

Product: Lincolnweld® 860 Flux/  
LA-75 Electrode  
Classification: F7A2-ENIK-NI-H8  
Specification: AWS A5.25-97, ASME SFA-5.23  
Test Completed: July 26, 2007

This is to certify that the product named above and supplied on the referenced order number is of the proper description, manufacturing process, and material requirements as the material which was used in the production of the product named above and shown in the data shown. The results of which are shown below. All tests required by the referenced specification and the material tested met all requirements. If we are unable to test the material, we will so indicate. This certificate is issued under the authority of the Quality System Program of the Lincoln Electric Company. Certification was performed at that time and the material tested met all requirements. It is not intended to certify that the material is suitable for use in any application other than that for which it was designed. The Quality System Program has been approved by ASME, ABS, and VOTV.

Operating Settings	AVS/ASME Requirements	Results
Electrode Size	5/32 inch	5/32 inch
Wire Feed		29
Wire Feed Speed, cm/min (in/min)	27 - 30	29
Travel Speed, cm/min (in/min)	475 - 675	112 (64)
Control Tip Work Distance, mm (in.)	(1 - 1 1/2)	32 (1 1/4)
Travel Speed, cm/min (in/min)	(15 - 17)	41 (8)
Preheat Temp., °C (°F)	175 - 225	176
Interpass Temp., °C (°F)	175 - 225	168 (320)
Preheat Time, min	15 - 30	15
Interpass Time, min	15 - 30	15
Weld Strength, 0.2% offset MPa (ksi)	50 (5)	567 (8)
Weld Strength, 0.2% offset MPa (ksi)	50 (5)	485 (6)
Average Hardness Rockwell B	22 min	18
Average Hardness Rockwell B	Not Required	87
Diffusible Hydrogen, ml/100g (cc/lb)	(20 max.)	18
Absorbable Hydrogen, grams/mesh/inch (g/ft <sup>2</sup> /in)	8.0 max.	86,111,112 (7,82.83)
		4.4
		85

**Chemical composition of the weld deposit and electrode**

Analyte (weight %)	Weld Deposit		Electrode	
	Requirements	Results	Requirements	Results
Mn	0.12 max.	0.04	0.12 max.	0.08
Si	0.80 max.	0.47	0.80 - 1.40	0.88
P	0.025 max.	0.011	0.020 max.	0.028
Cr	0.15 max.	0.03	Not Required	0.008
Ni	0.75 - 1.10	0.78	0.75 - 1.25	0.87
Mo	0.05 max.	0.01	Not Required	0.02
V-Ti-Vz	0.35 max.	0.09	0.35 max.	0.09
Cu (total)				

This certificate complies to the requirements of EN 10204, Type 2.2.  
Test assembly controlled by account.

Results below the detection limit of the test are reported as zero.  
If SI units are reported to the nearest 0.01 mm, convert to the nearest 0.001 inch.  
If SI units are reported to the nearest 0.1 degree, convert to the nearest 0.5 degree.

*Philip A. Wood*  
Philip A. Wood, Manager, Consumables R&D Department  
Date: July 26, 2007  
Signature: *Philip A. Wood*  
Consumables R&D Department