



# Certificate of Conformance to Requirements for Welding Electrode

Hobart

Product Type: Soft-Arc 7018-1  
Classification: E7018-1 H4  
Specifications: AWS A5.1/A5.1M:2004  
Diameter Tested:  
Date Tested: 5/11/2016  
Date Generated: 12/15/2016

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
200	25	5/32X14 in	AC	225 F (107 C)	300 F (149 C)	+/- 1 in/min
185	25	5/32X14 in	DCEP	225 F (107 C)	300 F (149 C)	+/- 1 in/min
230	24	3/16X14 in	AC	225 F (107 C)	325 F (163 C)	+/- 1 in/min
220	24	3/16X14 in	DCEP	225 F (107 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 / AC	pd0703	Aged 48 Hrs 220F	81,000 psi ( 557 Mpa)	69,000 psi ( 477 Mpa)	29
5/32X14 in / DCEP	PD0704	Aged 48 Hrs 220F	80,000 psi ( 550 Mpa)	68,000 psi ( 467 Mpa)	30
3/16X14 in / AC	PD1210	Aged 48 Hrs 220F	81,000 psi ( 558 Mpa)	69,000 psi ( 475 Mpa)	28
3/16X14 in / DCEP	pd1211	Aged 48 Hrs 220F	76,000 psi ( 527 Mpa)	66,000 psi ( 452 Mpa)	30

## Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp.	Individuals	Average	Type
5/32X14 in / AC	PD0703	As Welded	-50 F (-46 C)	20,15,45 ft.lb	27 ft.lb ( 36 J)	Charpy-V-Notch
5/32X14 in / DCEP	PD0704	As Welded	-50 F (-46 C)	85,80,78 ft.lb	81 ft.lb ( 110 J)	Charpy-V-Notch
3/16X14 in / AC	PD1210	As Welded	-50 F (-46 C)	77,75,72 ft.lb	75 ft.lb ( 101 J)	Charpy-V-Notch
3/16X14 in / DCEP	PD1211	As Welded	-50 F (-46 C)	78,117,92 ft.lb	96 ft.lb ( 130 J)	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
5/32X14 in / AC	PD0703	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
5/32X14 in / DCEP	PD0704	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
3/16X14 in / AC	PD1210	Conforms	Horizontal : Conforms	Overhead :		Vertical :
3/16X14 in / DCEP	PD1211	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
5/32X14 in / DCEP / CD09075	0.04	0.97	0.012	0.012	0.54		0.05	0.01	0.08	0.01													
3/16X14 in / DCEP / CD12274	0.04	0.96	0.007	0.014	0.49		0.06	0.01	0.07	0.01													

Size : 5/32X14 in	Total H2O Method : RC412 - As Received	Total Coating Moisture : 0.17	Ref. No. : CD09075
Size : 3/16X14 in	Total H2O Method : RC412 - As Received	Total Coating Moisture : 0.17	Ref. No. : CD12274

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

n/a	2.4	ml/100g	For	3/16X14 in	dia
n/a	1.9	ml/100g	For	5/32X14 in	dia

Dave Thomas , Quality Assurance Rep.

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").