

Product Type: HOBART 335A  
 Classification: E6011  
 Specifications: AWS A5.1/A5.1M:2004  
 Diameter Tested:  
 Date Tested: 06/15/09  
 Date Generated: 1/21/2010

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
160	27	5/32X14 in	DCEP	300 F (149 C)	300 F (149 C)	+ - 1 in/min
150	26	5/32X14 in	AC	300 F (149 C)	300 F (149 C)	+ - 1 in/min
175	25	3/16X14 in	DCEP	300 F (149 C)	300 F (149 C)	+ - 1 in/min
165	28	3/16X14 in	AC	325 F (163 C)	325 F (163 C)	+ - 1 in/min

### Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength	Yield Strength	Elong.% in 2"
5/32X14 in / DCEP	PB0448	Aged 48 Hrs 220F	83,000 psi ( 574 Mpa)	71,000 psi ( 487 Mpa)	23
5/32X14 in / AC	PB0467	Aged 48 Hrs 220F	79,000 psi ( 543 Mpa)	68,000 psi ( 468 Mpa)	24
3/16X14 in / DCEP	pb0498	Aged 48 Hrs 220F	76,000 psi ( 525 Mpa)	67,000 psi ( 462 Mpa)	29
3/16X14 in / AC	PB0553	Aged 48 Hrs 220F	74,000 psi ( 509 Mpa)	63,000 psi ( 434 Mpa)	27

### Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp.	Individuals	Average	Type
5/32X14 in / DCEP	PB0448	As Welded	-20 F (-29 C)	34,36,43 ft.lb	38 ft.lb ( 51 J)	Charpy-V-Notch
5/32X14 in / AC	PB0467	As Welded	-20 F (-29 C)	52,54,52 ft.lb	53 ft.lb ( 71 J)	Charpy-V-Notch
3/16X14 in / DCEP	PB0498	As Welded	-20 F (-29 C)	49,52,59 ft.lb	53 ft.lb ( 72 J)	Charpy-V-Notch
3/16X14 in / AC	PB0553	As Welded	-20 F (-29 C)	61,59,60 ft.lb	60 ft.lb ( 81 J)	Charpy-V-Notch

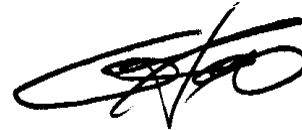
Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
5/32X14 in / DCEP	PB0448	Conforms	Horizontal :		Overhead : Conforms	Vertical : Conforms
5/32X14 in / AC	PB0467	Conforms	Horizontal :		Overhead : Conforms	Vertical : Conforms
3/16X14 in / DCEP	PB0498	Conforms	Horizontal :		Overhead : Conforms	Vertical : Conforms
3/16X14 in / AC	PB0553	Conforms	Horizontal :		Overhead : Conforms	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 / PB0448	0.13	0.63			0.25		0.05	0.01	0.03	0.01													
3/16X14 in / DCEP / PB0498	0.08	0.53			0.23		0.06	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").