

HOBALLOY[®] 9018M



AWS E9018-M H4R

WELDING POSITIONS:



FEATURES:

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

BENEFITS:

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

APPLICATIONS:

- High tensile steels

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP) or Alternating Current (AC)

RECOMMENDED WELDING TECHNIQUES:

- GENERAL:** Electrode positive, work negative (DCEP) or Alternating Current (AC)
- ARC LENGTH:** Very short arc
- FLAT:** Angle electrode 10° -15° from 90°
- VERTICAL-UP:** Use weaving techniques
- VERTICAL-DOWN:** Not recommended
- OVERHEAD:** Use slight weaving motion within the puddle

STORAGE: After opening, store in holding oven 250°F to 400°F (121°C to 204°C) until used.

RECONDITIONING If exposed to atmosphere for extended periods, reconditioned for one (1) hour at 600°F (316°C).

TYPICAL WELD METAL PROPERTIES* (Chem Pad):

Weld Metal Analysis (%)		AWS Spec
Carbon (C)	0.06	0.10 max
Manganese (Mn)	0.92	0.60 - 1.25
Phosphorus (P)	0.014	0.03 max
Sulphur (S)	0.016	0.03 max
Silicon (Si)	0.16	0.80 max
Chromium (Cr)	0.08	0.15 max
Vanadium (V)	0.01	0.05 max
Nickel (Ni)	1.63	1.40 - 1.80
Molybdenum (Mo)	0.26	0.35 max

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests		AWS Spec
Tensile Strength	97,000 psi (672 MPa)	90,000 psi (620 MPa) Minimum
Yield Strength	84,000 psi (583 MPa)	78,000 - 90,000 psi (540-620 MPa)
Elongation % in 2"	24%	24% Minimum

TYPICAL CHARPY V-NOTCH IMPACT VALUES* (As Welded):

CVN Temperatures		AWS Spec
Avg. at -60°F (-51°C)	60 ft•lbs (81 Joules)	20 ft•lbs (27 Joules) Minimum

TYPICAL DIFFUSIBLE HYDROGEN:

Hydrogen Equipment		AWS Spec
(GAS CHROMATOGRAPHY)	3.2 ml/100 g	4.0 ml/100 g Minimum

*The information contained or otherwise referenced herein is presented only as "typical" without guarantee or warranty, and Hobart Brothers LLC expressly disclaims any liability incurred from any reliance thereon. Typical data are those obtained when welded and tested in accordance with the 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 LLC.

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Diameter Inches	mm	Type of Power	Minimum Amps	Optimum* Amps	Maximum Amps
3/32	2.4	DCEP or AC	70	100	110

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

TYPICAL DEPOSITION DATA:

Diameter Inches	mm	Type of Power	Amps	Deposition Rate lbs/hr
3/32	2.4	DCEP	100	2.62

- **Maintaining a proper welding procedure - including pre-heat and interpass temperatures - may be critical depending on the type and thickness of steel being welded.**

STANDARD DIAMETERS AND PACKAGES: For a complete list of diameters and packaging, please contact Hobart Brothers at (800) 424-1543 or (937) 332-5188 for International Customer Service.

Diameter Inches	mm	Length Inches	mm	50-lb Can
3/32	2.4	14	355	S125632-035

CONFORMANCES AND APPROVALS:

- **AWS A5.5**, E9018-M H4R
- **ASME SFA 5.5**, E9018-M H4R
- **ABS**, E9018-M H4R (DCEP Only)

TECHNICAL QUESTIONS? For technical support of Hobart Filler Metals products, contact the Applications Engineering department by phone toll-free at 1-800-532-2618 or by e-mail at Applications.Engineering@hobartbrothers.com

CAUTION:

Consumers should be thoroughly familiar with the safety 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, 8669 NW 36th St., Miami, FL 33166 (can also be downloaded online at www.aws.org); OSHA Safety and Health Standards 29 CFR 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210

Safety Data Sheets on any Hobart Brothers LLC product may be obtained from Hobart Customer Service or at www.hobartbrothers.com.

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