

This page is mainly introduced the 1.4913, X19CrMoNbVN11-1 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of 1.4913, X19CrMoNbVN11-1, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Steels of blade for steam turbine 1.4913, X19CrMoNbVN11-1

1.4913, X19CrMoNbVN11-1 Standard Number:

ITEM	Standard Number	Descriptions
------	-----------------	--------------

1.4913, X19CrMoNbVN11-1 Chemical composition (mass fraction) (wt.%)

Chemical				Min.(%)				Max.(%)		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	

1.4913, [X19CrMoNbVN11-1](#) high-alloyed chrome-molybdenum Creep resisting martensitic stainless steel formulated for primary forming into wrought products, 1.4913, X19CrMoNbVN11-1 high-alloyed chrome-molybdenum Creep resisting steel martensitic stainless steel formulated for primary forming into wrought products, Using Bolts, Nuts, When working at elevated temperatures resistant to 600 °C, characterized by good resistance and creep limit. 1.4913 is the Numeric designation for this material. X19CrMoNbVN11-1 is the Chemical designation. Other Spec. EN 10269-2006, EN 10302-2008, EN 10269-2013, EN 10088-1-2005, DIN EN 10269-2014

Grade	Chemical Composition %															
	C	Mn	Si	P	S	Cr	Ni	Mo	V	Nb	Al	W	B	N	Cu	Ti

- Tensile strength, R_m : 900 - 1050 MPa
- The yield point, R_e : > 750 MPa
- Elongation, A : > 12%
- Contraction, Z : >40%
- Impact resistance, $KV_{20^\circ C}$: >20J
- Modulus of elasticity, E : 216 GPa
- Thermal capacity, $c_{p20^\circ C}$: $460 \text{ J} * \text{kg}^{-1} * \text{K}^{-1}$
- Thermal conductivity, λ : $24,0 \text{ W} * \text{m}^{-1} * \text{K}^{-1}$
- Linear expansion coefficient, α : $10,5 * 10^{-6} \text{ K}^{-1}$

Prop ertie s	Temperature (°C)											
	50	100	150	200	250	300	350	400	450	500	550	600

1.4916, 17H11MFNb, Z20CDNbV11, Z 20 CDNbV 11, Z21CDNbV11, Z 21 CDNbV 11, MM12G, 4916-600-77-J, X18CrMnMoNbVN12, X 18 CrMnMoNbVN 12, SUH600, F SUH 600, X19CrMoNbVN11-1, X 19 CrMoNbVN11-1, 1.4913, 56 T 5, 56T5, 1.4916, 18Ch11MNFB, 18X11MHΦБ, 2X11MΦБH, EP291.

1.4913, X19CrMoNbVN11-1 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	-

1.4913, X19CrMoNbVN11-1 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	-

1.4913, X19CrMoNbVN11-1 Heat Treatment Regime				
Annealing	Quenching	Tempering	Normalizing	Q & T
√	√	√	√	√

1.4913, X19CrMoNbVN11-1 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	Φ 8-1200mm*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 Steels of blade for steam turbine the specifications follows: