Premium Welding Wire Technical Bulletin

TRU-CORE™ FC 70T

AWS E70T-1C H8, E70T-9C H8

NATIONAL STANDARD

PRODUCT DESCRIPTION:

Tru-Core FC 70T is a flux cored, gas-shielded electrode, designed for single and multiple pass welding of carbon steels in the flat position and for horizontal fillets. FC 70T is suitable for welding most carbon steels requiring a minimum tensile strength of 70,000 psi. This electrode is designed to operate with 100% carbon dioxide shielding gas. The rutile-based slag system promotes a smooth arc transfer and extremely easy slag removal.

Flux Cored, Gas Shielded, Carbon Steel Electrode

PRODUCT FEATURES	
Great choice for deep goove welds	Flat bead geometry
Easy slag removal	Low spatter
Excellent feedability	Smooth arc transfer
Excellent mechanical properties	Stable current transfer at the contact tip

CLASSIFICATIONS & APPROVALS:

- AWS A5.20: E70T-1C H8, E70T-9C H8
- ASME SFA 5.20: E70T-1C H8, E70T-9C H8
- CWB W48-06: E492-T-1 H8, E492-T-9-H8

TYPICAL APPLICATIONS :

Tru-Core FC 70T is designed to weld structural steel when the work is positioned, where increased productivity and high deposition rates are a priority. Some examples are:

- Earth Moving Equipment
- Machine Tool Bases
- Structural Steel
- Heavy Equipment
- Railcar Construction
- Mining Machinery
- General Fabricating

WELDING POSITIONS:

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

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
- Consistent distribution of core ingredients

TYPICAL APPLICATION SHIELDING GAS BLEND:

- 100% CO_2
- Flow Rate: 35-45 CFH

WIRE DIAMETERS (in):

.045	.052	.062	.078	.093

	AWS/ASME REQ.	100% CO_2
TYPICAL WELD METAL COMPOSITION		
CARBON (C)	0.12 (max.)	0.06
MANGANESE (Mn)	1.75 (max.)	1.60
SILICON (Si)	0.90 (max.)	0.67
SULPHUR (S)	0.03 (max.)	0.010
PHOSPHORUS (P)	0.03 (max.)	0.013
CHROMIUM (Cr)	0.20 (max.)	0.05
NICKEL (Ni)	0.50 (max.)	0.35
MOLYBDENUM (Mo)	0.30 (max.)	0.01
VANADIUM (V)	0.08 (max.)	0.012
COPPER (Cu)	0.35 (max.)	0.09
TYPICAL MECHANICAL PROPERTIES		
TENSILE STRENGTH (ksi)	70-95	88.8
YIELD STRENGTH (ksi)	58 (min.)	75.3
ELONGATION (% IN 2")	22 (min.)	28
CVN @ -20°F (-29°C)	20 ft-lbf	27.3 ft-lbf
TYPICAL DIFFUSIBLE HYDROGEN – AWS A4.3 REQUIREMENTS		
ml /100g	8.0 (max.)	7.0

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405-372-7954 (fax)

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FLUX CORED WELDING PARAMETERS

NS NATIONAL STANDARD

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_2 or 75-80% Argon/Balance CO_2
.052	DCEP	150	215	24	26	200	245	5/8	100% CO_2 or 75-80% Argon/Balance CO_2
1/16 (.062)	DCEP	165	220	24	26	130	160	3/4	100% CO_2 or 75-80% Argon/Balance CO_2

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_2 or 75-80% Argon/Balance CO_2
.052	DCEP	160	315	24	29	225	425	5/8	100% CO_2 or 75-80% Argon/Balance CO_2
1/16 (.062)	DCEP	260	360	25	30	250	325	3/4	100% CO_2 or 75-80% Argon/Balance CO_2

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® NS

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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For Material Safety Data Sheets (MSDS) and Certificates of Compliance, visit our website at www.nationalstandard.com

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