

Hobart® Maxal® 5183



AWS A5.10: ER5183, R5183

WELDING POSITIONS:



FEATURES:

- Very high strength (41 ksi typical)
- High ductility/toughness/fatigue strength
- Moderate formability
- Lower electrical conductivity and thermal conductivity

BENEFITS:

- Excellent corrosion resistance when welding 5083 base material
- Higher column strength/better feedability
- Very good color match after anodizing with 5xxx/6xxx base materials

APPLICATIONS:

- 5083 and lower strength alloys (40 ksi minimum UTS)
- Pressure vessels
- Shipbuilding
- Cryogenic tanks

SHIELDING GAS: 100% Argon (Ar) or Argon/Helium mixtures, typical: GMAW - 35-50 cfh (14-24 l/min)
GTAW - 20-30 cfh (10-14 l/min)

TYPE OF CURRENT: Direct Current Electrode Positive (DCEP) for GMAW, AC for GTAW

STANDARD DIAMETERS: 3/64" (1.2 mm)

STORAGE: Product should be stored in a dry, enclosed environment, and in its original intact packaging

TYPICAL CHEMICAL VALUES*:

Weld Metal Analysis (%)	ER & R 5183
Silicon (Si)	0.40
Iron (Fe)	0.40
Copper (Cu)	0.10
Manganese (Mn)	0.50-1.0
Magnesium (Mg)	4.3-5.2
Chromium (Cr)	0.05-0.25
Zinc (Zn)	0.25
Titanium (Ti)	0.15
Beryllium (Be)	<0.0003
Others Each	0.05
Others Total	0.15
Aluminum (Al)	Remainder

*Unless noted-single values are maximums.

TYPICAL MECHANICAL PROPERTIES:

Mechanical Tests	ER & R 5183	AWS Spec
Tensile Strength	41,000 psi (282 MPa)	40,000 psi (275 MPa)

TYPICAL PHYSICAL PROPERTIES:

Melting Range	Density	Electrical/Thermal Conductivity	Anodized Color	Elevated Temp. Applications +150°F (+66°C)
1075-1180°F (580-635°C)	0.096 lbs/in ³ (2.657g/cm ³)	29% IACS/810 EU	White	NO

*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 AWS A5.10 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)	Weld Position	Amps	Volts	Wire Feed Speed		Deposition Rate		CTWD	
				in/min	(m/min)	lbs/hr	(kg/hr)	Inches	(mm)
3/64" (1.2 mm)	All Position	180	21.4	400	(10.2)	10.5	(4.8)	5/8	(16)
3/64" (1.2 mm)	All Position	195	22.4	450	(11.4)	11.9	(5.4)	5/8	(16)
3/64" (1.2 mm)	All Position	210	23.3	500	(12.7)	13.2	(6.0)	5/8	(16)
3/64" (1.2 mm)	All Position	250	24.4	550	(14.0)	14.5	(6.6)	5/8	(16)
3/64" (1.2 mm)	All Position	260	24.5	600	(15.2)	15.8	(7.2)	5/8	(16)

Maintaining a proper welding procedure - including cleaning, oxide removal, pre-heat and interpass temperatures - may be critical depending on the type and thickness of aluminum being welded.

See Above: This information was determined by welding using 100%Argon shielding gas with a flow rate between 35-50 cfh (14-24 l/min).

AVAILABLE 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)	16-lb. (7.3 kg) Wire Basket	22-lb. (10 kg) Plastic Spool
Net Pallet Weight	1296-lb. (588 kg)	1782-lb. (808 kg)
3/64 (1.2)	518304712	518304712P22

CONFORMANCES AND APPROVALS:

- **AWS A5.10**, ER5183, R5183
- **ASME SFA 5.10**, ER5183, R5183
- **CWB**, ER5183 (0.9 mm - 1.6 mm), R5183 (3.2 mm)
- **ABS**, ER5183 (0.047" - 0.062"), R5183 (0.125")
- **CE Marked** per CPR 305/2011 (0.047")
- **DB**, EN ISO 18273-S Al 5183 (AlMg4,5Mn0,7)

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.

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

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