

SOUTHERLY ALLOY

Hastelloy C-276 Plate and Sheet | UNS N10276 | Werkstoff Nr. 2.4819 / NiMo16Cr15W

ASTM B575 — Hot-Rolled Plate, Cold-Rolled Sheet and Strip for Vessel, Scrubber and Acid Plant Duty

Product Description

Hastelloy C-276 plate, sheet, and strip covers UNS N10276 to ASTM B575 in the solution-annealed condition, cut to your blank list. Gauges span 0.5 mm coil through 100 mm plate. Molybdenum and tungsten resist reducing media while chromium handles oxidizing ones, which makes this flat product the default lining material for scrubber shells, reaction vessels and acid evaporator bodies.

Chemical Composition (ASTM B575)

Element	Content
Nickel (Ni)	57.0% min. (balance)
Molybdenum (Mo)	15.0–17.0%
Chromium (Cr)	14.5–16.5%
Tungsten (W)	3.0–4.5%
Iron (Fe)	4.0–7.0%
Cobalt (Co), max.	2.50%
Manganese (Mn), max.	1.00%
Vanadium (V), max.	0.35%
Silicon (Si), max.	0.08%
Carbon (C), max.	0.010%
Phosphorus (P), max.	0.040%
Sulphur (S), max.	0.030%

The purchase specification in force and the mill test certificate decide final acceptance.

Minimum Room-Temperature Mechanical Properties

Product Form	Standard	Condition	Tensile Strength	Yield Strength, 0.2% Offset	Elongation
Hot-rolled plate	B575	Solution annealed	≥ 690 MPa (100 ksi)	≥ 283 MPa (41 ksi)	≥ 40%
Cold-rolled sheet and strip	B575	Solution annealed	≥ 690 MPa (100 ksi)	≥ 283 MPa (41 ksi)	≥ 40%
Cut blanks and profiled plate	B575	Solution annealed	≥ 690 MPa (100 ksi)	≥ 283 MPa (41 ksi)	≥ 40%

Hardness on annealed flat product: 100 HRB max. Aerospace flat product runs to AMS 5530. Exposure between roughly 650 and 1090 °C during fabrication can precipitate intermetallic phases, so hot forming needs a follow-up solution anneal.

Physical Properties (typical room-temperature values)

Property	Value
Density	Approx. 8.89 g/cm³
Melting range	Approx. 1325–1370 °C
Modulus of elasticity	Approx. 205 GPa
Thermal conductivity at 20 °C	Approx. 10.2 W/m-K
Specific heat at 20 °C	Approx. 427 J/kg-K
Electrical resistivity at 20 °C	Approx. 1.30 µΩ-m
Thermal expansion, 20–100 °C	Approx. 11.2 µm/m-K
Service ceiling in air	Approx. 540 °C continuous, duty dependent

Applicable Standards

Standard / Designation	Product / Application
ASTM B575 / ASME SB575	Plate, sheet, and strip, solution annealed
ASTM B906	General requirements for nickel alloy flat-rolled product
SAE AMS 5530	Plate, sheet, and strip for aerospace work
ASTM B564 / B366	Forgings, flanges, and wrought fittings in the same grade
NACE MR0175 / ISO 15156	Sour service in oil and gas production
DIN 17750	Nickel alloy plate, sheet, and strip, W.Nr. 2.4819
ISO 6208	Nickel and nickel alloy plate, sheet, and strip
UNS N10276 · W.Nr. 2.4819 · NiMo16Cr15W · NS334	Designations

Typical Supply Dimensions

Product Form	Typical Supply Range	Length
Hot-rolled plate	4.8–100 mm thick, widths to 2000 mm	Cut to length and width
Cold-rolled sheet	0.5–6.35 mm thick, widths to 1500 mm	Cut to length and width
Strip and coil	0.5–6.35 mm thick, slit to width	Coil or custom lengths
Cut blanks	Any stocked gauge	To customer drawing

Supply Conditions and Finishes

Surface Condition	Typical Use
Solution Annealed & Pickled	Standard delivery for lining, vessel, and duct fabrication
Bright Annealed	Scale-free surface for clean or visible service
Pickled Only	Acid-descaled finish for general industrial work
Polished	Reduced roughness for product-contact and hygienic duty
Mill Finish	Hot-rolled surface for parts machined after delivery

Southerly Alloy — nickel alloy bar, rod, pipe, tube, plate and fittings · www.southerly-alloy.com · Values are for reference; the mill test certificate prevails for final acceptance.

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