

This page is mainly introduced the X10CrNi18-8 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X10CrNi18-8, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel X10CrNi18-8

| X10CrNi18-8 Standard Number: | | |
|------------------------------|-----------------------|--|
| ITEM | Standard Number | Descriptions |
| 1 | DIN EN 10088-1 | Stainless steels - Part 1: List of stainless steels |
| 2 | DIN EN 10088-2 | Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes |
| 3 | DIN 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 |
| 4 | DIN EN 10151 | Stainless steel strip for springs - Technical delivery conditions |
| 5 | DIN EN 10263-5 | Steel rod, bars and steel wire for cold heading and cold extrusion - Part 5: Technical delivery conditions for stainless steels |
| 6 | DIN EN 10264-4 (2002) | Steel wire and wire products - Steel wire for ropes - Part 4: Stainless steel wire |
| 7 | DIN EN 10270-3 | Steel wire for mechanical springs - Part 3: Stainless spring steel wire |
| 8 | DIN EN 4528 | Aerospace series - Steel FE-PA3903 (X10CrNi18-8) - Cold rolled - Strip for springs - a = 3 mm - 1 250 MPa = Rm = 1 640 MPa |

| X10CrNi18-8 Chemical composition(mass fraction)(wt.%) | | | | | | | | | | |
|---|----|---------|---|---|----|----|---------|---|----|--|
| Chemical | | Min.(%) | | | | | Max.(%) | | | |
| C | | 0.05 | | | | | 0.12 | | | |
| Si | | | | | | | 2.00 | | | |
| Mn | | | | | | | 2.00 | | | |
| P | | | | | | | 0.045 | | | |
| S | | | | | | | 0.015 | | | |
| Cr | | 16.0 | | | | | 19.0 | | | |
| Ni | | 6.00 | | | | | 9.50 | | | |
| Mo | | | | | | | 0.80 | | | |
| 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 - Part 1: List of stainless steels

X10CrNi18-8 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 | - |

X10CrNi18-8 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 | - |

X10CrNi18-8 Heat Treatment Regime

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

X10CrNi18-8 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: