

This page is mainly introduced the 1Cr18Ni12Mo3Ti Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1Cr18Ni12Mo3Ti, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel 1Cr18Ni12Mo3Ti

### 1Cr18Ni12Mo3Ti 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/T 1220 (1992)  | Stainless steel bars  |
| 4    | GB/T 14975 (2002) | Stainless steel seamless tubes for structures                       |
| 5    | GB/T 14976 (2002) | Stainless steel seamless tubes for fluid transport                  |
| 6    | GB/T 3089 (1982)  | Thinnest-wall seamless tubes of stainless and acid-resistance steel |
| 7    | GB/T 3280 (1992)  | Cold rolled stainless steel sheets and plates                       |
| 8    | GB/T 4237 (1992)  | Hot rolled stainless steel sheets and plates                        |

### 1Cr18Ni12Mo3Ti Chemical composition (mass fraction) (wt.%)

| Chemical |    | Min.(%) |    | Max.(%)         |    |    |    |    |       |
|----------|----|---------|----|-----------------|----|----|----|----|-------|
| C        |    |         |    | 0.12            |    |    |    |    |       |
| Si       |    |         |    | 1.00            |    |    |    |    |       |
| Mn       |    |         |    | 2.00            |    |    |    |    |       |
| P        |    |         |    | 0.035           |    |    |    |    |       |
| S        |    |         |    | 0.030           |    |    |    |    |       |
| Ni       |    | 11.00   |    | 14.00           |    |    |    |    |       |
| Cr       |    | 16.00   |    | 19.00           |    |    |    |    |       |
| Mo       |    | 2.50    |    | 3.50            |    |    |    |    |       |
| 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 |
|          |    |         |    |                 |    |    |    |    |       |

## 1Cr18Ni12Mo3Ti

### 1Cr18Ni12Mo3Ti 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      | -                        |

### 1Cr18Ni12Mo3Ti 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      | -                        |

### 1Cr18Ni12Mo3Ti Heat Treatment Regime

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

### 1Cr18Ni12Mo3Ti 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 |

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|               |   |                               |                                      |   |
|---------------|---|-------------------------------|--------------------------------------|---|
| Pipes / Tubes | Seamless Pipes/Tubes,<br>Welded Pipes/Tubes | OD:6-219mm x<br>WT:0.5-20.0mm | Hot extrusion, Cold<br>Drawn, Welded | Annealed, Solution and<br>Aging, Q+T, ACID-<br>WASHED |
|---------------|---|-------------------------------|--------------------------------------|---|

**We can produce Specialsteel the specifications follows:**