This page is mainly introduced the turbine blade steel X22CrMoV12-1 Datasheet, including chemical information,mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of turbine blade steel 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 Steels of blade for steam turbine turbine blade steel X22CrMoV12-1

turbine blade steel X22CrMoV12-1 Standard Number:		
ITEM	Standard Number	Descriptions

turbine blade steel X22CrMoV12-1 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

Chemical composition of X22CrMoV12-1 steel was optimized and heat treatment processes of the steel were studied. The results show that at the same tempering temperature, the small change of the quenching temperature has little effect on the mechanical properties at room temperature, while as tempering temperature increase, the toughness of the steel is improved, and the strength decrease at the same quenching temperature. The steel can get excellent comprehensive mechanical properties when quenched at 1020 ℃ and then tempered at 690 ℃ .

turbine blade steel X22CrMoV12-1 Physical Properties		
Tensile strength	115-234	σb/MPa
Yield Strength	23	σ 0.2 ≥/MPa
Elongation	65	δ5≥ (%)

ψ	-	ψ≥ (%)
Akv	-	Akv≥/J
HBS	123-321	-
HRC	30	-

turbine blade steel X22CrMoV12-1 Mechanical Properties

Tensile strength	231-231	σb/MPa
Yield Strength	154	σ 0.2 ≥/MPa
Elongation	56	δ5≥(%)
ψ	-	ψ≥(%)
Akv	-	Akv≥/J
HBS	235-268	-
HRC	30	-

turbine blade steel X22CrMoV12-1 Heat Treatment Regime

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

turbine blade steel 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

We can produce Steels of blade for steam turbine the specifications follows: