

This page is mainly introduced the 1Cr18Mn8Ni5N Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1Cr18Mn8Ni5N, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel 1Cr18Mn8Ni5N

1Cr18Mn8Ni5N Standard Number:

ITEM	Standard Number	Descriptions
1	GB/T 1220 (1992)	Stainless steel bars
2	GB/T 3280 (1992)	Cold rolled stainless steel sheets and plates
3	GB/T 4237 (1992)	Hot rolled stainless steel sheets and plates
4	GB/T 4239 (1991)	Cold rolled stainless steel and heat resisting steel strips
5	GB/T 4356 (2002)	Stainless steel wire rods

1Cr18Mn8Ni5N Chemical composition(mass fraction)(wt.%)

Chemical composition of the material									
Chemical			Min.(%)				Max.(%)		
C							0.15		
Si							1.00		
Mn			7.50				10.00		
P							0.060		
S							0.030		
Ni			4.00				6.00		
Cr			17.00				19.00		
N							0.25		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Stainless and heat resisting steels

Austenitic stainless steel. Grade 1Cr18Mn8Ni5N was replaced by new designation 12Cr18Mn9Ni5N according to GB/T 20878 (2007)

1Cr18Mn8Ni5N 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	-

1Cr18Mn8Ni5N 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	-

1Cr18Mn8Ni5N Heat Treatment Regime

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

1Cr18Mn8Ni5N 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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