



Specialty Metals – Strip Products

Rene 41®

UNS N07041
W.Nr 2.4973

Rene 41 is a precipitation-hardenable Nickel-Chromium alloy with high strength and oxidation resistance at elevated temperatures from 1200°F - 1800°F.
Applications include: turbine blades, wheels, combustion chamber liners, after burners, and structural hardware.
Industries supplied include: Aerospace.

Nominal Composition

	C	Mn	Si	S	Cr	Co	Mo	Ti	Al	B	Fe	Cu	Ni
min					18.00	10.00	9.00	3.00	1.40	0.003			
max	0.12	0.10	0.50	0.015	20.00	12.00	10.50	3.30	1.60	0.010	5.00	0.50	balance

Physical Properties

	At 70°F	At 20°C
Density	0.298 lb/in ³	8.25 g/cm ³
Modulus of Elasticity (E)	31.6 x 10 ³ ksi	218 GPa
Modulus of Rigidity (G)	12.1 x 10 ³ ksi	83.4 GPa
Coefficient of Expansion	7.5 microinches/in.-°F (70-1000°F)	13.5 µm/m-°C (20-538°C)
Electrical Resistivity	51.5 µ ohm.in	131 µ ohm.cm
Thermal Conductivity	62 Btu-in./ft. ² hr.-°F	9.0 W/m-K

Applicable Specifications

Strip and Foil	AMS 5545, GE B50T59, GE B50TF109
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Typical Mechanical Properties – Spring Applications

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	1975°F (1079°C)	170 ksi (1172 MPa) max	-300°F to 1500°F (-184°C to 815°C)
Spring Temper		ksi	-300°F to 1500°F (-184°C to 815°C)
After Precipitation Heat Treat	Per AMS 5545	160 ksi (1103 Mpa) min	-300°F to 1500°F (-184°C to 815°C)

Elgiloy Specialty Metals -
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