

This page is mainly introduced the 12Cr18Ni9Si3 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 12Cr18Ni9Si3, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Special Alloy 12Cr18Ni9Si3

### 12Cr18Ni9Si3 Standard Number:

ITEM	Standard Number	Descriptions
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### 12Cr18Ni9Si3 Chemical composition (mass fraction) (wt.%)

Chemical			Min.(%)				Max.(%)			
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
0.15	3.0	2.0	0.045	0.03	17.0-19.0	8.0				
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	
	0.1									

This standard specifies the stainless steel rods order contents, classification, code, size, shape, weight and allowable deviation, technical requirements, test methods, inspection rules, packaging, logo and certificate of quality. This standard applies to the size is not more than 250 mm hot rolled and forged stainless steel rods. The supply and demand both sides talks things over, can also supply the size larger than 250 mm hot rolled and forged stainless steel rods.

### 12Cr18Ni9Si3 Physical Properties

Tensile strength	115-234	$\sigma_b$ /MPa
Yield Strength	23	$\sigma_{0.2} \geq$ /MPa
Elongation	65	$\delta_5 \geq$ (%)
$\psi$	-	$\psi \geq$ (%)
Akv	-	$Akv \geq$ /J
HBS	123-321	-

HRC	30	-
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12Cr18Ni9Si3 Mechanical Properties		
Tensile strength	231-231	$\sigma_b$ /MPa
Yield Strength	154	$\sigma_{0.2} \geq$ /MPa
Elongation	56	$\delta_5 \geq$ (%)
$\psi$	-	$\psi \geq$ (%)
Akv	-	Akv $\geq$ /J
HBS	235-268	-
HRC	30	-

12Cr18Ni9Si3 Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

12Cr18Ni9Si3 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 Special Alloy the specifications follows:**