This page is mainly introduced the X5CrNiMo17-12-2 chemical information,mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X5CrNiMo17-12-2,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 X5CrNiMo17-12-2

X5CrNiMo17-12-2 Standard Number:		
ITEM	Standard Number	Descriptions
1	BS EN 10028-7	Flat products made of steels for pressure purposes - Part 7: Stainless steels
2	BS EN 10088-1	Stainless steels - Part 1: List of stainless steels
3	BS EN 10088-2	Stainless steels - Part 2: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for general purposes
4	BS 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	BS EN 10088-4	Stainless steels - Part 4: Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes
6	BS 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	BS EN 10151	Stainless steel strip for springs - Technical delivery conditions
8	BS EN 10216-5 (2004)	Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 5: Stainless steel tubes
9	BS EN 10217-7	Welded steel tubes for pressure purposes - Technical delivery conditions - Part 7: Stainless steel tubes
10	BS EN 10222-5	Steel forgings for pressure purposes - Part 5: Martensitic, austenitic and austenitic-ferritic stainless steels
11	BS EN 10250-4	Open die steel forgings for general engineering purposes - Part 4: Stainless steels
12	BS EN 10253-3	Butt-welding pipe fittings - Part 3: Wrought austenitic and austenitic-ferritic (duplex) stainless steels without specific inspection requirements
13	BS EN 10253-4	Butt-welding pipe fittings - Part 4: Wrought austenitic and austenitic-ferritic (duplex) stainless steels with specific inspection requirements
14	BS EN 10263-5	Steel rod, bars and steel wire for cold heading and cold extrusion - Part 5: Technical delivery conditions for stainless steels
15	BS EN 10264-4 (2002)	Steel wire and wire products - Steel wire for ropes - Part 4: Stainless steel wire
16	BS EN 10269	Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties
17	BS EN 10270-3	Steel wire for mechanical springs - Part 3: Stainless spring steel wire
18	BS EN 10272	Stainless steel bars for pressure purposes
19	BS EN 10296-2 (2005)	Welded circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel

20	BS EN 10297-2 (2005)	Seamless circular steel tubes for mechanical and general engineering purposes - Technical delivery conditions - Part 2: Stainless steel

X5CrNiMo17-12-2 Chemical composition(mass fraction)(wt.%)

Chemical	Min.(%)	Max.(%)
C		0.07
Si		1.00
Mn		2.00
P		0.045
S		0.015
Cr	16.50	18.50
Ni	10.00	13.00
Mo	2.00	2.50
N		0.11

X5CrNiMo17-12-2 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	-

X5CrNiMo17-12-2 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	-

X5CrNiMo17-12-2 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T

√	√	√	√	√

X5CrNiMo17-12-2 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.