

## Certificate of Conformance

National Standard, LLC  
1631 Lake Street  
Niles, Michigan 49120

Product: **Tru-Core FC 70T**  
Classification: **E70T-1C H8, E70T-9C H8**  
Specification: **AWS A5.20, ASME SFA5.20**  
Test completion date: **March 3, 2010**

This is to certify that the product named above and referenced on the sales invoice number is of the same classification, manufacturing process, and raw material requirements as the electrode (cored wire) which was used for the tests conducted on the data shown, the results of which are displayed below. All tests required by the specifications required for classification were performed at that time and the product tested met all requirements. The electrode (cored wire) was manufactured and supplied in accordance with the Quality System Program of RevWires, LLC, located in Troy, Ohio, U.S.A. This Quality System Program meets the requirements of ISO 9001 and ANSI/AWS 5.01.

Operating Parameters	AWS/ASME Requirements	Data and Test Results	Data and Test Results
Electrode Size (in.)	1/16, 3/32	1/16 DCEP	3/32 DCEP
Polarity	DCEP	100% CO <sub>2</sub>	100% CO <sub>2</sub>
Shielding Gas (per AWS A5.32)	SG-C (100% CO <sub>2</sub> )	28.5	30
Voltage (volts)		305	224
Wire Feed Speed (in/min)		266	443
Current (amps)		40	53
Average heat input (kJ/in)	25-55, 40-65	¼	1
Contact tip to work distance (in.)		12/6	9/5
Passes/Layers		RT	RT
Preheat Temp. °F		275-325	275-325
Interpass Temp. °F			

Test Assembly Material: ASTM A36  
Radiographic Test: Conforms  
Fillet Weld Test: Conforms  
Tensile Condition: Aged 48 hr at 210 °F

Mechanical Properties of the Weld Deposit (As-welded condition)		Tensile Strength (ksi)		Yield Strength, 0.2% offset (ksi)		% Elongation		Average CVN Impact properties ft-lbf @0°F		Average CVN Impact properties ft-lbf @-20°F	
		70-95	88.9	58	77.1	22	26	20	34,31,22,22,27	25,25,15,20,22	22,3 avg.
									26,7 avg.		
									30,36,33,34,30	20,25,33,30,27	27,3 avg.

Element	C	Mn	Si	P	S	Cr	Ni	Mo	V	Al	Cu
AWS/ASME Requirements	0.12 max.	1.75 max.	0.90 max.	0.03 max.	0.03 max.	0.20 max.	0.50 max.	0.30 max.	0.08 max.	N/A	0.35 max.
Results (1/16)	0.06	1.42	0.70	0.009	0.011	0.03	0.37	<0.01	0.01	N/A	0.06
3/32	0.08	1.33	0.64	0.011	0.014	0.05	0.34	0.02	0.01	N/A	0.10

AWS A4.3 Requirements (mL/100g) for Diffusible Hydrogen Results (mL/100g)		Diffusible Hydrogen Data:	
	8.0	(1/16)	8.13
	8.0	(3/32)	6.12

  
 Michael T. Merlo, Vice President, R&D  
 Date 3/3/10