

This page is mainly introduced the X5CrNi18-9 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X5CrNi18-9, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel X5CrNi18-9

X5CrNi18-9 Standard Number:		
ITEM	Standard Number	Descriptions
1	ISO 16143-1 (2004)	Stainless steels for general purposes -- Part 1: Flat products
2	ISO 16143-2 (2004)	Stainless steels for general purposes -- Part 2: Semi-finished products, bars, rods and sections
3	ISO 16143-3 (2005)	Stainless steels for general purposes -- Part 3: Wire
4	ISO 6931-2	Stainless steels for springs - Part 2: Narrow strip
5	ISO 9327-5	Steel forgings and rolled or forged bars for pressure purposes - Technical delivery conditions - Part 5: Stainless steels
6	ISO 9328-5	Steel plates and strips for pressure purposes - Technical delivery conditions - Part 5: Weldable fine grain steels, thermomechanically rolled
7	ISO 9329-4	Seamless steel tubes for pressure purposes - Technical delivery conditions - Part 4: Austenitic stainless steels
8	ISO 9330-6	Welded steel tubes for pressure purposes - Technical delivery conditions - Part 6: Longitudinally welded austenitic stainless steel tubes
9	ISO/TS 15510 (2003)	Stainless steels - Chemical composition

X5CrNi18-9 Chemical composition(mass fraction)(wt.%)									
Chemical		Min.(%)				Max.(%)			
C						0.07			
Si						1.00			
Mn						2.00			
P						0.045			
S						0.030			
Cr		17.00				19.00			
Mo		8.00				11.00			
Ni									
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta

W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Stainless steels - Chemical composition

X5CrNi18-9 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	-

X5CrNi18-9 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	-

X5CrNi18-9 Heat Treatment Regime

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

X5CrNi18-9 Range of products

Product type	Products	Dimension	Processes	Deliver Status
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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: