



## Certificate of Conformance to Requirements for Welding Electrode

**Product Type:** HOBALLOY 8018C1  
**Classification:** E8018-C1 H4  
**Specifications:** AWS A5.5/A5.5M; ASME SFA 5.5  
**Diameter Tested:** 1/8"-5/32"  
**Date Tested:** 11/15/2023  
**Date Generated:** 11/16/2023

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	190	26 - 24	225 (107)	225 (107)
5/32X14 in	DCEP	180	26 - 24	225 (107)	225 (107)
1/8X14 in	DCEP	140	26 - 23 1/2	225 (107)	225 (107)
1/8X14 in	AC	140	26 - 23 1/2	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"
5/32X14 in / AC	PE6939	SR 1 Hr @ 1125F	86,000 ( 595 )	74,000 ( 509 )	27
5/32X14 in / DCEP	PE6952	SR 1 Hr @ 1125F	85,000 ( 586 )	72,000 ( 500 )	28
1/8X14 in / DCEP	PE7149	Aged 48 Hrs 220F	89,000 ( 616 )	76,000 ( 523 )	28
1/8X14 in / AC	PE7190	Aged 48 Hrs 220F	93,000 ( 642 )	78,000 ( 539 )	28

### 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	PE6939	SR 1 Hr @ 1125F	-75 F (-59 C)	76,85,89 (103,115,121)	83 ( 113 )	Charpy-V-Notch
5/32X14 in / DCEP	PE6952	SR 1 Hr @ 1125F	-75 F (-59 C)	96,95,94 (130,129,127)	95 ( 129 )	Charpy-V-Notch
1/8X14 in / DCEP	PE7149	As Welded	-40 F (-40 C)	96,103,99 (130,140,134)	99 ( 135 )	Charpy-V-Notch
1/8X14 in / AC	PE7190	As Welded	-40 F (-40 C)	73,81,81 (99,110,110)	78 ( 106 )	Charpy-V-Notch

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
5/32X14 in / AC	PE6939	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
5/32X14 in / DCEP	PE6952	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
1/8X14 in / DCEP	PE7149	Conforms	Horizontal :	Overhead :	Vertical :	Conforms
1/8X14 in / AC	PE7190	Conforms	Horizontal :	Overhead :	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
5/32X14 in / DCEP / CD96955	0.05	1.14	0.01	0.02	0.45				2.26																
5/32X14 in / AC / CD98397	0.04	0.84	0.01	0.01	0.23				2.24																
1/8X14 in / DCEP / CD98729	0.04	0.94	0.01	0.01	0.28				2.21																
1/8X14 in / AC / CF00922	0.06	0.90	0.02	0.01	0.31				2.08																

5/32X14 in / CD96955	Total H2O Method : Train - As Received	Total Coating Moisture : 0.05
5/32X14 in / CD98397	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.245
1/8X14 in / CD98729	Total H2O Method : Train - As Received	Total Coating Moisture : 0.062
1/8X14 in / CF00922	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.13

### Diffusible Hydrogen Collected per AWS A4.3

3.1 ml/100g of weld metal for 5/32X14 in diameter 27% relative humidity
3.5 ml/100g of weld metal for 5/32X14 in diameter 28% relative humidity
2.8 ml/100g of weld metal for 1/8X14 in diameter 25% relative humidity
3.2 ml/100g of weld metal for 1/8X14 in diameter 24% 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.