

This page is mainly introduced the X7CrNiNb18-10 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X7CrNiNb18-10, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel X7CrNiNb18-10

X7CrNiNb18-10 Standard Number:

| ITEM | Standard Number | Descriptions |
|------|---------------------|---|
| 1 | ISO 15510 (2010) | Stainless steels -- Chemical composition |
| 2 | ISO 4955 (2005) | Heat-resistant steels |
| 3 | ISO 9327-5 | Steel forgings and rolled or forged bars for pressure purposes - Technical delivery conditions - Part 5: Stainless steels |
| 4 | ISO 9328-5 | Steel plates and strips for pressure purposes - Technical delivery conditions - Part 5: Weldable fine grain steels, thermomechanically rolled |
| 5 | ISO/TS 15510 (2003) | Stainless steels - Chemical composition |

X7CrNiNb18-10 Chemical composition (mass fraction) (wt.%)

| Chemical | | Min.(%) | | Max.(%) | | | | | |
|----------|----|---------|----|---------|----|----|----|----|-------|
| C | | | | 0.10 | | | | | |
| Si | | | | 1.00 | | | | | |
| Mn | | | | 2.00 | | | | | |
| P | | | | 0.045 | | | | | |
| S | | | | 0.030 | | | | | |
| Cr | | 17.00 | | 19.00 | | | | | |
| Ni | | 9.00 | | 12.00 | | | | | |
| Nb | | 10×C□ | | 1.20 | | | | | |
| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

Stainless steels - Chemical composition

X7CrNiNb18-10 Physical Properties

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

X7CrNiNb18-10 Mechanical Properties

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

X7CrNiNb18-10 Heat Treatment Regime

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

X7CrNiNb18-10 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: