COBALT ALLOY 6B, UNS R30016

Introduction :

Alloy 6B (UNS R30016) is a cobalt-based alloy with great wear, erosion and abrasion resistance. Due to the chemical composition the wear resistance of alloy 6B is not a product of hardening mechanisms or heat treatment. The low coefficient friction of Alloy 6B allows it to resist seizing and galling; proving useful in areas and applications where lubrication is difficult or impractical. Alloy 6B exhibits exceptional cavitation erosion resistance, even under constant erosive conditions. At elevated temperatures it maintains high hardness and it recover its original hardness upon cooling to room temperature. This unique property, coupled with good corrosion resistance to a multitude of media and superior mechanical properties in relation to its outstanding wear resistant characteristics, makes alloy 6B a versatile alloy that can be used in numerous applications where wear, corrosion and elevated temperature are concerns.

Products Available in forms :

- COBALT ALLOY 6B Plates
- COBALT ALLOY 6B Pipes
- COBALT ALLOY 6B Round Bar
- COBALT ALLOY 6B Tube
- COBALT ALLOY 6B Flanges
- COBALT ALLOY 6B Wire
- COBALT ALLOY 6B Fittings

Standard Available in forms :

- AMS 5894

Chemical Composition

	COBALT ALLOY 6B	UNS R30016
Carbon	0.90-1.40	0.90-1.40
Manganese	0.50-2.00	0.50-2.00
Silicon	0.20-2.00	0.20-2.00
Phosphorus	0.04max	0.04max
Sulfur	0.03max	0.03max
Chromium	28.0-32.0	28.0-32.0
Nickel	3.00max	3.00max
Cobalt	Bal	Bal
Molybdenum	1.50max	1.50max
Tungsten	3.50-5.50	3.50-5.50
Iron	3.0max	3.0max

Mechanical Properties

	COBALT ALLOY 6B	UNS R30016
Ultimate Tensile Strength, ksi(Mpa)	130(896)	130(896)
0.2% Offset Yield Strength, ksi(Mpa)	70(483)	70(483)
Elongation in 2" (50mm)%	5 min	5 min
Reduction in Area, %	7 min	7 min

Applications

Super alloy cobalt 6B has the following applications:

- Chain saw guide bars
- Furnace fan blades
- Steam turbine erosion shields
- High temperature bearings
- Food processing equipment
- Centrifuge liners
- Valve stems
- Needle valves
- Nozzles
- Hot extrusion dies
- Extruder screws
- Forming dies
- Pump plungers
- Valve parts

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