

## PRODUCT OVERVIEW

**POLYSEL 12M**— a cobalt-based metal cored wire, is considered an intermediate between POLYSEL 6 and POLYSEL 1. POLYSEL 12 has higher hardness and better resistance to all types of wear, including galling, due to the large fraction of hard, brittle chromium carbides. This alloy's high-temperature properties (up to 1292°F) are derived from the alloy's higher tungsten content. POLYSEL 12 is mainly used in applications that require the deposit to endure abrasion, heat and corrosion such as knife cutting edges for the timber, paper, and plastic industry. This alloy can be applied to any weldable steel, including all grades of stainless steel.

## TYPICAL DEPOSIT CHARACTERISTICS:

⇒ Abrasion Resistance	Good
⇒ Impact Resistance:	Good
⇒ Corrosion Resistance:	Good
⇒ Deposit Layers:	2 max
⇒ Deposit Cross Checks:	* No
⇒ Magnetic:	No
⇒ Hot Wear Hardness	Good
⇒ Machineability:	Carbide Tools

\* With proper preheat and slow cooling

## SPECIFICATION:

AWS A5.21

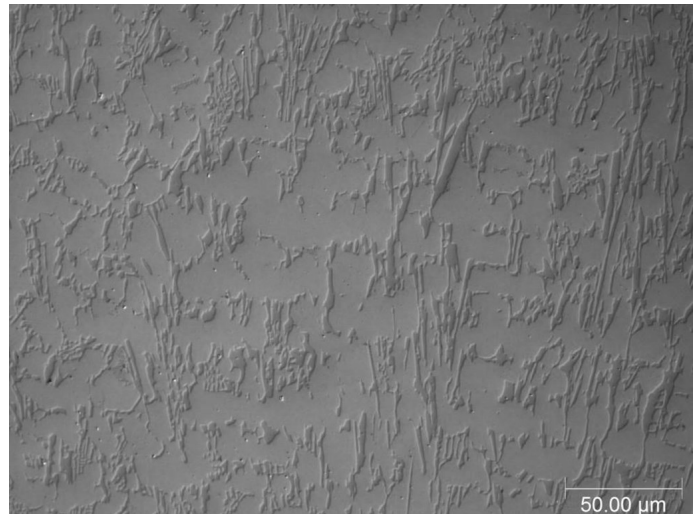
ERCCoCr-B

## APPLICATION

- ⇒ Chain saw bars
- ⇒ Hot extrusion dies
- ⇒ Tong bits
- ⇒ Exhaust valves
- ⇒ Metal to metal sliding

## NOMINAL CHEMICAL COMPOSITION (wt%)

This alloy conforms to AWS A5.21 ERCCoCr-B chemical composition requirements



500X microstructure

## RECOMMENDED WELDING PARAMETERS:

Diameter	Current	Voltage	Amperage	Shielding Gas	Wire Extension	Position
.045" (1.2mm)	DCEP	24-26	170-190	Argon	1/2" - 3/4"	Flat
.062" (1.6mm)	DCEP	24-26	260-280	Argon	1/2" - 3/4"	Flat

The properties listed are typical and not to be construed as guaranteed values. Actual properties may vary depending on customer operating conditions.

## STANDARD SIZES & PACKAGING:

### Diameter

- .045" (1.2mm)
- .062" (1.6mm)