

This page is mainly introduced the 1Cr18Ni12 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1Cr18Ni12, 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 1Cr18Ni12

1Cr18Ni12 Standard Number:		
ITEM	Standard Number	Descriptions
1	GB/T 1220 (1992)	Stainless steel bars
2	GB/T 3280 (2007)	Cold rolled stainless steel sheets and plates
3	GB/T 4226 (2004)	Cold finished stainless steel bars
4	GB/T 4237 (1992)	Hot rolled stainless steel sheets and plates
5	GB/T 4239 (1991)	Cold rolled stainless steel and heat resisting steel strips
6	GB/T 4240 (1993)	Stainless steel wires
7	GB/T 4356 (2002)	Stainless steel wire rods

1Cr18Ni12 Chemical composition (mass fraction) (wt.%)									
Chemical		Min.(%)				Max.(%)			
C						0.12			
Si						1.00			
Mn						2.00			
P						0.035			
S						0.030			
Ni		10.50				13.00			
Cr		17.00				19.00			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

1Cr18Ni12

1Cr18Ni12 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	-

1Cr18Ni12 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	-

1Cr18Ni12 Heat Treatment Regime

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

1Cr18Ni12 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

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