

This page is mainly introduced the B50A947 A3 Steel for Turbine Blades Datasheet, including chemical information, mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of B50A947 A3 Steel for Turbine Blades, 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 B50A947 A3 Steel for Turbine Blades

B50A947 A3 Steel for Turbine Blades Standard Number:

ITEM	Standard Number	Descriptions
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B50A947 A3 Steel for Turbine Blades 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

Experimental tests, for studying the influence of both the quenching and tempering temperatures on room temperature mechanical properties of turbine blade material B50A947A3 (1Cr12MoNb) manufactured by various steel mills, were carried out, and hence different heat treatment processes respectively suitable for each steel mill obtained.

B50A947 A3 Steel for Turbine Blades 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	-

B50A947 A3 Steel for Turbine Blades 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	-

B50A947 A3 Steel for Turbine Blades Heat Treatment Regime

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

B50A947 A3 Steel for Turbine Blades 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: