

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	$\Phi 8$ -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

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