

Elgiloy Specialty Metals – Strip Products

Inconel[®] alloy 625

UNS N06625 W. Nr 2.4856

Applicable Specifications

Strip and Foil ASTM B443, AMS 5599, AMS 5869, ISO 6208, NACE MR0175/ISO 15156-3, NACE MR0103/ISO 17945

Description: Inconel[®] 625 is a Nickel-Chromium-Molybdenum-Columbium (Niobium) alloy with excellent oxidation resistance, corrosion resistance, and strength at high temperatures. Age-hardening treatments are not required to obtain the high strength properties of Alloy 625 due to the solid solution effects of molybdenum and columbium on the nickel-chromium matrix. I625 is resistant to chloride-ion stress-corrosion cracking, pitting, and stress-corrosion cracking making it suitable for seawater applications. Inconel[®] 625 can operate from cryogenic temperatures up to 1800°F (980°C).

Applications include: Honeycomb, springs, seals, bellows, diaphragms, land-based turbine components, aircraft exhaust ducting, and heat exchangers.

Industries supplied include: Automotive, Marine, Chemical Processing, Power Generation, Nuclear and Aerospace.

Nominal Composition													
	С	Mn	Si	Р	S	Cr	Мо	Nb	Со	Ti	AI	Fe	Ni
min						20.00	8.00	3.15					
max	0.10	0.50	0.50	0.015	0.015	23.00	10.00	4.15	1.00	0.40	0.40	5.00	Bal
Physical Properties													
				At 70°F					At 20°C				
Density				0.305 lb/in ³					8.44 g/cm ³				
Modulus of Elasticity (E)				30.1 x 10 ³ ksi					208 GPa				
Modulus of Rigidity (G)				11.8 x 10 ³ ksi					81.2 GPa				
Coefficient of Expansion				7.4 microinches/in°F(70-600°F)					13.3 μm/m-°C (20-538°C)				
Electrical Resistivity				50.8 μ ohm.in					129 μ ohm.cm				
Thermal Conductivity				68 Btu-in./ft. ² hr°F					9.8 W/m-К				
Typical Mechanical Properties													
Condition Heat			Heat T	Treatment				Tensile Strength		Suggested Operating Conditions			
Annealed 1925			1925-2	-2050°F (1050-1120°C)				120 – 150 ksi (830-1100 MPa)		-300°F to 1800°F (-184°C to 980°C)			
Spring Temper								200 - 250 (1380 - 17	ksi 724 MPa)	-300°F to 700°F (-184°C to 370°C)			570°C)

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For further information:	Elgiloy Specialty Metals - Strip Products	
Email: stripinquiries@elgiloy.com	1565 Fleetwood Dr.	<u>www.elgiloy.com</u>
Phone: 1-888-843-2350	Elgin, IL 60123 USA	

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