

**This page is mainly introduced the X5CrNiMo17-12-3 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X5CrNiMo17-12-3, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel X5CrNiMo17-12-3

### X5CrNiMo17-12-3 Standard Number:

| ITEM | Standard Number     | Descriptions   |
|------|---------------------|--|
| 1    | ISO 15510 (2010)    | Stainless steels -- Chemical composition   |
| 2    | ISO 16143-1 (2004)  | Stainless steels for general purposes -- Part 1: Flat products                                       |
| 3    | ISO 16143-2 (2004)  | Stainless steels for general purposes -- Part 2: Semi-finished products, bars, rods and sections     |
| 4    | ISO 16143-3 (2005)  | Stainless steels for general purposes -- Part 3: Wire  |
| 5    | ISO 6931-1 (1994)   | Stainless steels for springs - Part 1: Wire  |
| 6    | ISO 6931-2 (2005)   | Stainless steels for springs - Part 2: Narrow strip  |
| 7    | ISO 9328-7 (2011)   | Steel flat products for pressure purposes - Technical delivery conditions - Part 7: Stainless steels |
| 8    | ISO/TS 15510 (2003) | Stainless steels - Chemical composition  |

### X5CrNiMo17-12-3 Chemical composition(mass fraction)(wt.%)

| Chemical | Min.(%) |    |    |    |    | Max.(%) |    |    |       |  |
|----------|---------|----|----|----|----|---------|----|----|-------|--|
| C        |         |    |    |    |    | 0.07    |    |    |       |  |
| Si       |         |    |    |    |    | 1.00    |    |    |       |  |
| Mn       |         |    |    |    |    | 2.00    |    |    |       |  |
| P        |         |    |    |    |    | 0.045   |    |    |       |  |
| S        |         |    |    |    |    | 0.030   |    |    |       |  |
| Cr       | 16.50   |    |    |    |    | 18.50   |    |    |       |  |
| Ni       | 10.50   |    |    |    |    | 13.00   |    |    |       |  |
| Mo       | 2.50    |    |    |    |    | 3.00    |    |    |       |  |
| N        |         |    |    |    |    | 0.11    |    |    |       |  |
| C        | Si      | Mn | P  | S  | Cr | Ni      | Mo | V  | Ta    |  |
| W        | N       | Cu | Co | Pb | B  | Nb      | Al | Ti | Other |  |

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

Stainless steels - Chemical composition

### X5CrNiMo17-12-3 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      | -                        |

### X5CrNiMo17-12-3 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      | -                        |

### X5CrNiMo17-12-3 Heat Treatment Regime

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

### X5CrNiMo17-12-3 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:**