

This page is mainly introduced the Rene 41 Datasheet, including 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.

Datasheet for Steel Grades Specialsteel 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 | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

Rene 41

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 Specialsteel the specifications follows: