**This page is mainly introduced the X5CrNi18-10 chemical information,mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X5CrNi18-10,such as it is commonly used in bars, sheet,plates, steel coils, steel pipes,forged and other materials application.**

# Data Table for Grades Stainless Steels X5CrNi18-10

| X5CrNi18-10 Standard Number: | | |
|---|---|---|
| ITEM | Standard Number | Descriptions |
| 1 | NF EN 10028-7 | Flat products made of steels for pressure purposes - Part 7: Stainless steels |
| 2 | NF EN 10088-1 | Stainless steels - Part 1: List of stainless steels |
| 3 | NF EN 10088-2 | Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes |
| 4 | NF EN 10088-3 | Stainless steels - Part 3: Technical delivery conditions for semi-finished products, bars, rods, wire, sections and bright products of corrosion resisting steels for general purposes |
| 5 | NF EN 10088-4 | Stainless steels - Part 4: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes |
| 6 | NF EN 10088-5 | Stainless steels - Part 5: Technical delivery conditions for bars, rods, wire, sections and bright products of corrosion resisting steels for construction purposes |
| 7 | NF EN 10151 | Stainless steel strip for springs - Technical delivery conditions |
| 8 | NF EN 10216-5 (2004) | Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes |
| 9 | NF EN 10217-7 | Welded steel tubes for pressure purposes - Technical delivery conditions - Part 7: Stainless steel tubes |
| 10 | NF EN 10222-5 | Steel forgings for pressure purposes - Part 5: Martensitic, austenitic and austenitic-ferritic stainless steels |
| 11 | NF EN 10250-4 | Open die steel forgings for general engineering purposes - Part 4: Stainless steels |
| 12 | NF EN 10253-3 | Butt-welding pipe fittings - Part 3: Wrought austenitic and austenitic-ferritic (duplex) stainless steels without specific inspection requirements |
| 13 | NF EN 10253-4 | Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements |
| 14 | NF EN 10263-5 | Steel rod, bars and steel wire for cold heading and cold extrusion - Part 5: Technical delivery conditions for stainless steels |
| 15 | NF EN 10264-4 (2002) | Steel wire and wire products - Steel wire for ropes - Part 4: Stainless steel wire |
| 16 | NF EN 10269 | Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties |
| 17 | NF EN 10272 | Stainless steel bars for pressure purposes |
| 18 | NF EN 10296-2 (2005) | Welded circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel |
| 19 | NF EN 10297-2 (2005) | Seamless circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel |

| X5CrNi18-10 Chemical composition(mass fraction)(wt.%) | | |
|---|---|---|
| Chemical | Min.(%) | Max.(%) |
| C | | 0.070 |
| Si | | 1.00 |
| Mn | | 2.00 |
| P | | 0.045 |
| S | | 0.015 |
| Cr | 17.00 | 19.50 |
| Mo | | |
| Ni | 8.00 | 10.50 |
| N | | 0.11 |

| X5CrNi18-10 Physical Properties | | |
|---|---|---|
| Tensile strength | 115-234 | σb/MPa |
| Yield Strength | 23 | σ 0.2 ≥/MPa |
| Elongation | 65 | δ5≥ (%) |
| ψ | - | ψ≥ (%) |
| Akv | - | Akv≥/J |
| HBS | 123-321 | - |
| HRC | 30 | - |

| X5CrNi18-10 Mechanical Properties | | |
|---|---|---|
| Tensile strength | 231-231 | σb/MPa |
| Yield Strength | 154 | σ 0.2 ≥/MPa |
| Elongation | 56 | δ5≥(%) |
| ψ | - | ψ≥(%) |
| Akv | - | Akv≥/J |
| HBS | 235-268 | - |
| HRC | 30 | - |

| X5CrNi18-10 Heat Treatment Regime | | | | |
|---|---|---|---|---|
| **Annealing** | **Quenching** | **Tempering** | **Normalizing** | **Q & T** |
| √ | √ | √ | √ | √ |

| X5CrNi18-10 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, 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 Stainless Steels the specifications follows:

Note:
(1) listed in the table apex diameter (d), to steel thickness (a) multiples said.
(2) in the ASTM A6 standard specified scope can meet any additional conditions.
(3) from the standard for 50 mm (2 in).
Mechanical properties
Mechanische Eigenschaften
Caracteristiques mecaniques
ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d’elasticite minimale
Rm Tensile strength / Zugfestigkeit / Resistance a la traction
A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal
J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc

Round bar:
Diameter : 1mm-2000mm
Square bar:
Size: 50mm * 50mm-600mm *600mm
Plate steel/flat bar:
Size: Thickness: 0.1mm-800mm Width: 10mm to 1500mm
Tube/pipe:
Size: OD: 6-219mm WT: 1-35 mm.
Cold-rolled sheet: Thickness: 2-5mm Width:1000mm Length: 2000mm
Hot-rolled sheet: Thickness:6-80mm Width: 210-610mm
Length: We can supply any length based on the customer's requirement.
Forging/hot rolling/ extrusion of steel.
Forging: Shafts with flanks/pipes/tubes/slugs/donuts/cubes/other shapes
Finished goods condition: hot forging/hot rolling + annealing/normalizing + tempering/quenching + tempering/any conditions based on the customer's requirement
Surface conditions: scaled (hot working finish)/ground/rough machining/fine machining/based on the customer's requirement
Furnaces for metallurgical processing: electrode arc + LF/VD/VOD/ESR/Vacuum consumable electrode.
Ultrasonic inspection: 100% ultrasonic inspection for any inperfections or based on the customer's requirement.

UTS according to SEP 1921 C/c,D/d,E/e;A388 or GB/T 6402
Excellent service for all kinds of industries, with advantages of technologies, equipment and price.
We serve you with our honesty, integrity, and professionality.