

This page is mainly introduced the X4CrNi18-12 chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X4CrNi18-12, 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 X4CrNi18-12

X4CrNi18-12 Standard Number:		
ITEM	Standard Number	Descriptions
1	DIN 17440 (2001)	Stainless steels - Technical delivery conditions for drawn wire
2	DIN 17441 (1997)	Stainless steels - Technical delivery conditions for cold rolled strips and slit coils strip and sheets cut from such strips for pressure purposes
3	DIN EN 10088-1	Stainless steels - Part 1: List of stainless steels
4	DIN EN 10088-2	Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes
5	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
6	DIN EN 10264-4 (2002)	Steel wire and wire products - Steel wire for ropes - Part 4: Stainless steel wire
7	DIN EN 10269	Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties

X4CrNi18-12 Chemical composition(mass fraction)(wt.%)		
Chemical	Min.(%)	Max.(%)
C		0.06
Si		1.00
Mn		2.00
P		0.045
S		0.015
Cr	17.0	19.0
Ni	11.0	13.0
N		0.11

X4CrNi18-12 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	-

X4CrNi18-12 Mechanical Properties

Tensile strength	231-231	σ_b / MPa
Yield Strength	154	$\sigma_{0.2} \geq / \text{MPa}$
Elongation	56	$\delta 5 \geq (\%)$
ψ	-	$\psi \geq (\%)$
Akv	-	$Akv \geq J$
HBS	235-268	-
HRC	30	-

X4CrNi18-12 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T
✓	✓	✓	✓	✓

X4CrNi18-12 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	$\Phi 8$ -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: