

POLYSTEEL 6M

Gas Metal Arc Welding Wire

February 2024

PRODUCT OVERVIEW

POLYSTEEL 6M—a cobalt-based metal cored wire, is widely considered the principal cobalt alloy in terms of versatility and resistance to many forms of mechanical and chemical deterioration over an extensive temperature range. POLYSTEEL 6 attributes its outstanding self-mated anti-galling properties to the high alloy content of the matrix namely the chromium carbides contained in the deposit. Popular applications for this alloy include hardfacing applications when wear is complemented by corrosion and/or elevated temperatures such as valve seats and bearing areas. 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:

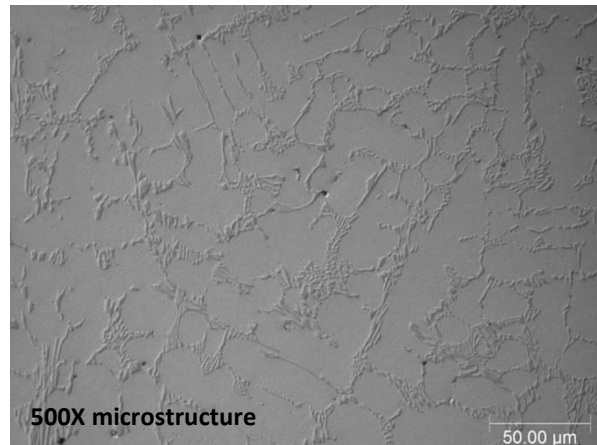
AWS A5.21 ERCCoCr-A

APPLICATION

- ⇒ Valve seats
- ⇒ Bearing areas
- ⇒ Extrusion screw flights
- ⇒ Tong bits

NOMINAL CHEMICAL COMPOSITION (wt%)

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



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	26-28	280-300	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:

Diameter

- .045" (1.2mm)
- .062" (1.6mm)
- .093" (2.4mm)