

This page is mainly introduced the X 22 CrMoV 12-1 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X 22 CrMoV 12-1, 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 22 CrMoV 12-1

X 22 CrMoV 12-1 Standard Number:

ITEM	Standard Number	Descriptions
1	DIN 17240 (1976)	Heat Resisting and Highly Heat Resisting Materials for Bolts and Nuts; Quality Specifications
2	DIN EN 10088-1	Stainless steels - Part 1: list of stainless steels
3	DIN EN 10269	Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties
4	DIN EN 10302 (2002)	Creep resisting steels, nickel and cobalt alloys

X 22 CrMoV 12-1 Chemical composition (mass fraction) (wt.%)

Chemical				Min.(%)				Max.(%)		
C				0.18				0.24		
Si				0.10				0.50		
Mn				0.30				0.80		
P								0.0350		
S								0.0350		
Ni				0.30				0.80		
Cr				11.0				12.50		
Mo				0.80				1.20		
V				0.25				0.35		
C	Si	Mn	P	S	Cr	Ni	Mo	V	Ta	
W	N	Cu	Co	Pb	B	Nb	Al	Ti	Other	

DIN 17240 (1976) Heat Resisting and Highly Heat Resisting Materials for Bolts and Nuts; Quality Specifications; Replaced by: DIN EN 10269:1999

X 22 CrMoV 12-1 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	-

X 22 CrMoV 12-1 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	-

X 22 CrMoV 12-1 Heat Treatment Regime

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

X 22 CrMoV 12-1 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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