

**This page is mainly introduced the X22CrMoV12-1 Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of X22CrMoV12-1, such as it is commonly used in bars, sheet, plates, steel coils, steel pipes, forged and other materials application.**

## Datasheet for Steel Grades Specialsteel X22CrMoV12-1

X22CrMoV12-1 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

X22CrMoV12-1 Chemical composition(mass fraction)(wt.%)									
Chemical		Min.(%)			Max.(%)				
C		0.18			0.24				
Si		0.18			0.24				
Mn		0.40			0.90				
P					0.025				
S					0.015				
Cr		11.0			12.5				
Ni		0.30			0.80				
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

**Heat Resisting and Highly Heat Resisting Materials for Bolts and Nuts; Quality Specifications**

### X22CrMoV12-1 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	-

### X22CrMoV12-1 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	-

### X22CrMoV12-1 Heat Treatment Regime

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

### X22CrMoV12-1 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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