

AWS E9015-B9 H4R

HOBALLOY® 9015B9 (B9)**DESCRIPTION:**

Designed for joining creep-resistant, high chromium (9% Cr-1% Mo-V) alloys of similar composition, the **HOBALLOY 9015B9** is particularly useful for power generation and petrochemical applications. The HOBALLOY 9015B9 is the best choice when service conditions are too severe for HOBALLOY 9018B3, 8018B6, or 8018B8 with improved creep-resistance. Note: Actual certs are supplied with every shipment (one per master carton or pallet) at no charge.

APPLICATIONS:

Ideal for use in the petrochemical and petroleum industries, and for use in high temperature service applications such as power generation and allied industries. Excellent for welding tubes and tube sheets, pipe and plate steels for high pressure hydrogen service, as well as 9% Cr-1% Mo-V steels. Ideal for joining of A213-T91 Tube, A335-P91 Pipe, and A387 Grade 91 Plate.

FEATURES:

- Improved creep-resistance
- Excellent arc characteristics
- Low spatter level
- Low moisture reabsorption
- Low hydrogen, less than 4ml/100 g
- Quick and easy slag removal
- Low smoke level

BENEFITS:

- Ideal for high temperature service applications
- Stable, easy to control arc
- Improves weld bead appearance, higher deposition
- Prevents starting porosity
- Resistant to hydrogen-induced cracking
- Reduces clean-up time
- Welder safety and comfort

TYPICAL WELD METAL PROPERTIES*(Chem Pad):

Weld Metal Analysis		AWS Spec
Carbon (C)	0.10	0.08 to 0.13
Manganese (Mn)	0.50	1.25 max
Phosphorus (P)	0.01	0.01 max
Sulphur (S)	0.008	0.01 max
Silicon (Si)	0.25	0.30 max
Copper (Cu)	0.03	0.25 max
Chromium (Cr)	9.60	8.0 to 10.50
Vanadium (V)	0.19	0.15 to 0.30
Nickel (Ni)	0.7	1.0 max
Molybdenum (Mo)	0.9	0.85 to 1.20
Aluminum (Al)	0.01	0.04 max
Niobium (Nb)	0.07	0.02 to 0.10
Nitrogen (N)	0.04	0.02 to 0.07

BRUSCATO FACTOR

$$X = \frac{10P + 5Sb + 4Sn + As}{100} \text{ (elements in ppm): } x = 11$$

TYPICAL MECHANICAL PROPERTIES*:

	Stress Relieved - 1 Hour at 1375°F	AWS Spec
Tensile Strength	122,000 psi (843 MPa)	90,000 psi, (621 MPa) min
Yield Strength	104,000 psi (715 MPa)	77,000 psi, (531 MPa) min
Elongation % in 2"	18.2%	17% min

TYPICAL CHARPY V-NOTCH IMPACT VALUES*(AW):

Not required

DIFFUSIBLE HYDROGEN: 2.9 ml/100 gr**CONFORMANCES AND APPROVALS:**

- AWS A5.5, E9015-B9 H4R, ASME SFA5.5, E9015-B9 H4R

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers Company expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with AWS A5.5 specification. Other tests and procedures may produce different results. No data is to be construed as a recommendation for any welding condition or technique not controlled by Hobart Brothers Company.

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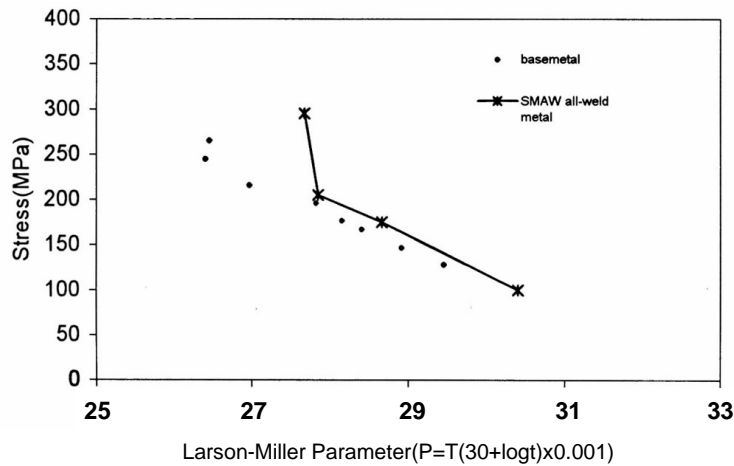
HOBALLOY® 9015B9

RECOMMENDED WELDING PROCEDURES:

- GENERAL:** DCEP (electrode positive, work negative)
- ARC LENGTH:** Very short (less than half the diameter of the electrode)
- FLAT:** Angle electrode 10-15° from 90°
- VERTICAL-UP:** Use weaving technique
- VERTICAL-DOWN:** Not recommended
- OVERHEAD:** Use slight whipping motion within the puddle
- STORAGE:** After opening, store in holding oven (250°F to 300°F) until used to ensure low hydrogen weld deposit
- RECONDITIONING:** If electrode has been exposed to the atmosphere for an extended period of time, place in 250°F oven and slowly increase temperature to 600°F; bake at 600°F for one (1) hour.

HIGH-TEMPERATURE PROPERTIES:

Larson-Miller Plot



RECOMMENDED OPERATING PARAMETERS:

Diameter		Type of Power	Minimum Amps	Optimum* Volts	Maximum Amps
Inches	mm				
3/32	3.0	DCEP	70	85	100
1/8	3.2	DCEP	90	120	140
5/32	4.0	DCEP	120	160	210

*For out of position welding, reduce amperages shown by 15%.

AVAILABLE DIAMETERS AND PACKAGES:

Diameter		Length		10-LB. Can
Inches	mm	Inches	mm	
3/32	2.4	14"	355	S127632-033
1/8	3.2	14"	355	S127644-033
5/32	4.0	14"	355	S127651-033

Caution:

Consumers should be thoroughly familiar with precautions on the warning label posted in each shipment and in the American National Standard Z49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJune Road, Miami, FL 33126; OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210.

Material Safety Data Sheets on any ITW/Hobart Brothers Company product may be obtained from Hobart Customer Service.

Because Hobart Brothers Company is constantly improving products, Hobart reserves the right to change design and/or specifications without notice.

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