

This page is mainly introduced the X12CrNiMoV12-3, 1.4938 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X12CrNiMoV12-3, 1.4938, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.

Datasheet for Steel Grades Specialsteel X12CrNiMoV12-3, 1.4938

X12CrNiMoV12-3, 1.4938 Standard Number:

ITEM	Standard Number	Descriptions
1	EN 2278	
2	EN 10302	
3	EN 10088-1	
4	EN 10269	

X12CrNiMoV12-3, 1.4938 Chemical composition (mass fraction) (wt.%)

Chemical				Min.(%)			Max.(%)		
C				0.08			0.15		
Mn				0.40			0.90		
Si							0.50		
P							0.025		
S							0.015		
Cr				11.00			12.50		
Mo				1.50			2.00		
Ni				2.00			3.00		
V				0.25			0.40		
N				0.02			0.04		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other

X12CrNiMoV12-3, 1.4938 is a high-alloy chromium-nickel-molybdenum steel with the addition of vanadium for carburization with a martensitic structure, which due to high strength properties and significantly increased resistance to oxidation, is used for the production of aviation propellers, especially loaded gears, ball screws, responsible parts working at elevated temperatures such as rotors and turbine blades, bolts in the power industry, pump components as well as coupling parts in aircraft constructions. Unique composition chemical composition ensures high hardenability, great new layer parameters (hardness, toughness), and a clear reduction in deformations arising during heat treatment.

X12CrNiMoV12-3, 1.4938 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	-

X12CrNiMoV12-3, 1.4938 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	-

X12CrNiMoV12-3, 1.4938 Heat Treatment Regime

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

X12CrNiMoV12-3, 1.4938 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 Specialsteel the specifications follows: