

This page is mainly introduced the X7CrNi18-9 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X7CrNi18-9, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Special Steel X7CrNi18-9

X7CrNi18-9 Standard Number:

ITEM	Standard Number	Descriptions
1	ISO 15510 (2010)	Stainless steels -- Chemical composition
2	ISO 16143-3 (2005)	Stainless steels for general purposes -- Part 3: Wire
3	ISO 4955 (2005)	Heat-resistant steels
4	ISO 9327-5	Steel forgings and rolled or forged bars for pressure purposes - Technical delivery conditions - Part 5: Stainless steels
5	ISO 9328-5	Steel plates and strips for pressure purposes - Technical delivery conditions - Part 5: Weldable fine grain steels, thermomechanically rolled
6	ISO 9329-4	Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 4: Austenitic stainless steels
7	ISO/TS 15510 (2003)	Stainless steels - Chemical composition

X7CrNi18-9 Chemical composition (mass fraction) (wt.%)

Chemical		Min.(%)	Max.(%)						
C		0.04	0.08						
Si			1.00						
Mn			2.00						
P			0.045						
S			0.030						
Cr		17.00	19.50						
Ni		8.00	10.50						
Mo									
N			0.11						
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

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Stainless steels - Chemical composition

X7CrNi18-9 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	-

X7CrNi18-9 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	-

X7CrNi18-9 Heat Treatment Regime

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

X7CrNi18-9 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 Specialsteel the specifications follows: