

This page is mainly introduced the Rene 41 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Rene 41, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Data Table for Grades Stainless Steels Rene 41

Rene 41 Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5399D (2006)	Nickel Alloy, Corrosion and Heat-Resistant, Investment Castings 52Ni - 19Cr - 11Co - 9.8Mo - 3.2Ti - 1.6Al - 0.006B Vacuum-Melted, Vacuum-Cast, Solution Heat Treated
2	SAE AMS 5545F (2010)	Nickel Alloy, Corrosion and Heat-Resistant, Sheet, Strip, and Plate 54Ni - 19Cr - 11Co - 9.8Mo - 3.2Ti - 1.5Al - 0.006B Vacuum Induction and Consumable Electrode Melted, Solution Heat Treatable Precipitation Heat Treated
3	SAE AMS 5712J (2006)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 53Ni - 19Cr - 11Co - 9.8Mo - 3.2Ti - 1.6Al - 0.006B Vacuum Melted, Solution Heat Treated Precipitation Hardenable
4	SAE AMS 5713J (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 53Ni - 19Cr - 11Co - 9.8Mo - 3.2Ti - 1.6Al - 0.006B Vacuum Melted, Solution and Precipitation Heat Treated
5	SAE AMS 5800F (2006)	Nickel Alloy, Corrosion and Heat-Resistant, Welding Wire 54Ni - 19Cr - 11Co - 10Mo - 3.2Ti - 1.5Al - 0.006B Vacuum Induction Melted
6	SAE J 467 (1968)	Special Purpose Alloys ("Superalloys")

Rene 41 Chemical composition(mass fraction)(wt.%)		
Chemical	Min.(%)	Max.(%)
Al	1.40	1.60
B	0.0030	0.0100
C		0.12
Co	10.00	12.00
Cr	18.00	20.00
Cu		0.50
Fe		5.0
Mn		0.10
Mo	9.0	10.50
Ni		Remainder
S		0.0150
Si		0.5000
Ti	3.0	3.3

Rene 41 Physical Properties

Tensile strength	115-234	σ_b /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta 5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv $\geq$ /J
HBS	123-321	-
HRC	30	-

Rene 41 Mechanical Properties

Tensile strength	231-231	σ_b /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta 5 \geq$ (%)
ψ	-	$\psi \geq$ (%)
Akv	-	Akv $\geq$ /J
HBS	235-268	-
HRC	30	-

Rene 41 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

Rene 41 Range of products

Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	Φ8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID-WASHED

We can produce Stainless Steels the specifications follows: