



Unibraze 80S-Ni1

(ER80S-Ni1)

Unibraze 80S-Ni1 wire deposits weld metal containing a nominal 1% nickel, similar to an E8018-C3 coated electrode. It is used for welding low alloy high-strength steels that require toughness at temperatures as low as -50°F (-46°C).

Specifications

AWS A5.28 / ASME SFA5.28 Class ER80S-Ni1

Typical Chemical Composition (Max. Values)

Carbon	0.12
Sulphur	0.025
Manganese	1.25
Phosphorus	0.025
Copper	0.35
Chromium	0.15
Molybdenum	0.35
Silicon	0.40 – 0.80
Nickel	0.80 – 1.10
Vanadium	0.05
Others	0.50

Typical Mechanical Properties

Tensile Strength	87,000 psi, min.
Yield Strength	73,950 psi, min.
Elongation in 2"	25% min
Charpy Impacts @ -50°F	44.22 ft. lbs.

Recommended Welding Parameters:**

GMAW (DC Reverse Polarity) Electrode Positive Spray transfer:

<u>Wire Dia.</u>	<u>Amps</u>	<u>Volts</u>	<u>Gas</u>
.035	180-230	25-28	98Ar/2O ₂
.045	250-350	25-30	75Ar/25CO ₂
1/16	280-400	26-36	75Ar/25CO ₂

GTAW (DCSP) 2 % Thoriated Tungsten Electrode negative

<u>Wire Dia.</u>	<u>Amps</u>	<u>Volts</u>	<u>Gas</u>
1/16"	50-120	7-13	Argon
3/32"	120-200	10-16	Argon
1/8"	150-220	12-18	Argon

** All parameters are suggested as basic guidelines and will vary depending on joint design number of passes, and other factors.

Standard Sizes

MIG: .035" (.9mm), .045" (1.2mm)

TIG: 1/16" (1.6mm), 3/32" (2.4mm), 1/8" (3.2mm)

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