

This page is mainly introduced the 1Cr18Ni9Ti Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1Cr18Ni9Ti, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Special Steel 1Cr18Ni9Ti

| 1Cr18Ni9Ti Standard Number: | | |
|-----------------------------|-------------------|---|
| ITEM | Standard Number | Descriptions |
| 1 | GB 13296 (2007) | Seamless stainless steel tubes for boiler and heat exchanger |
| 2 | GB 2270 (1980) | Seamless tubes |
| 3 | GB 4238 (1992) | Heat-resisting steel sheets and plates |
| 4 | GB/T 1220 (1992) | Stainless steel bars |
| 5 | GB/T 1221 (1992) | Heat-resisting steel bars |
| 6 | GB/T 12770 (2002) | Welded stainless steel tubes for machine structures |
| 7 | GB/T 12771 (2000) | Welded stainless steel pipes for liquid delivery |
| 8 | GB/T 14975 (2002) | Stainless steel seamless tubes for structures |
| 9 | GB/T 14976 (2002) | Stainless steel seamless tubes for fluid transport |
| 10 | GB/T 3089 (1982) | Thinnest-wall seamless tubes of stainless and acid-resistance steel |
| 11 | GB/T 3090 (2000) | Stainless steel small diameter seamless steel tubes |
| 12 | GB/T 3280 (1992) | Cold rolled stainless steel sheets and plates |
| 13 | GB/T 4226 (2004) | Cold finished stainless steel bars |
| 14 | GB/T 4237 (1992) | Hot rolled stainless steel sheets and plates |
| 15 | GB/T 4239 (1991) | Cold rolled stainless steel and heat resisting steel strips |
| 16 | GB/T 4240 (1993) | Stainless steel wires |
| 17 | GB/T 4356 (2002) | Stainless steel wire rods |
| 18 | JB 4728 (2000) | Stainless steel forgings for pressure vessels |
| 19 | JB/T 6398 (2006) | Heavy stainless acid resistant and heat resistant steel forgings |

| 1Cr18Ni9Ti Chemical composition(mass fraction)(wt.%) | | |
|--|---------|---------|
| Chemical | Min.(%) | Max.(%) |
| C | | 0.12 |
| Si | | 1.00 |

| | | | | | | | | | |
|----|----|-------|----|-----------------|----|----|----|----|-------|
| Mn | | | | 2.00 | | | | | |
| P | | | | 0.035 | | | | | |
| S | | | | 0.030 | | | | | |
| Ni | | 8.00 | | 11.00 | | | | | |
| Cr | | 17.00 | | 19.00 | | | | | |
| Ti | | | | 5x(C-0.02)-0.80 | | | | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

1Cr18Ni9Ti

| 1Cr18Ni9Ti 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 | - |

| 1Cr18Ni9Ti 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 | - |

| 1Cr18Ni9Ti Heat Treatment Regime | | | | |
|----------------------------------|-----------|-----------|-------------|-------|
| Annealing | Quenching | Tempering | Normalizing | Q & T |
| √ | √ | √ | √ | √ |

| 1Cr18Ni9Ti 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: