

Product Type: PIPEMASTER 60
 Classification: E6010
 Specifications: AWS A5.1/A5.1M:2004
 Diameter Tested:
 Date Tested: 04/25/07
 Date Generated: 1/25/2008

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied by the Quality System Program of Hobart Brothers, which meets the requirements of ISO9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

Test Settings

Amps	Volts	Size	Polarity	Preheat	Interpass	Travel Speed
140	24	5/32X14 in	DCEP	225 F (107 C)	300 F (149 C)	+ 1 in/min
160	24	3/16X14 in	DCEP	225 F (107 C)	300 F (149 C)	+ 1 in/min

Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength	Yield Strength	Elong.% in 2"
3/16X14 in / DCEP	PA5250	Aged 48 Hrs 220F	68,000 psi (468 Mpa)	54,000 psi (374 Mpa)	26
5/32X14 in / DCEP	PA5249	Aged 48 Hrs 220F	72,000 psi (498 Mpa)	61,000 psi (420 Mpa)	29

Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp.	Individuals	Average	Type
3/16X14 in / DCEP	PA5250	As Welded	-20 F (-29 C)	41,54,73 ft.lb	56 ft.lb (76 J)	Charpy-V-Notch
5/32X14 in / DCEP	PA5249	As Welded	-20 F (-29 C)	47,53,45 ft.lb	48 ft.lb (66 J)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
3/16X14 in / DCEP	PA5250	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / DCEP	PA5249	Conforms	Horizontal :	Overhead :	Vertical :	Conforms

Chemical Analysis

Size / Polarity / Ref. No.	C	Mn	P	S	Si	Cu	Cr	V	Ni	Mo	Al	Ti	Nb	Co	B	W	Sn	Fe	Sb	N	Mg	Zn	Be
5/32X14 in / DCEP / PA5249	0.09	0.31			0.11		0.07	< .01	0.08	< .01													
3/16X14 in / DCEP / PA5250	0.09	0.36			0.17		0.07	0.01	0.09	0.01													



Steve Knostman , Quality Engineer



Guo Hao , R & D Engineer

The information Certification and Limited Warranty - Data for the above supplied product are those obtained when welded and tested in accordance with the above specification. All tests for the above classification were satisfied. Other tests and procedures may produce different results. Hobart Brothers produces welding consumables under continuing quality assurance programs audited and approved by the American Bureau of Shipping ("ABS").