

# Tru-Core® FC 81T-Ni1 Flux-Cored Welding Wire

**AWS E81T1-Ni1C**



Tru-Core® FC 81T-Ni1 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. This electrode is intended for welding in all positions, both single and multiple-pass welds, using a shielding gas of 100% Carbon Dioxide.

The arc transfer is a smooth, small droplet mode, with very little spatter residue. The slag freezes quickly enough to facilitate welding in all positions but provides the type of flow and wetting properties to allow good bead geometry and tie-in, even 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
- Increased impact strength in welds for enhanced performance
- Smooth arc characteristics with minimum spatter for less post-weld cleaning
- Higher deposition rates for increased productivity
- Single and multi-pass weldments

## Welding Positions

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

## Shielding Gas Blends

- 100% 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-Ni1C
- ASME SFA-A5.29: E81T1-Ni1C

 Made in the USA

## Storage

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

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

	C	Mn	Si	P	S	Cu	Ni	Cr	Mo	V
100% CO <sub>2</sub>	0.04	1.23	0.45	0.006	0.007		0.99	0.05	0.001	0.02
<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)
100% CO <sub>2</sub>	85.9	76	29	77.7 ft-lbf
<b>AWS/ASME</b>	<b>80-100</b>	<b>68 (min.)</b>	<b>19 (min.)</b>	<b>20 ft-lbf</b>



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