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ER16-8-2

Shanti Metal Supply Corporation ER 16-8-2

AWS CLASS ER 16-8-2

CODE AND SPECIFICATION DATA:

AWS A5.9 ASME SFA 5.9; UNS S16880

TYPICAL DEPOSIT COMPOSITION:

Element	AWS Spec (%)	Weld Metal Analysis (%)
Carbon (C)	0.1	0.047
Chromium (Cr)	14.5-16.5	15.38
Copper (Cu)	0.75	0.16
Manganese (Mn)	1.0-2.0	1.33
Molybdenum (Mo)	1.0-2.0	1.15
Nickel (Ni)	7.5-9.5	8.01
Nitrogen (N)	N.S.*	0.051
Phosphorus (P)	0.03	0.024
Silicon (Si)	0.30-0.65	0.44
Sulfur (S)	0.03	0.008

TYPICAL MECHANICAL PROPERTIES

Property	AWS Spec (min)	As Welded
Ultimate Tensile Strength	Not required	90,000 psi (620 MPa)
Percent Elongation in 2"	Not required	37%

Description

Shanti Metal Supply Corporation ER 16-8-2 has a nominal composition of 15.5% Cr, 8.5% Ni, and 1.5% Mo. It is used for welding stainless steels like Type 16-8-2, 316, and 347 in high-pressure, high-temperature piping. With a Ferrite Number below 5 FN, it offers excellent hot-ductility, minimizing weld cracks. Ideal for steam piping, furnaces, and petrochemical applications.



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TYPICAL WELDING PARAMETERS

Process	Diameter	Amperage	Volts	Shielding Gas
GTAW	1/16"	80-110	-	100% Ar
	3/32"	90-130	-	100% Ar
	1/8"	120-175	-	100% Ar
	5/32"	150-220	-	100% Ar
GMAW - Spray Transfer	.030"	130-200	23-27	98% Ar / 2% O ₂ (35 cfh)
	.035"	150-225	23-26	98% Ar / 2% O ₂ (35 cfh)
	.045"	200-325	24-28	98% Ar / 2% O ₂ (35 cfh)
	1/16"	300-350	24-27	98% Ar / 2% O ₂ (35 cfh)
GMAW - Short-Circuit	.030"	50-150	14-20	90% He / 7.5% Ar / 2.5% CO ₂ (25 cfh)
	.035"	60-200	14-22	90% He / 7.5% Ar / 2.5% CO ₂ (25 cfh)
	.045"	75-225	15-23	90% He / 7.5% Ar / 2.5% CO ₂ (25 cfh)
	1/16"	100-250	16-23	90% He / 7.5% Ar / 2.5% CO ₂ (25 cfh)

Notice

Test results are based on controlled lab conditions per AWS Standards. Actual results may vary due to factors like electrode size, plate chemistry, and welding methods. The manufacturer disclaims any warranty for field use or specific applications.



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