

SOUTHERLY ALLOY

Monel 400 Pipe and Tube | UNS N04400 | Werkstoff Nr. 2.4360 / NiCu30Fe

ASTM B165 / B163 / B725 / B730 — Seamless and Welded Tubular Product

Product Description

Monel 400 pipe and tube carry UNS N04400 into seawater, hydrofluoric acid, and caustic circuits. Copper at 28–34% keeps the surface stable in flowing chloride water, and nickel supplies the balance. Seamless product runs to ASTM B165 and B163, while welded pipe and tube follow B725 and B730 and take an anneal after the seam.

Chemical Composition (ASTM B165 / B163 / B725 / B730)

Element	Content	Element	Content
Nickel (Ni) plus Cobalt (Co)	63.0% min.	Iron (Fe), max.	2.5%
Copper (Cu)	28.0–34.0%	Manganese (Mn), max.	2.0%
Carbon (C), max.	0.30%	Silicon (Si), max.	0.50%
Sulfur (S), max.	0.024%	Strengthening route	Cold work only

Minimum Room-Temperature Mechanical Properties

Product Form	Std.	Condition	Tensile Strength	Yield Strength, 0.2% Offset	Elongation
Seamless pipe and tube	B165	Annealed, OD to 127 mm	≥ 70 ksi (483 MPa)	≥ 28 ksi (193 MPa)	35%
Seamless pipe and tube	B165	Annealed, OD above 127 mm	≥ 70 ksi (483 MPa)	≥ 25 ksi (172 MPa)	35%
Seamless pipe and tube	B165	Stress-relieved, all sizes	≥ 85 ksi (586 MPa)	≥ 55 ksi (379 MPa)	15%
Heat-exchanger tube	B163	Annealed	≥ 70 ksi (483 MPa)	≥ 28 ksi (193 MPa)	35%

B725 and B730 set acceptance for welded product in their own tables; quote the edition on your order and those figures follow with the offer. Hydrostatic testing runs to the B165 formula, and B163 tube carries an eddy-current or hydrostatic record.

Physical Properties (typical values)

Property	Value	Property	Value
Density	Approx. 8.80 g/cm ³	Electrical resistivity, 20 °C	Approx. 0.51 μΩ·m
Melting range	Approx. 1300–1350 °C	Thermal expansion, 20–100 °C	Approx. 13.9 μm/m·K
Modulus of elasticity	Approx. 179 GPa	Curie temperature	Approx. 21–49 °C
Thermal conductivity, 20 °C	Approx. 21.8 W/m·K	Magnetic behaviour	Slightly ferromagnetic at ambient
Specific heat, 20 °C	Approx. 427 J/kg·K	Service ceiling	Approx. 480 °C continuous

Applicable Standards

Standard / Designation	Product / Application
ASTM B165 / ASME SB165	Seamless pipe and tube
ASTM B163 / ASME SB163	Seamless heat-exchanger and condenser tube
ASTM B725 / ASME SB725	Welded pipe, annealed
ASTM B730 / ASME SB730	Welded tube, annealed
ASTM B829	General requirements for seamless nickel alloy pipe and tube
ASTM B775 / B751	General requirements for welded pipe and welded tube
SAE AMS 4574	Seamless tubing, 67Ni - 30Cu, annealed
ASME B16.25	Buttwelding ends
DIN 17751 / ISO 6207	Nickel-copper alloy tube, W.Nr. 2.4360
NACE MR0175 / ISO 15156	Sour service in oil and gas production
UNS N04400 · W.Nr. 2.4360 · NiCu30Fe	Designations

Typical Supply Dimensions

Product Form	Typical Supply Range	Length
Seamless pipe	NPS 1/8 to NPS 8, outside diameter to 219 mm	Random or custom
Seamless tube	OD 6–219 mm, wall 0.5–12.7 mm	Up to 12 m or custom cut
Heat-exchanger tube	OD 6.35–76.2 mm, wall 0.7–6 mm	Up to 12 m or U-bend
Small-diameter tube	OD 1.6–25.4 mm, wall 0.2–2 mm	Coil or fixed length
Welded pipe	OD 21.3–610 mm, wall 0.5–12.7 mm	Fixed length or random
Welded tube	OD 3.18–127 mm, wall 0.38–12.7 mm	Coil or fixed length

Filler metal for welding: ERNiCu-7 wire to AWS A5.14 and ENiCu-7 electrodes to A5.11. Interpass temperature stays below 150 °C.

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.

Document Control · Monel 400 Pipe and Tube Data Sheet · Rev. 1.0 · Issued 16 September 2026