

**This page is mainly introduced the 0Cr18Ni11Nb Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 0Cr18Ni11Nb, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel 0Cr18Ni11Nb

| 0Cr18Ni11Nb Standard Number: |                   |  |
|------------------------------|-------------------|--|
| ITEM                         | Standard Number   | Descriptions   |
| 1                            | GB 13296 (2007)   | Heavy stainless acid resistant and heat resistant steel forgings |
| 2                            | GB 4238 (1992)    | Heat-resisting steel sheets and plates                           |
| 3                            | GB/T 1220 (1992)  | Stainless steel bars   |
| 4                            | GB/T 1221 (1992)  | Heat-resisting steel bars  |
| 5                            | GB/T 12770 (2002) | Welded stainless steel tubes for machine structures              |
| 6                            | GB/T 12771 (2000) | Welded stainless steel pipes for liquid delivery                 |
| 7                            | GB/T 14975 (2002) | Stainless steel seamless tubes for structures                    |
| 8                            | GB/T 14976 (2002) | Stainless steel seamless tubes for fluid transport               |
| 9                            | GB/T 3280 (2007)  | Cold rolled stainless steel sheets and plates                    |
| 10                           | GB/T 4226 (2004)  | Cold finished stainless steel bars                               |
| 11                           | GB/T 4237 (1992)  | Hot rolled stainless steel sheets and plates                     |
| 12                           | GB/T 4239 (1991)  | Cold rolled stainless steel and heat resisting steel strips      |
| 13                           | GB/T 4240 (1993)  | Stainless steel wires  |
| 14                           | GB/T 4356 (1984)  | Stainless steel wire rods  |
| 15                           | JB/T 6398 (2006)  | Heavy stainless acid resistant and heat resistant steel forgings |

| 0Cr18Ni11Nb Chemical composition(mass fraction)(wt.%) |         |         |
|---|---------|---------|
| Chemical  | Min.(%) | Max.(%) |
| C   |         | 0.08    |
| Si  |         | 1.00    |
| Mn  |         | 2.00    |
| P   |         | 0.035   |
| S   |         | 0.030   |
| Ni  | 9.00    | 13.00   |

|    |    |    |       |    |    |    |       |    |       |  |
|----|----|----|-------|----|----|----|-------|----|-------|--|
| Cr |    |    | 17.00 |    |    |    | 19.00 |    |       |  |
| Nb |    |    |       |    |    |    | 10xC□ |    |       |  |
| C  | Si | Mn | P     | S  | Cr | Ni | Mo    | V  | Ta    |  |
| W  | N  | Cu | Co    | Pb | B  | Nb | Al    | Ti | Other |  |
|    |    |    |       |    |    |    |       |    |       |  |

## 0Cr18Ni11Nb

### 0Cr18Ni11Nb Physical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 115-234 | $\sigma_b$ /MPa          |
| Yield Strength   | 23      | $\sigma_{0.2} \geq$ /MPa |
| Elongation       | 65      | $\delta_5 \geq$ (%)      |
| $\psi$           | -       | $\psi \geq$ (%)          |
| Akv              | -       | Akv $\geq$ /J            |
| HBS              | 123-321 | -                        |
| HRC              | 30      | -                        |

### 0Cr18Ni11Nb Mechanical Properties

|                  |         |                          |
|------------------|---------|--------------------------|
| Tensile strength | 231-231 | $\sigma_b$ /MPa          |
| Yield Strength   | 154     | $\sigma_{0.2} \geq$ /MPa |
| Elongation       | 56      | $\delta_5 \geq$ (%)      |
| $\psi$           | -       | $\psi \geq$ (%)          |
| Akv              | -       | Akv $\geq$ /J            |
| HBS              | 235-268 | -                        |
| HRC              | 30      | -                        |

### 0Cr18Ni11Nb Heat Treatment Regime

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

### 0Cr18Ni11Nb 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:**