

# Rene 41

A precipitation-hardenable nickel-chromium superalloy, Rene 41 exhibits extremely high room and elevated temperature tensile properties.

With the addition of significant amounts of cobalt and molybdenum, Rene 41 has exceptional strength from room temperature up to 871°C.

## PRODUCT FORMS

PRODUCT FORM	SIZE RANGE FROM	SIZE RANGE TO
Rene 41 round bar	9.5 mm	82 mm
Rene 41 sheet & plate	0.3 mm	13.2 mm

Can't find the size you need? **Please contact us at [onsales@neonickel.com](mailto:onsales@neonickel.com)**

## CHEMICAL ANALYSIS

%	CR	NI	MO	CO	AL	TI	B	C	FE	MN	SI	S	CU
Min	18	-	9	10	1.40	3	0.003	-	-	-	-	-	-
Max	20	Balance	10.5	12	1.80	3.30	0.01	0.12	5	0.10	0.50	0.015	0.50

## APPLICATIONS

- Missile components
- Bolting
- Springs
- Nozzle partitions in jet engines
- Turbine blades in jet engines
- Wheels in jet engines
- Combustion liners in jet engines

## ABOUT RENE 41

For an exceptionally high strength alloy, which also offers outstanding oxidation resistance look no further than Rene 41. Rene 41 is a precipitation-hardenable nickel-chromium superalloy with exceptionally high strength due to the addition of aluminium and titanium. The alloy also offers outstanding oxidation resistance up to 871°C. To learn more about Rene 41 [contact us](#), or fill in our online quote form and we'll get right back to you!

## PROPERTIES

<b>Density:</b>	8.249 g/cm <sup>3</sup>
<b>Melting range:</b>	1307-1343°C

## MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	21°C	427°C	538°C	649°C	760°C	871°C	982°C
Ultimate Tensile Strength /MPa	1261.7	-	-	1117	1048	710.2	-
0.2% Yield Strength /MPa	820.5	-	-	765.3	751.5	579.2	-
Elongation %	21	-	-	14	14	11	-
Coefficient of Thermal Expansion µm/m°C	-	13.3	13.7	14.3	15.1	15.5	16.7
Thermal Conductivity /kcal/(hr.m.°C)	-	14.4	16.1	17.9	19.6	21.4	-
Modulus of Elasticity / x10 <sup>5</sup> MPa	-	2	1.93	1.79	1.72	1.65	1.52

## TYPICAL RUPTURE STRENGTH, HEAT TREATED, SHEET

TEMPERATURE, °C	649°C	760°C	871°C
100 Hours, ksi	107	63	23
1,000 Hours, ksi	90	43	13

## SPECIFICATIONS

<b>UNS Number:</b>	N07041
<b>W.Nr.Number:</b>	2.4973
<b>Standards:</b>	AMD 5545, 5712, 5713, 5800