

**This page is mainly introduced the 1Cr13 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1Cr13, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel 1Cr13

| 1Cr13 Standard Number: |                   |  |
|------------------------|-------------------|--|
| ITEM                   | Standard Number   | Descriptions   |
| 1                      | GB 2270 (1980)    | Seamless tubes   |
| 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 14975 (2002) | Stainless steel seamless tubes for structures                    |
| 7                      | GB/T 3280 (2007)  | Cold rolled stainless steel sheets and plates                    |
| 8                      | GB/T 4226 (2004)  | Cold finished stainless steel bars                               |
| 9                      | GB/T 4237 (1992)  | Hot rolled stainless steel sheets and plates                     |
| 10                     | GB/T 4239 (1991)  | Cold rolled stainless steel and heat resisting steel strips      |
| 11                     | GB/T 4240 (1993)  | Stainless steel wires  |
| 12                     | GB/T 4356 (2002)  | Stainless steel wire rods  |
| 13                     | GB/T 8732 (2004)  | Steels of blade for steam turbine                                |
| 14                     | JB/T 6398 (2006)  | Heavy stainless acid resistant and heat resistant steel forgings |

| 1Cr13 Chemical composition (mass fraction) (wt.%) |    |         |   |   |    |         |    |   |    |
|---|----|---------|---|---|----|---------|----|---|----|
| Chemical  |    | Min.(%) |   |   |    | Max.(%) |    |   |    |
| C   |    |         |   |   |    | 0.15    |    |   |    |
| Si  |    |         |   |   |    | 1.00    |    |   |    |
| Mn  |    |         |   |   |    | 1.00    |    |   |    |
| P   |    |         |   |   |    | 0.035   |    |   |    |
| S   |    |         |   |   |    | 0.030   |    |   |    |
| Ni  |    |         |   |   |    | 0.60    |    |   |    |
| Cr  |    | 11.50   |   |   |    | 13.50   |    |   |    |
| C   | Si | Mn      | P | S | Cr | Ni      | Mo | V | Ta |

|   |   |    |    |    |   |    |    |    |       |
|---|---|----|----|----|---|----|----|----|-------|
|   |   |    |    |    |   |    |    |    |       |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
|   |   |    |    |    |   |    |    |    |       |

## 1Cr13

| 1Cr13 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      | -                        |

| 1Cr13 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      | -                        |

| 1Cr13 Heat Treatment Regime |           |           |             |       |
|-----------------------------|-----------|-----------|-------------|-------|
| Annealing                   | Quenching | Tempering | Normalizing | Q & T |
| √                           | √         | √         | √           | √     |

| 1Cr13 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, | Φ8-1200mm*L       | Forging, hot rolling and              | Black, Rough Turning,   |

|               |  |                            |                                   |   |
|---------------|--|----------------------------|-----------------------------------|---|
|               | Square Bar                               |                            | cold rolling, Cast                | 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:**