic test is alternative in accordance with EN 10246-1, including eddy current or magnetic flux leakage method.



Dimensional tolerances

- Outside diameter: As per Table 2 (M/H series) and Annex B (Types L, L1, L2).
- Wall thickness: $\pm 10\%$ for M/H series and Type L; -8% (plus tolerance limited by mass) for Types L1/L2.
- Cut length: Exact length (e.g. 6 m), $+6 \text{ mm} / -0 \text{ mm}$ (or as agreed).
- Weight: $\pm 7.5\%$ on bundles ≥ 10 tons for M/H series and Type L; $+10\% / -8\%$ on individual tubes for Types L1/L2.



Other quality assurance

- Straightness: $\geq \text{DN}25$, deviation $\leq 0.002 \times L$ (tube length).
- Coating inspection: DFT and adhesion (see TPMC PA11-PA51).
- Marking: Legibly marked per standard (see TPMC PA71).
- Packaging: End protection, bundling, and shipping marks (see TPMC PA81).
- Test certificate: Issued by TPMC with full traceability to MTC/MTR.