

HOBALLOY® 8018C3



AWS A5.5: E8018-C3 H4
EN ISO 2560-A: E46 4 1Ni B 3 2 H5

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:

- Commercial
- Military

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 220°F to 350°F (104°C to 177°C) until used.

RECONDITIONING: If exposed to atmosphere for extended periods, reconditioned for one (1) hour at 600°F (315°C).

TYPICAL WELD METAL PROPERTIES* (Chem Pad):

Weld Metal Analysis (%)		AWS Spec
Carbon (C)	0.04	0.12 max
Manganese (Mn)	0.98	0.40 - 1.25
Phosphorus (P)	0.01	0.03 max
Sulphur (S)	0.01	0.03 max
Silicon (Si)	0.26	0.80 max
Chromium (Cr)	0.07	0.15 max
Vanadium (V)	0.01	0.05 max
Nickel (Ni)	0.89	0.80 - 1.10
Molybdenum (Mo)	0.09	0.35 max

TYPICAL MECHANICAL PROPERTIES* (As Welded):

Mechanical Tests		AWS Spec
Tensile Strength	84,000 psi (576 MPa)	80,000 psi (550 MPa) Minimum
Yield Strength	73,000 psi (503 MPa)	68,000 - 80,000 psi (470-550 MPa)
Elongation % in 2"	30%	24% Minimum

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

CVN Temperatures		AWS Spec
Avg. at -40°F (-40°C)	98 ft•lbs (133 Joules)	20 ft•lbs (27 Joules) Minimum

TYPICAL DIFFUSIBLE HYDROGEN:

Hydrogen Equipment		AWS Spec (Max.)
(GAS CHROMATOGRAPHY)	2.8 ml/100 g	4.0 ml/100 g

*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
1/8 3.2	DCEP or AC	90	135	160
5/32 4.0	DCEP or AC	130	170	220
3/16 4.8	DCEP or AC	200	250	300
1/4 6.4	DCEP or AC	300	350	400

*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	2.0
1/8 3.2	DCEP	135	2.9
5/32 4.0	DCEP	170	3.8
3/16 4.8	DCEP	250	5.9
1/4 6.4	DCEP	350	8.1

- 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	10-lb Can	50-lb Can
3/32 2.4	14 355	S125332-033	S125332-035
1/8 3.2	14 355	S125344-033	S125344-035
5/32 4.0	14 355	S125351-033	S125351-035
3/16 4.8	14 355	—	S125358-035
1/4 6.4	18 457	—	S125381-035

CONFORMANCES AND APPROVALS:

- AWS A5.5, E8018-C3 H4
- ASME SFA 5.5, F-4, A-10, E8018-C3 H4
- ABS, E8018-C3 H4
- MIL-DTL 22200/1 H (SH) (1/8" and 5/32" diameters)
- EN ISO 2560-A, E46 4 1Ni B 3 2 H5 (2.4 mm - 6.4 mm diameters)

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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