



## Cobalt METAL CORED WIRE DATA SHEET

# exocor Cobalt 6

### DESCRIPTION

**Exocor Cobalt 6** is a cobalt base alloy which is characterized by a hypoeutectic structure, consisting of a network of about 13% eutectic chromium carbides distributed in a cobalt-chromium-tungsten solid solution matrix. The result is a material with a combination of overall resistance to low stress abrasive wear, with the necessary toughness to resist some degree of impact. Cobalt alloys also are inherently good for resisting metal-to-metal wear, particularly in high load situations that are prone to galling. The high-alloy content of the matrix also affords excellent resistance to corrosion, oxidation, and elevated temperature retention of hot hardness up to a maximum of 1200°F. Exocor Cobalt 6 is not subject to allotropic transformation and therefore does not lose its properties if the base metal is subsequently heat treated. Exocor Cobalt 6 bonds well with all weldable steels, including stainless and high nickel alloys.

### APPLICATION

The alloy is recommended for cases when wear is accompanied by elevated temperatures and where corrosion is involved, or both. Some typical applications for Exocor Cobalt 6 include: automotive and fluid flow valves, hot punches, shear blades, flights of extrusion screws, sinker roll bushings in steel mill, soaking pit tong bits, shafts.

### TYPICAL CHEMICAL VALUES

C	MN	SI	CR	NI	MO	FE	W	Co	TOE
1.2	0.9	0.6	28	0.2	0.1	4.0	4.0	Rem	1.0

### WELDING PARAMETERS

SIZE	VOLTS	AMPS	STICK OUT	POSITION	SHIELDING GAS
.045	25-27	180-200	1/2" - 5/8"	Flat	100% Argon
.062	26-28	280-300	5/8" - 3/4"	Flat	100% Argon

### MECHANICAL PROPERTIES

Deposit Layers:	Maximum 2 recommended
Surface Cross Check:	Control of product, interpass and cooling temperature required to avoid cracking
Machinability:	Use Carbide Tools
Abrasion Resistance:	Excellent
Impact Resistance:	Good
Corrosion Resistance:	Good
Pureweld Metal:	HRC 45-47
Hot Hardness:	Excellent to 1200°F

### CLASSIFICATION

Wire chemistry has been optimized for best performance and conforms to **AWS/SFA A5.21, Class ERCCoCr-A**.