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Contact no. 99206 31634

ERNiCr-3

Shanti Metal Supply Corporation ERNiCr-3 (82)
AWS CLASS ERNiCr-3

CODE & SPECIFICATION DATA:
AWS A5.14 ASME SFA 5.14; UNS N06082

TYPICAL DEPOSIT COMPOSITION

Element	AWS Spec (%)	Weld Metal Analysis (%)
Carbon (C)	0.1	0.03
Chromium (Cr)	18.0-22.0	20.22
Cobalt (Co)	0.12*	0.016
Copper (Cu)	0.5	0.012
Iron (Fe)	3	1.16
Manganese (Mn)	2.5-3.5	3.03
Nickel (Ni)	67.0 min	72.54
Phosphorus (P)	0.03	0.004
Silicon (Si)	0.5	0.098
Sulfur (S)	0.015	0.001
Titanium (Ti)	0.75	0.36
Niobium (Nb) + Tantalum (Ta)	2.0-3.0*	2.42

TYPICAL MECHANICAL PROPERTIES

Property	AWS Spec (Min)	As Welded
Ultimate Tensile Strength	Not required	96,000 psi (660 MPa)
Percent Elongation in 2”	Not required	45%

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Description

Shanti Metal Supply Corporation ERNiCr-3 has an average formulation of 72% Ni, 20% Cr, 3% Mn, and 2.5% Nb + Ta by weight. This filler metal is suitable for welding nickel-based alloys ***(ASTM B 163, B 166, B 167, and B 168 with UNS N06600)*** to itself and for clad-side connections in steel. It is also used in surfacing steel with nickel-chromium-iron weld metal, unlike the rest of the industry that considers nickel-base alloy dissimilar welding to be the joining of steel and stainless steel or nickel-base alloys by GTAW, GMAW, SAW, PAW, etc. ERNiCr-3 is also strong and highly resistant to corrosion, oxidation, and creep-rupture at elevated temperatures. Chloride environments which cause stress-corrosion cracking are also resisted. It is therefore applicable in desalination ***plants, power generation, petrochemical, cryogenic to elevated temperature, & furnace equipment industries*.**

TYPICAL WELDING PARAMETERS

Process	Diameter	Amperage	Volts	Shielding Gas / Flux
GTAW	1/16”	90-130	-	100% Ar
	3/32”	120-175	-	100% Ar
	1/8”	150-220	-	100% Ar
GMAW	.035”	150-190	26-29	75% Ar / 25% He
	.045”	180-220	28-32	75% Ar / 25% He
	1/16”	200-250	29-33	75% Ar / 25% He
SAW	3/32”	275-350	28-30	Suitable Flux
	1/8”	350-450	29-32	Suitable Flux
	5/32”	400-550	30-33	Suitable Flux

Notice

The results are derived from controlled laboratory testing per American Welding Society Standards. While factors like electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedures, and service requirements may influence field performance, the product is designed to meet high-quality standards. The manufacturer encourages users to evaluate suitability for specific applications, ensuring optimal performance under varying conditions.