

AS 1074 ERW steel tube

AS 1074 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, and air at low-to-medium pressure, as well as for general structural applications.



- Certificate: FM Approved
- Standard: AS 1074
- 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 Light 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	Light	2.0	0.95	5.0	P0801-L (ISO)
3/4"	20	26.9	Light	2.3	1.38	5.0	P0802-L (ISO)
1"	25	33.7	Light	2.6	1.98	5.0	P0803-L (ISO)
1-1/4"	32	42.4	Light	2.6	2.54	5.0	P0804-L (ISO)
1-1/2"	40	48.3	Light	2.9	3.23	5.0	P0805-L (ISO)
2"	50	60.3	Light	2.9	4.08	5.0	P0806-L (ISO)
2-1/2"	65	76.1	Light	3.2	5.71	5.0	P0807-L (ISO)
3"	80	88.9	Light	3.2	6.72	5.0	P0808-L (ISO)
4"	100	114.3	Light	3.6	9.75	5.0	P0809-L (ISO)

Note: AS 1074 specifies an outside diameter range. TPMC references the current EN 10255 standard for these specific OD values.

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Available sizes for Medium 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	P0801-M (FM)
3/4"	20	26.9	Medium	2.6	1.56	5.0	P0802-M (FM)
1"	25	33.7	Medium	3.2	2.41	5.0	P0803-M (FM)
1-1/4"	32	42.4	Medium	3.2	3.10	5.0	P0804-M (FM)
1-1/2"	40	48.3	Medium	3.2	3.57	5.0	P0805-M (FM)
2"	50	60.3	Medium	3.6	5.03	5.0	P0806-M (FM)
2-1/2"	65	76.1	Medium	3.6	6.43	5.0	P0807-M (FM)
3"	80	88.9	Medium	4.0	8.37	5.0	P0808-M (FM)
4"	100	114.3	Medium	4.5	12.20	5.0	P0809-M (FM)
5"	125	139.7	Medium	5.0	16.60	5.0	P0810-M (FM)
6"	150	165.1	Medium	5.0	19.70	5.0	P0811-M (FM)

Note:

1. AS 1074 specifies an outside diameter range. TPMC references the current EN 10255 standard for these specific OD values.
2. FM Approved tubes are manufactured from EN 10255 Grade S195T steel.

Available sizes for Heavy 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	P0801-H (ISO)
3/4"	20	26.9	Heavy	3.2	1.87	5.0	P0802-H (ISO)
1"	25	33.7	Heavy	4.0	2.94	5.0	P0803-H (ISO)
1-1/4"	32	42.4	Heavy	4.0	3.80	5.0	P0804-H (ISO)
1-1/2"	40	48.3	Heavy	4.0	4.38	5.0	P0805-H (ISO)
2"	50	60.3	Heavy	4.5	6.19	5.0	P0806-H (ISO)
2-1/2"	65	76.1	Heavy	4.5	7.93	5.0	P0807-H (ISO)
3"	80	88.9	Heavy	5.0	10.30	5.0	P0808-H (ISO)
4"	100	114.3	Heavy	5.4	14.50	5.0	P0809-H (ISO)
5"	125	139.7	Heavy	5.4	17.90	5.0	P0810-H (ISO)
6"	150	165.1	Heavy	5.4	21.30	5.0	P0811-H (ISO)

Note: AS 1074 specifies an outside diameter range. TPMC references the current EN 10255 standard for these specific OD values.

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Chemical composition (%) per AS 1074

C	Mn	P	S
Not specified	Not specified	≤ 0.045	≤ 0.045

Note: AS 1074 does not set absolute maximum limits for C or Mn individually. The controlling factor is the Carbon Equivalent (CE) = $C + Mn/6$, which shall not exceed 0.40%.

Mechanical properties per AS 1074

Yield strength (MPa)	Tensile strength (MPa)	Elongation (%)
≥ 195	320 ~ 460	≥ 20



Standard requirements

- Tensile test: Tensile, yield, and elongation tested per standard.
- Bend test: Ungalvanized tube ≤ DN 50, cold bent 180° around a 6 x OD former, no cracks; hot-dip galvanized tube ≤ DN 50, cold bent 90° around an 8 x OD former, no cracks of the steel.
- Flattening test: Tubes > DN 50, cold flattened to 75% OD (no cracks in weld) and 60% OD (no cracks in base metal).
- Bore test: Galvanized tube ≤ DN 25, a specified rod passes through with free bore.

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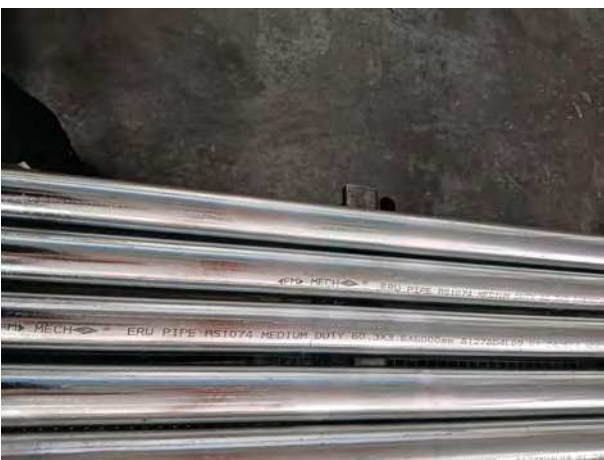
Leak tightness test

- Each tube shall be subjected to a leak-tightness test by one of the following 3 methods:
- 1. Hydrostatic test at a pressure of 5 MPa, maintained for a sufficient time for proof and inspection (tube shall show no leakage).
- 2. Eddy current test – acceptable alternative to hydrostatic test.
- 3. Ultrasonic test of the longitudinal weld of ERW tube – acceptable alternative.



Dimensional tolerances

- Outside diameter: As given in Table 2.1 (Light), Table 2.2 (Medium), and Table 2.3 (Heavy).
- Wall thickness: -8% for Light tube; -10% for Medium and Heavy tube (no upper limit).
- Exact length: +8 mm / -0 mm.
- Weight: $\pm 4\%$ for mean consignment mass (quantity ≥ 150 m of one size); no single tube shall deviate by more than +10% or -8%.



Other quality assurance

- Straightness: Tubes shall be straight to within 1 in 500.
- 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.