



## Certificate of Conformance to Requirements for Welding Electrode

**Product Type:** HOBALLOY 7018A1  
**Classification:** E7018-A1 H4R  
**Specifications:** AWS A5.5/A5.5M; ASME SFA 5.5  
**Diameter Tested:**  
**Date Tested:** 11/22/2021  
**Date Generated:** 12/4/2021

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	DCEP	185	24	225 (107)	225 (107)
5/32X14 in	AC	200	26 - 24	225 (107)	225 (107)
1/8X14 in	DCEP	140	26 - 23 1/2	225 (107)	225 (107)
1/8X14 in	AC	150	23	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 / DCEP	PE2964	SR 1 Hr @ 1150F	83,000 ( 575 )	74,000 ( 507 )	27
5/32X14 in / AC	PE2980	SR 1 Hr @ 1150F	85,000 ( 585 )	74,000 ( 511 )	27
1/8X14 in / DCEP	PE2993	SR 1 Hr @ 1150F	86,000 ( 591 )	72,000 ( 493 )	28
1/8X14 in / AC	PE3257	SR 1 Hr @ 1150F	91,000 ( 627 )	79,000 ( 547 )	24

Size / Polarity	Ref. No.	Radiograph	Fillet Weld Test			
5/32X14 in / DCEP	PE2964	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
5/32X14 in / AC	PE2980	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
1/8X14 in / DCEP	PE2993	Conforms	Horizontal :	Overhead :	Conforms	Vertical : Conforms
1/8X14 in / AC	PE3257	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
5/32X14 in / DCEP / PE2964	0.01	0.81	0.01	0.02	0.41					0.52															
5/32X14 in / AC / PE2980	0.03	0.80	0.01	0.01	0.43					0.55															
1/8X14 in / DCEP / PE2993	0.02	0.80	0.01	0.01	0.43					0.57															
1/8X14 in / AC / PE3257	0.03	0.81	0.01	0.01	0.44					0.56															

5/32X14 in / PE2964	Total H2O Method : Train - As Received	Total Coating Moisture : 0.032
5/32X14 in / PE2980	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.16
1/8X14 in / PE2993	Total H2O Method : Train - As Received	Total Coating Moisture : 0.007
1/8X14 in / PE3257	Total H2O Method : Train - 9 Hour	Total Coating Moisture : 0.258

### Diffusible Hydrogen Collected per AWS A4.3

3.3 ml/100g of weld metal for 1/8X14 in diameter 31% relative humidity
3.0 ml/100g of weld metal for 5/32X14 in diameter 31% relative humidity

Dave Thomas, Quality Assurance Rep.

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.