

Product Type: HOBART 718MC  
 Classification: E7018, E7018-1H4R  
 Specifications: AWS A5.1/A5.1M:2004  
 Diameter Tested:  
 Date Tested: 11/07/07  
 Date Generated: 6/10/2008

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 dates 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 ISO 9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

### Test Settings

Amps	Volts	Size	Polarity	Preheat	Interpass	Travel Speed
195	25	5/32X14in	DCEP	325F(163C)	325F(163C)	+1 in/min
195	26 1/2-24 1/2	5/32X14in	AC	325F(163C)	325F(163C)	+1 in/min
235	26	3/16X14in	DCEP	325F(163C)	325F(163C)	+1 in/min
245	26	3/16X14in	AC	325F(163C)	325F(163C)	+1 in/min
325	28	1/4X18in	DCEP	350F(177C)	350F(177C)	+1 in/min
345	27-26	1/4X18in	AC	325F(163C)	325F(163C)	+1 in/min

### Mechanical Properties-Tensile

Size/Polarity	Ref.No.	Testing Conditions	Ult. Tensile Strength	Yield Strength	Elong. %in 2"
5/32X14in/DCEP	PA5800	As Welded	76,000psi(522Mpa)	65,000psi(445Mpa)	31
5/32X14in/AC	PA5812	As Welded	79,000psi(547Mpa)	67,000psi(461Mpa)	30
1/4X18in/DCEP	PA6104	As Welded	77,000psi(531Mpa)	67,000psi(462Mpa)	30
1/4X18in/AC	PA6524	As Welded	83,000psi(571Mpa)	70,000psi(485Mpa)	26
3/16X14in/DCEP	PA5822	As Welded	77,000psi(530Mpa)	64,000psi(438Mpa)	31
3/16X14in/AC	PA5832	As Welded	82,000psi(563Mpa)	68,000psi(471Mpa)	28

### Mechanical Properties-Impact

Size/Polarity	Ref.No.	Testing Conditions	Test Temp.	Individuals	Average	Type
5/32X14in/DCEP	PA5800	As Welded	-50F(-46C)	122, 123, 124ft.lb	123ft.lb(167J)	Charpy-V-Notch
5/32X14in/AC	PA5812	As Welded	-50F(-46C)	90, 90, 96ft.lb	92ft.lb(125J)	Charpy-V-Notch
1/4X18in/DCEP	PA6104	As Welded	-50F(-46C)	86, 98, 99ft.lb	94ft.lb(128J)	Charpy-V-Notch
1/4X18in/AC	PA6524	As Welded	-50F(-46C)	74, 22, 43ft.lb	46ft.lb(63J)	Charpy-V-Notch
3/16X14in/DCEP	PA5822	As Welded	-50F(-46C)	94, 101, 78ft.lb	91ft.lb(123J)	Charpy-V-Notch
3/16X14in/AC	PA5832	As Welded	-50F(-46C)	38, 44, 77ft.lb	53ft.lb(72J)	Charpy-V-Notch

Size/Polarity	Ref.No.	Radiograph	Fillet Weld Test			
5/32X14in/DCEP	PA5800	Conforms	Horizontal:		Overhead: Conforms	Vertical: Conforms
5/32X14in/AC	PA5812	Conforms	Horizontal:		Overhead: Conforms	Vertical: Conforms
1/4X18in/DCEP	PA6104	Conforms	Horizontal: Conforms		Overhead:	Vertical:
1/4X18in/AC	PA6524	Conforms	Horizontal: Conforms		Overhead:	Vertical:
3/16X14in/DCEP	PA5822	Conforms	Horizontal: Conforms		Overhead:	Vertical:
3/16X14in/AC	PA5832	Conforms	Horizontal: Conforms		Overhead:	Vertical:

### 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
3/16X14in/DCEP/CA52164	0.04	0.93	0.008	0.010	0.45		0.06	<.01	0.08	0.03													
5/32X14in/DCEP/PA5800	0.04	1.08	0.013	0.013	0.30		0.08	0.01	0.07	<.01													
1/4X18in/DCEP/PA6104	0.04	1.16	0.011	0.013	0.64		0.07	0.01	0.07	0.01													

Size: 3/16X14in	Total H2O Method: RC412-As Received	Total Coating Moisture: 0.161	Ref.No.: CA52164
Size: 5/32X14in	Total H2O Method: RC412-As Received	Total Coating Moisture: 0.112	Ref.No.: PA5800
Size: 1/4X18in	Total H2O Method: RC412-As Received	Total Coating Moisture: 0.079	Ref.No.: PA6104

### Diffusible Hydrogen Collected per AWS A4.3-ml/100g weld metal

	2.4	ml/100g	For	5/32X14in	dia
	2.9	ml/100g	For	1/8X14in	dia



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").