

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



PRODUCT DESCRIPTION:

Tru-Core FC 71T-12C is a flux cored, gas shielded, all-position electrode, designed specifically for use with 100% CO₂ shielding gas. FC 71T-12C is intended for single and multiple pass applications, for both in-position and out-of-position welding. The metal transfer in the arc is small-droplet in nature, resulting in a smoother arc and lower spatter levels when compared with other E71T-9C, -12C electrodes. The slag characteristics allow for both fast freezing and good coverage of the weld, which produces a flatter, more uniform bead geometry in all position welds. Microalloying of the weld metal provides enhanced CVN impact values.

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

CLASSIFICATIONS & APPROVALS:

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

PRODUCT FEATURES	
Excellent bead appearance in all positions	Designed for 100% CO ₂ shielding gas
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-12C 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 BLEND:

- 100% CO₂
- Flow Rate: 35-45 CFH

WIRE DIAMETERS (in):

.045	.052	.062
------	------	------

	AWS/ASME REQ.	100% CO ₂
TYPICAL WELD METAL COMPOSITION		
CARBON (C)	0.12 (max.)	0.04
MANGANESE (Mn)	1.60 (max.)	1.36
SILICON (Si)	0.90 (max.)	0.36
SULPHUR (S)	0.03 (max.)	0.009
PHOSPHORUS (P)	0.03 (max.)	0.007
CHROMIUM (Cr)	0.20 (max.)	0.04
NICKEL (Ni)	0.50 (max.)	0.42
MOLYBDENUM (Mo)	0.30 (max.)	0.001
VANADIUM (V)	0.08 (max.)	0.02
COPPER (Cu)	0.35 (max.)	0.06
TYPICAL MECHANICAL PROPERTIES		
TENSILE STRENGTH (ksi)	70 – 90	84.3
YIELD STRENGTH (ksi)	58 (min.)	75.8
ELONGATION (% IN 2")	22 (min.)	30
CVN @ -20°F (-29°C)	20 ft-lbf	71.3 ft-lbf
TYPICAL DIFFUSIBLE HYDROGEN – AWS A4.3 REQUIREMENTS		
ml /100g	4 (max.)	3.4



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®

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

Exclusive to NS customers.

DISCLAIMER:

The information contained or otherwise referenced herein is presented only in "typical" without guarantee or warranty, and National Standard expressly disclaims any liability incurred from any reliance thereon. Typical data are obtained when welded and tested in accordance with AWS specifications. Specification, other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by National Standard LLC.

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