



## Certificate of Conformance to Requirements for Welding Electrode

**Product Type:** HOBALLOY 8018C3  
**Classification:** E8018-C3 H4R  
**Specifications:** AWS A5.5/A5.5M; ASME SFA 5.5  
**Diameter Tested:** 5/32" - 3/16"  
**Date Tested:** 6/27/2025  
**Date Generated:** 10/13/2025

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 ISO 9001, ANSI/AWS A5.01, and other specification and Military requirements, as applicable. This document supplies actual test results of non-specific inspection in conformance with the requirements of EN 10204, type 2.2 certification.

**MADE IN THE U.S. OF U.S. AND IMPORTED MATERIALS.**

### Test Settings

Size	Polarity	Amps	Volts	Preheat F(C)	Interpass F(C)
5/32X14 in	AC	200	24	225 (107)	225 (107)
5/32X14 in	DCEP	190	24	225 (107)	225 (107)
3/16X14 in	DCEP	225	25 - 26	225 (107)	225 (107)
3/16X14 in	AC	235	25 - 26	225 (107)	225 (107)

### Mechanical Properties - Tensile

Size / Polarity	Ref. No.	Testing Conditions	Ult. Tensile Strength psi(MPa)	Yield Strength psi(MPa)	Elong. % in 2"
3/16X14 in / DCEP	PE9558	Aged 48 Hrs 220F	92,000 ( 631 )	79,000 ( 543 )	<b>27</b>
3/16X14 in / AC	PE9567	Aged 48 Hrs 220F	93,000 ( 642 )	82,000 ( 564 )	<b>28</b>
5/32X14 in / AC	PE9514	Aged 48 Hrs 220F	87,000 ( 600 )	74,000 ( 510 )	<b>29</b>
5/32X14 in / DCEP	PE9521	Aged 48 Hrs 220F	84,000 ( 576 )	70,000 ( 485 )	<b>29</b>

### Mechanical Properties - Impact

Size / Polarity	Ref. No.	Testing Conditions	Test Temp. F(C)	Individuals ft.lb.(J)	Average ft.lb.(J)	Type
5/32X14 in / AC	PE9514	As Welded	-40 F (-40 C)	74,57,84 (100,77,114)	72 ( 97 )	Charpy-V-Notch
5/32X14 in / DCEP	PE9521	As Welded	-40 F (-40 C)	125,120,140 (169,163,190)	128 ( 174 )	Charpy-V-Notch
3/16X14 in / DCEP	PE9558	As Welded	-40 F (-40 C)	81,92,94 (110,125,127)	89 ( 121 )	Charpy-V-Notch
3/16X14 in / AC	PE9567	As Welded	-40 F (-40 C)	80,68,81 (108,92,110)	76 ( 103 )	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test				
5/32X14 in / AC	PE9514	Conforms	Horizontal :	Overhead :	Conforms	Vertical :	Conforms
5/32X14 in / DCEP	PE9521	Conforms	Horizontal :	Overhead :	Conforms	Vertical :	Conforms
3/16X14 in / DCEP	PE9558	Conforms	Horizontal :	Overhead :	Conforms	Vertical :	Conforms
3/16X14 in / AC	PE9567	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	Sb	As
3/16X14 in / DCEP / CF11575	0.05	1.05	0.02	0.01	0.39		0.04	0.01	0.90	0.10															
5/32X14 in / DCEP / CF12030	0.03	0.84	0.01	0.01	0.17		0.04	0.01	0.89	0.09															
5/32X14 in / AC / CF12686	0.11	0.95	0.01	0.01	0.29		0.04	0.01	0.92	0.09															
3/16X14 in / AC / PE9567	0.07	1.10	0.01	0.01	0.52		0.04	0.01	0.86	0.10															

3/16X14 in / CF11575	Total H2O Method : Train - As Received	Total Coating Moisture : 0.041
5/32X14 in / CF12030	Total H2O Method : Train - As Received	Total Coating Moisture : 0.067
5/32X14 in / CF12686	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.344
3/16X14 in / PE9567	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.34

Size / Polarity	Ref. No.	Diffusible Hydrogen Collected per AWS A4.3
5/32X14 in / AC	HB8420	2 ml/100g of weld metal for 5/32X14 in diameter 11% relative humidity
5/32X14 in / AC	HB8421	3 ml/100g of weld metal for 5/32X14 in diameter 20% relative humidity
3/16X14 in / AC	HB8578	4 ml/100g of weld metal for 3/16X14 in diameter 12% relative humidity
3/16X14 in / AC	HB8579	4 ml/100g of weld metal for 3/16X14 in diameter 15% relative humidity

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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.