DINESH TUBE INDIA

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ASME SA334 / ASTM A334 GRADE 6 TUBES

SCOPE

ASME SA334 (identical to ASTM A334/A334M) covers several grades of minimum-wall-thickness, **seamless and welded carbon and alloy-steel tubes for low-temperature service**. Grade 6 is a killed carbon steel impact tested at **–45 °C (–50 °F)**. Mechanical property requirements do not apply to tubing under 1/8 in (3.2 mm) OD or 0.015 in (0.4 mm) wall. General requirements: ASTM A1016 / ASME SA1016.

MANUFACTURE AND HEAT TREATMENT

Tubes are made by the seamless or welding process. Grade 6 is normalised; or normalised and tempered; or, for seamless tubes, hot finished in a controlled temperature range and cooled from the finishing temperature, as the specification allows, to control the microstructure for the impact test.

CHEMICAL COMPOSITION (%), GRADE 6

Carbon, max	Manganese	Phosphorus, max	Sulphur, max	Silicon, min
0.30	0.29 – 1.06	0.025	0.025	0.10

For each reduction of 0.01% carbon below 0.30%, an increase of 0.05% manganese above 1.06% is permitted, up to 1.35% manganese.

TENSILE REQUIREMENTS, GRADE 6

Tensile strength, min	Yield strength, min	Elongation in 50 mm, min
415 MPa (60 ksi)	240 MPa (35 ksi)	30% longitudinal / 16.5% transverse

IMPACT TEST (CHARPY V-NOTCH AT –45 °C)

Specimen	Min. average of 3	Min. single value
Full size 10 x 10 mm	18 J (13 ft-lbf)	14 J (10 ft-lbf)
Sub-size	Reduced values per specification	Reduced values per specification

DIMENSIONAL TOLERANCES (ASTM A1016, COLD FINISHED)

Outside diameter	OD tolerance
Under 25.4 mm (1 in)	±0.10 mm
25.4 to 38.1 mm, incl.	±0.15 mm
Over 38.1 to under 50.8 mm	±0.20 mm
50.8 to under 63.5 mm	±0.25 mm
63.5 to under 76.2 mm	±0.30 mm
76.2 to 101.6 mm, incl.	±0.38 mm

Wall thickness is ordered as a minimum: about +18% / –0 for welded tubes and +20% to +22% / –0 for cold-finished seamless tubes.

REQUIRED TESTS

• Tension test • Flattening test • Flaring test (seamless) or flange and reverse flattening tests (welded) • Charpy V-notch impact test at –45 °C • Hydrostatic or non-destructive electric test on every tube.

ORDERING INFORMATION

State quantity, grade 6, seamless or welded, OD and minimum wall, length, impact test temperature if lower than standard, optional requirements, certification (EN 10204 3.1 or as required) and the specification edition.

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ASME SA334 / ASTM A334 GRADE 6 TUBES

Full online specification: ASTM A334 Grade 6 specification | Buy tubes: ASTM A334 tubes

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