

RENE41

DESCRIPTION

RENE41, also known as UNS N07041, AMS 5545, AMS 5712, and ASTM B639, is a high-performance nickel-based superalloy designed for use in demanding environments requiring high strength and excellent resistance to oxidation and corrosion at elevated temperatures.

TYPICAL PHYSICAL PROPERTIES

Density	g/cm ³	8.25
	lb/in ³	0.298
Melting Point	°F	2450
	°C	1345
Modulus of Elasticity	ksi	31.6 x 10 ³
	GPa	218
Electrical Resistivity	μΩ.cm	131
	μΩ.in	51.5
Thermal Conductivity	W/m-K	9.0
	Btu-in/ft ² hr-°F	62

Chemical Composition (% by weight)

Elements	Min	Max
Co	10.00	12.00
Mo	9.00	10.50
Ti	3.00	3.30
Cr	18.00	20.00
Al	1.40	1.80
Ni	Balance	
Fe	-	5
Mn		0.10
Si		0.50
S		0.015
Cu		0.50

APPLICATIONS

- Hot jet engine components
- Missile components
- Bolting
- Springs

TYPICAL MECHANICAL PROPERTIES

	Metric	Imperial
Hardness, Brinell	334/td>	334
Hardness, Knoop	363	363
Hardness, Rockwell C	36	36
Hardness, Vickers	349	349
Tensile Strength	1241 MPa	1180,000 psi
Yield Strength	793 MPa	115,000
Elongation at Break	20%	20%
Reduction of Area	25%	25%

Availability

- Sheets
- Plate
- Round Bar
- Rod
- Strip
- Coils

Specifications

- AMS 5545
- AMS 5713
- AMS 5800
- AMS 5712
- GE C50T71

Special Purpose Alloys & Metals From Stock

Controlled Expansion | Glass Sealing

Kovar ASTM F 15 Alloy

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

Alloy 32/42/48/49

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

VIM VAR CORE IRON

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

SUPRA 510 (Ni50FeCr10)

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

ALUMINIUM HARD ALLOYS

7475 AA7475/7449 AA7449

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

7075 UNS A97075

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

7050 AMS 4050

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

7175 UNS A97075

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

2014 AMS 4121

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

2024 UNS A92024

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

2618 UNS A92618

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

2017 AMS 4037

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

2011 UNS A92011

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

TITANIUM ALLOYS

TITANIUM TI-6AL-4V GRADE 5

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

TITANIUM GRADE 2

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

TITANIUM 6-2-4-6

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

TITANIUM BT20

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

NICKEL BASED ALLOYS

WASPALLOY

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

INCONEL X750

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

INCONEL 945

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

INCONEL 945X

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

NIMONIC C263

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

NIMONIC 75

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

INCONEL 909

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

INCONEL 718

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

INCONEL 660

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

PH ALLOYS

17-7PH

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

15-5PH

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

17-4PH

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

HIGH TEMP ALLOYS

HAYNES 188

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

L605

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

MP35N

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

MP159

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

RENE41

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

HAYNES 230

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

ELGILOY

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

HAYNES 242

- Forms: Plate, sheets, Round Bar, Rod, Strips, Coil

JUST-IN-TIME DELIVERY: All of our standard stock items can be delivery as per commitment. All materials are certified with shipment. For special orders and non-stock materials, contact our sales team for our competitive pricing and delivery.