

## TRU-CORE™ FC 71T-12M AWS E71T-1M H8, E71T-9M H8, E71T-12M H8



### PRODUCT DESCRIPTION:

FC 71T-12M is a flux cored, gas shielded, all-position electrode, designed specifically for use with gas mixtures from 75% to 80% Argon/balance CO<sub>2</sub>. Tru-Core FC 71T-12M is intended for single and multiple pass applications, for both in-position and out-of-position welding. Up to 80% Argon can be used with no degradation in welding performance or mechanical properties. The arc transfer is small-droplet in nature, with no appreciable spatter. The slag is fluid enough to provide good flow and wetting but freezes quickly, promoting flat, uniform bead shapes in all positions. Microalloying of the weld metal enhances CVN impact values at lower temperatures.

**Flux Cored, Gas Shielded,  
Carbon Steel Electrode**

### CLASSIFICATIONS & APPROVALS:

- AWS A5.20: E71T-1M H8, E71T-9M H8, E71T-12M H8
- ASME SFA 5.20: E71T-1M H8, E71T-9M H8, E71T-12M H8

PRODUCT FEATURES	
Excellent bead appearance in all positions	Designed for Argon/carbon dioxide blends
Easy slag removal	Smooth, spray-like arc transfer
Excellent feedability	Excellent mechanical properties
Fast freezing slag promotes excellent out-of-position results	

### WELDING POSITIONS:

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

### TYPICAL APPLICATIONS :

Tru-Core FC 71T-12M can be used for welding most carbon steels and certain low alloy steels. It is ideal for welding thicknesses varying from 10 gauge sheet metal to heavy plate sections, where “all position” welding capability, stable arc characteristics and excellent mechanical properties are needed. Some examples are:

- Structural Steel
- Shipbuilding
- Railcar Construction
- General Fabrication

### MANUFACTURING ADVANTAGES:

- Patented forming, feeding and drawing equipment
- Consistent strip-to-core ratio
- Precise thermal treatment that controls the type, amount and uniformity of surface oxides on the wire
- Consistent diffusible hydrogen levels

### TYPICAL APPLICATION SHIELDING GAS BLENDS:

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

### WIRE DIAMETERS (in):

.045	.052	.062
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	AWS/ASME REQ.	75% Ar / 25% CO <sub>2</sub>
<b>TYPICAL WELD METAL COMPOSITION</b>		
<b>CARBON (C)</b>	0.12 (max.)	0.05
<b>MANGANESE (Mn)</b>	1.60 (max.)	1.35
<b>SILICON (Si)</b>	0.90 (max.)	0.32
<b>SULPHUR (S)</b>	0.03 (max.)	0.007
<b>PHOSPHORUS (P)</b>	0.03 (max.)	0.011
<b>CHROMIUM (Cr)</b>	0.20 (max.)	0.05
<b>NICKEL (Ni)</b>	0.50 (max.)	0.39
<b>MOLYBDENUM (Mo)</b>	0.30 (max.)	0.01
<b>VANADIUM (V)</b>	0.08 (max.)	0.019
<b>COPPER (Cu)</b>	0.35 (max.)	0.06
<b>TYPICAL MECHANICAL PROPERTIES</b>		
<b>TENSILE STRENGTH (ksi)</b>	70 – 90	83.5
<b>YIELD STRENGTH (ksi)</b>	58 (min.)	72.6
<b>ELONGATION (% IN 2")</b>	22 (min.)	29
<b>CVN @ -20°F (-29°C)</b>	20 ft-lbf	79.6 ft-lbf



### APPROXIMATE WELDING PARAMETERS: FLUX CORED WIRE-ALL POSITIONS

DIAMETER (in)	POLARITY	AMPERAGE		VOLTAGE		WIRE FEED SPEED (in/min)		CTWD (in)	SHIELDING GAS
		Min.	Max.	Min.	Max.	Min.	Max.		
.045	DCEP	145	200	23	25	270	330	5/8	100% CO <sub>2</sub> or 75-80% Argon/Balance CO <sub>2</sub>
.052	DCEP	150	215	24	26	200	245	5/8	100% CO <sub>2</sub> or 75-80% Argon/Balance CO <sub>2</sub>
1/16 (.062)	DCEP	165	220	24	26	130	160	3/4	100% CO <sub>2</sub> or 75-80% Argon/Balance CO <sub>2</sub>

### APPROXIMATE WELDING PARAMETERS: FLUX CORED WIRE-FLAT AND HORIZONTAL POSITIONS

DIAMETER (in)	POLARITY	AMPERAGE		VOLTAGE		WIRE FEED SPEED (in/min)		CTWD (in)	SHIELDING GAS
		Min.	Max.	Min.	Max.	Min.	Max.		
.045	DCEP	120	270	23	28	200	500	5/8	100% CO <sub>2</sub> or 75-80% Argon/Balance CO <sub>2</sub>
.052	DCEP	160	315	24	29	225	425	5/8	100% CO <sub>2</sub> or 75-80% Argon/Balance CO <sub>2</sub>
1/16 (.062)	DCEP	260	360	25	30	250	325	3/4	100% CO <sub>2</sub> or 75-80% Argon/Balance CO <sub>2</sub>

#### PACKAGES

33-lb. Fiber Spool - Random Wound

50-lb. Fiber Spool - Random Wound

60-lb. Coil - Random Wound

500-lb. Drum Pack

500-lb. Smart Pak™ - 100% Recyclable

600-lb. Drum Pack

600-lb. Smart Pak™ - 100% Recyclable

600-lb. Wood Reel

600-lb. Tru-Trac®

Note: See "Premium Packaging Options" for full description of packages. For additional packages, please contact NS Customer Service at 1-800-777-1618.

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