

National Standard, LLC
 1631 Lake Street
 Niles, Michigan 49120

Certificate of Conformance

Product: Tru-Core FC 71T-AG
 Classification: E71T-1M H4, E71T-9M H4
 Specification: AWS A5.20, ASME SFA5.20
 Test completion date: April 13, 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 date 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 RewWires, 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
Electrode Size (in.)	1/16	1/16
Polarity	DCEP	DCEP
Shielding Gas (per AWS A5.32)	75-80% Ar/Balance CO ₂	75-80% Ar/Balance CO ₂
Voltage (volts)		27.5
Wire Feed Speed (in/min)		301
Current (amps)		288
Average heat input (kJ/in)	25-55	34-43
Contact tip to work distance (in.)		%
Passes/Layers		12/6
Preheat Temp. °F	RT	RT
Interpass Temp. °F	275-325	275-325

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)	70-95
Yield Strength, 0.2% offset (ksi)	58 min.
% Elongation	22
Average CVN impact properties ft·lb/ft ² @0°F	
Average CVN impact properties ft·lb/ft ² @20°F	20
	62,67,48,46,46 52 avg.

Chemical Composition of the Weld Deposit (Weight %)											
Element	C	Min	SI	P	S	Cr	NI	Mo	V	Al	Cu
AWS/ASME Requirements	0.12	1.75	0.90	0.03	0.03	0.20	0.50	0.30	0.08	N/A	0.35
Results	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.		Max.
Diffusible Hydrogen Data:	0.04	1.44	0.45	0.011	0.009	0.04	0.02	<0.01	0.02		0.03

AWS A4.3 Requirements (mL/100g) for Diffusible Hydrogen	
Results (mL/100g)	4.0 3.24


 Michael T. Merlo, Vice President, R&D
 Date 5/17/10