

POLYSTEEL 21 M

Gas Metal Arc Welding Wire

February, 2024

PRODUCT OVERVIEW

POLYSTEEL 21M— a cobalt-based metal cored wire, forms a low carbon, austenitic deposit with dispersed hard carbides which offer excellent high temperature strength and impact resistance. Due to the low weight percent carbide phase, this alloy can be work hardened to obtain optimal hardness properties. POLYSTEEL 21M is resistant to thermal shock, galling, corrosion, and cavitation erosion which make this alloy ideal for steam and fluid control valve bodies and seats as well as hot-die materials. This alloy can be applied to all weldable steels, including all grades of stainless steel.

TYPICAL DEPOSIT CHARACTERISTICS:

- ⇒ Abrasion Resistance: Moderate
- ⇒ Impact Resistance: Excellent
- ⇒ Corrosion Resistance: Good
- ⇒ Deposit Layers: Multiple
- ⇒ Deposit Cross Checks: No
- ⇒ Magnetic: No
- ⇒ Hot Wear Hardness: Good
- ⇒ Machineability: Carbide Tools

SPECIFICATION:

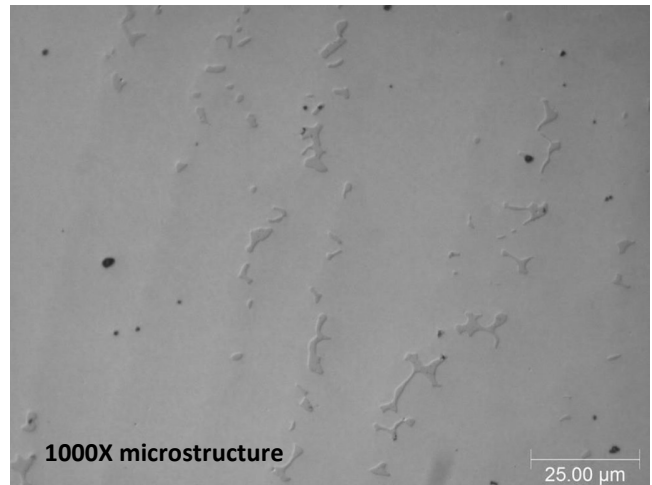
AWS A5.21 ERCCoCr-E

APPLICATION

- ⇒ Steam valves
- ⇒ Hot shears
- ⇒ Forging dies
- ⇒ Piercing plugs
- ⇒ Chemical and petrochemical valves

NOMINAL CHEMICAL COMPOSITION (wt%)

This alloy conforms to AWS A5.21-2011 ERCCoCr-E chemical composition requirements



RECOMMENDED WELDING PARAMETERS:

Diameter	Current	Voltage	Amperage	Shielding Gas	Wire Extension	Position
.045" (1.2mm)	DCEP	22-24	150-170	Argon	1/2" - 3/4"	Flat
.062" (1.6mm)	DCEP	26-28	280-300	Argon	1/2" - 3/4"	Flat

STANDARD:

Diameter

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