

Product Type: HOBART418
 Classification: E7018-1H4R
 Specifications: AWSA5.1/A5.1M:2004/ASMESFA5.1
 Diameter Tested:
 Date Tested: 04/27/09
 Date Generated: 5/13/2009

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/AWSA 5.01, and other specification and Military requirements, as applicable.

Test Settings

Amps	Volts	Size	Polarity	Preheat	Interpass	Travel Speed
200	24-26	5/32X14in	AC	300F(149C)	300F(149C)	+1 in/min
185	25	5/32X14in	DCEP	250F(121C)	300F(149C)	+1 in/min
340	28-29	1/4X18in	AC	225F(107C)	300F(149C)	+1 in/min
340	28-29	1/4X18in	DCEP	300F(149C)	300F(149C)	+1 in/min
240	27	3/16X14in	AC	225F(107C)	300F(149C)	+1 in/min
230	27	3/16X14in	DCEP	300F(149C)	300F(149C)	+1 in/min

Mechanical Properties-Tensile

Size/Polarity	Ref.No.	Testing Conditions	Ult. Tensile Strength	Yield Strength	Elong. %in2"
3/16X14in/AC	PB0095	As Welded	77,000psi(528Mpa)	61,000psi(419Mpa)	26
3/16X14in/DCEP	PB0189	As Welded	76,000psi(522Mpa)	62,000psi(424Mpa)	30
5/32X14in/AC	PA9794	As Welded	77,000psi(532Mpa)	61,000psi(418Mpa)	24
5/32X14in/DCEP	PA9795	As Welded	76,000psi(527Mpa)	64,000psi(440Mpa)	33
1/4X18in/AC	PA9798	As Welded	78,000psi(538Mpa)	63,000psi(436Mpa)	29
1/4X18in/DCEP	PA9799	As Welded	75,000psi(515Mpa)	60,000psi(412Mpa)	32

Mechanical Properties-Impact

Size/Polarity	Ref.No.	Testing Conditions	Test Temp.	Individuals	Average	Type
3/16X14in/AC	PB0022	As Welded	-50F(-46C)	68,58,60ft.lb	62ft.lb(84J)	Charpy-V-Notch
3/16X14in/DCEP	PB0023	As Welded	-50F(-46C)	99,93,101ft.lb	98ft.lb(132J)	Charpy-V-Notch
5/32X14in/AC	PA9794	As Welded	-50F(-46C)	128,115,130ft.lb	124ft.lb(169J)	Charpy-V-Notch
5/32X14in/DCEP	PA9795	As Welded	-50F(-46C)	81,124,120ft.lb	108ft.lb(147J)	Charpy-V-Notch
1/4X18in/AC	PA9798	As Welded	-50F(-46C)	48,53,40ft.lb	47ft.lb(64J)	Charpy-V-Notch
1/4X18in/DCEP	PA9799	As Welded	-50F(-46C)	102,108,102ft.lb	104ft.lb(141J)	Charpy-V-Notch

Size/Polarity	Ref.No.	Radiograph	Fillet Weld Test			
3/16X14in/AC	PB0022	Conforms	Horizontal: Conforms	Overhead:	Vertical:	
3/16X14in/DCEP	PB0023	Conforms	Horizontal: Conforms	Overhead:	Vertical:	
5/32X14in/AC	PA9794	Conforms	Horizontal:	Overhead: Conforms	Vertical: Conforms	
5/32X14in/DCEP	PA9795	Conforms	Horizontal:	Overhead: Conforms	Vertical: Conforms	
1/4X18in/AC	PA9798	Conforms	Horizontal: Conforms	Overhead:	Vertical:	
1/4X18in/DCEP	PA9799	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/CA88828	0.03	0.90	0.008	0.024	0.50		0.07	<.01	0.08	0.01													
5/32X14in/DCEP/CA90063	0.02	0.81	0.006	0.012	0.46		0.03	<.01	0.05	<.01													
1/4X18in/DCEP/CA90449	0.04	1.21	0.008	0.014	0.54		0.05	<.01	0.08	<.01													

Size: 3/16X14in	Total H2O Method: RC412-As Received	Total Coating Moisture: 0.12	Ref.No.: CA88828
Size: 5/32X14in	Total H2O Method: RC412-As Received	Total Coating Moisture: 0.27	Ref.No.: CA90063
Size: 1/4X18in	Total H2O Method: RC412-As Received	Total Coating Moisture: 0.07	Ref.No.: CA90449

Diffusible Hydrogen Collected per AWSA4.3-ml/100g weld metal

n/a	2.9	ml/100g	For	1/4X18in	dia
n/a	2.6	ml/100g	For	5/32X14in	dia
n/a	3.0	ml/100g	For	3/16X14in	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").