Inconel Exhaust Tubing (UNS N06625) — Technical Data Sheet

Inconel Exhaust Tubing supplied to SAE AMS 5581 / ASTM B444 — values are minimum requirements per the governing specification.

Chemical Composition (ASTM B444 / ASME SB444)

Element	Content
Nickel (Ni)	Balance
Chromium (Cr)	20.0–23.0%
Molybdenum (Mo)	8.0–10.0%
Niobium + Tantalum (Nb + Ta)	3.15–4.15%
Iron (Fe)	5.00% max.
Cobalt (Co)	1.00% max.
Carbon (C)	0.10% max.
Manganese (Mn)	0.50% max.
Silicon (Si)	0.50% max.
Phosphorus (P)	0.015% max.
Sulfur (S)	0.015% max.
Aluminum (Al)	0.40% max.
Titanium (Ti)	0.40% max.

Mechanical Properties (Minimum, Room Temperature)

Product Form	Condition	Tensile Strength, min.	Yield Strength (0.2%), min.	Elongation, min.
Tube, seamless or welded	SAE AMS 5581, annealed	>=827 MPa (120 ksi)	>=414 MPa (60 ksi)	30%
Seamless tube and pipe	ASTM B444, Grade 1 annealed	>=827 MPa (120 ksi)	>=414 MPa (60 ksi)	30%
Welded tube	ASTM B704, Grade 1 annealed	>=827 MPa (120 ksi)	>=414 MPa (60 ksi)	30%

Physical Properties (Typical)

Property	Value
Alloy	Inconel 625
UNS	N06625
Werkstoff	2.4856
Density	Approx. 8.44 g/cm³
Melting Range	Approx. 1290–1350°C
Alloy Type	Nickel-chromium-molybdenum
Strengthening	Solid-solution (Mo, Nb)

Heat Treatment

Step	Treatment Behind the Exhaust Tubing
Solution anneal	871 °C (1600 °F) minimum, then rapid cool
Grade 2 option	1093 °C (2000 °F) minimum where creep duty governs
Post-form practice	Assessed against the forming schedule when bends approach the minimum radius

Standards and Designations

Standard	Product or Application
SAE AMS 5581	Tubing, seamless or welded, annealed
ASTM B444 / B704 / B705	Seamless tube, welded tube and welded pipe, Grade 1
UNS N06625 - W.Nr. 2.4856 - NiCr22Mo9Nb	Material designations

Typical Supply Dimensions — Inconel Exhaust Tubing

OD	Typical Wall Options
1.000 in (25.4 mm)	.035 in, .049 in, .065 in
1.500 in (38.1 mm)	.049 in, .065 in, .083 in
1.750 in (44.5 mm)	.049 in, .065 in, .083 in
2.000 in (50.8 mm)	.049 in, .065 in, .095 in
2.500 in (63.5 mm)	.065 in, .095 in, .120 in

Surface Finishes

Surface Condition	Typical Use
Annealed and pickled	Standard delivery surface for fabrication runs of this exhaust tubing.
Bright annealed	Smooth oxide-free skin for visible engine bay and show builds.
Square-cut ends	Deburred, burr-free ends ready for the bending list.

Values are for reference; the mill test certificate prevails for final acceptance. Dimensions, conditions, and surface finishes are confirmed at quotation.