

This page is mainly introduced the Turbine blade steel X5CrMoAl12 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 X5CrMoAl12, 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 X5CrMoAl12

Turbine blade steel X5CrMoAl12 Standard Number:

ITEM	Standard Number	Descriptions
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Turbine blade steel X5CrMoAl12 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

The electric arc furnace steelmaking, VOD+LF refining, smelting process of electroslag remelting, to control the content of Al in steel smelting process, by controlling the heating temperature forging process, control of steel into the pit temperature process, the performance of the produced X5CrMoAl12 can fully meet user requirements to use.

Turbine blade steel X5CrMoAl12 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	-

Turbine blade steel X5CrMoAl12 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	-

Turbine blade steel X5CrMoAl12 Heat Treatment Regime

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

Turbine blade steel X5CrMoAl12 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: