

# Tru-Core® FC 81T-Ni1M Flux-Cored Welding Wire

**AWS E81T1-Ni1M H8**



Tru-Core® FC 81T-Ni1M is a low-alloy steel electrode for gas-shielded, flux-cored arc welding of those carbon and low-alloy steels requiring a minimum-tensile strength of 80 ksi and good CVN values at temperatures of -40°F and lower. Its arc transfer operates in a smooth, small droplet mode, ensuring minimal spatter residue.

The slag quickly solidifies, enabling welding in various positions while providing the necessary flow and wetting properties for impeccable bead geometry and tie-in, especially in horizontal fillets.

**100% Made in the U.S.A. with American steel to meet "Buy America" Standards.**

## Manufacturing Advantages

- Any combination of all position welding
- Good welder appeal
- A minimum tensile strength of 80 ksi
- Good CVN values at lower temperatures
- Ability to weld on plate thicknesses from 1/4" to heavy plate sections
- Enhanced resistance to cracking and improved ductility in welds
- Higher deposition rates for increased productivity
- Provides deeper penetration for thick materials

## Welding Positions

All position welding is possible when using the correct shielding gas blends, welding process, and welding parameters.

## Shielding Gas Blends

- 75-80% Argon/Balance CO<sub>2</sub>
- Flow rate: 35-45 CFH

## Applications

- Agricultural Equipment
- General Fabrication
- Heavy Equipment
- Pipe Welding
- Pressure Vessels
- Structural Steel
- Trailers

## Specifications

Meets or Exceeds:

- AWS A5.29: E81T1-Ni1M H8
- ASME SFA-A5.29: E81T1-Ni1M H8

✓ Made in the USA

## Storage

Welding wire should be stored in a dry, enclosed environment and in its originally sealed package.



3602 North Perkins Road  
Stillwater, OK 74075  
Customer Service: 1-800-777-1618  
www.NSARC.com



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## AWS E81T1-Ni1MH8

### Typical Weld Metal Composition (as required per AWS)

	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	V
75% Ar/25% CO <sub>2</sub>	0.04	1.38	0.54	0.009	0.009		0.97	0.03	0	0.05
<b>AWS/ASME</b>	<b>0.12 (max.)</b>	<b>1.50 (max.)</b>	<b>0.80 (max.)</b>	<b>0.030 (max.)</b>	<b>0.030 (max.)</b>		<b>0.80-1.10</b>	<b>0.15 (max.)</b>	<b>0.35 (max.)</b>	<b>0.05 (max.)</b>

### Typical Mechanical Properties (as welded)

	TENSILE STRENGTH KSI	YIELD STRENGTH KSI	ELONGATION (% IN 2")	CVN @ -20° F (-29°C)
75% Ar/25% CO <sub>2</sub>	99.1	88.3	26	55.7 ft-lbf
<b>AWS/ASME</b>	<b>80-100</b>	<b>68 (min.)</b>	<b>19 (min.)</b>	<b>20 ft-lbf</b>

### Typical Diffusible Hydrogen (ml/100g)

75% Ar/25% CO <sub>2</sub>	3.5
<b>AWS A4.3</b>	<b>4.0 (max.)</b>



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