

This page is mainly introduced the X 19 CrMoVNbN 11 1 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X 19 CrMoVNbN 11 1, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

## Datasheet for Steel Grades Specialsteel X 19 CrMoVNbN 11 1

### X 19 CrMoVNbN 11 1 Standard Number:

ITEM	Standard Number	Descriptions
1	DIN 17240 (1976)	Heat Resisting and Highly Heat Resisting Materials for Bolts and Nuts; Quality Specifications

### X 19 CrMoVNbN 11 1 Chemical composition (mass fraction) (wt.%)

Chemical		Min.(%)	Max.(%)						
C		0.1700	0.2300						
Mn		0.4000	0.9000						
P			0.0250						
S			0.0150						
Si			0.5000						
Ni		0.2000	0.6000						
Cr		10.0000	11.5000						
Mo		0.5000	0.8000						
V		0.1000	0.3000						
B			0.0015						
Al			0.0200						
N		0.0500	0.1000						
Nb		0.2500	0.5500						
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

Heat Resisting and Highly Heat Resisting Materials for Bolts and Nuts;

## Quality Specifications

### X 19 CrMoVNbN 11 1 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	-

### X 19 CrMoVNbN 11 1 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	-

### X 19 CrMoVNbN 11 1 Heat Treatment Regime

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

### X 19 CrMoVNbN 11 1 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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**We can produce Specialsteel the specifications follows:**