

This page is mainly introduced the X1CrNiMoCuN20-18-7 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X1CrNiMoCuN20-18-7, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel X1CrNiMoCuN20-18-7

### X1CrNiMoCuN20-18-7 Standard Number:

| ITEM | Standard Number     | Descriptions   |
|------|---------------------|--|
| 1    | ISO 15510 (2010)    | Stainless steels -- Chemical composition   |
| 2    | ISO 16143-2 (2004)  | Stainless steels for general purposes -- Part 2: Semi-finished products, bars, rods and sections     |
| 3    | ISO 16143-3 (2005)  | Stainless steels for general purposes -- Part 3: Wire  |
| 4    | ISO 9328-7 (2011)   | Steel flat products for pressure purposes - Technical delivery conditions - Part 7: Stainless steels |
| 5    | ISO/TS 15510 (2003) | Stainless steels - Chemical composition  |

### X1CrNiMoCuN20-18-7 Chemical composition (mass fraction) (wt.%)

| Chemical | Min.(%) | Max.(%) |    |    |    |    |    |    |       |
|----------|---------|---------|----|----|----|----|----|----|-------|
| C        |         | 0.02    |    |    |    |    |    |    |       |
| Si       |         | 0.70    |    |    |    |    |    |    |       |
| Mn       |         | 1.00    |    |    |    |    |    |    |       |
| P        |         | 0.035   |    |    |    |    |    |    |       |
| S        |         | 0.015   |    |    |    |    |    |    |       |
| Cr       | 19.50   | 20.50   |    |    |    |    |    |    |       |
| Ni       | 17.50   | 18.50   |    |    |    |    |    |    |       |
| Mo       | 6.00    | 7.00    |    |    |    |    |    |    |       |
| N        | 0.18    | 0.25    |    |    |    |    |    |    |       |
| Cu       | 0.50    | 1.00    |    |    |    |    |    |    |       |
| C        | Si      | Mn      | P  | S  | Cr | Ni | Mo | V  | Ta    |
| W        | N       | Cu      | Co | Pb | B  | Nb | Al | Ti | Other |

Stainless steels - Chemical composition

### X1CrNiMoCuN20-18-7 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      | -                        |

### X1CrNiMoCuN20-18-7 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      | -                        |

### X1CrNiMoCuN20-18-7 Heat Treatment Regime

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

### X1CrNiMoCuN20-18-7 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:**