

# Hobart® Maxal® 4043



AWS A5.10: ER4043, R4043

## WELDING POSITIONS:



## FEATURES:

- Moderate strength (27 ksi typical)
- Low melting temperature/high fluidity
- Minimal welding smut and discoloration
- Low ductility, formability, and lower toughness
- Moderate electrical conductivity and thermal conductivity

## BENEFITS:

- Excellent corrosion resistance
- Low shrinkage rate/reduced distortion
- Low hot cracking sensitivity in most applications

## APPLICATIONS:

- Welding 1xxx, 3xxx, 5xxx with less than 3.0% Mg (example: 5052) & 6xxx series base metals
- Automotive/motorcycle frames
- Sports products - scooters/bicycles
- General repair and maintenance

**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:** 0.035" (0.9 mm), 3/64" (1.2 mm), 1/16" (1.6 mm), 3/32" (2.4 mm), 1/8" (3.2 mm), 5/32" (4.0 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 4043
Silicon (Si)	4.5-6.0
Iron (Fe)	0.8
Copper (Cu)	0.30
Manganese (Mn)	0.05
Magnesium (Mg)	0.05
Zinc (Zn)	0.10
Titanium (Ti)	0.20
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 4043	AWS Spec
Tensile Strength	27,000 psi (186 MPa)	24,000 psi (165 MPa)

## TYPICAL PHYSICAL PROPERTIES:

Melting Range	Density	Electrical/Thermal Conductivity	Anodized Color	Elevated Temp. Applications +150°F (+66°C)
1065-1170°F (575-630°C)	0.097 lbs/in <sup>3</sup> (2.685 g/cm <sup>3</sup> )	42% IACS/1050 EU	Gray	YES

\*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 in/min (m/min)	Deposition Rate lbs/hr (kg/hr)	CTWD Inches (mm)
0.035" (0.9 mm)	All Position	135	20.7	400 (10.2)	6.4 (2.9)	1/2 (13)
0.035" (0.9 mm)	All Position	145	21.3	450 (11.4)	7.2 (3.3)	1/2 (13)
0.035" (0.9 mm)	All Position	160	21.8	500 (12.7)	8.0 (3.6)	1/2 (13)
0.035" (0.9 mm)	All Position	165	22.0	550 (14.0)	8.8 (4.0)	1/2 (13)
0.035" (0.9 mm)	All Position	185	22.3	600 (15.2)	9.6 (4.3)	1/2 (13)
3/64" (1.2 mm)	All Position	180	21.4	300 (7.6)	7.9 (3.6)	1/2 (13)
3/64" (1.2 mm)	All Position	210	21.8	350 (8.9)	9.2 (4.2)	1/2 (13)
3/64" (1.2 mm)	All Position	225	22.4	400 (10.2)	10.5 (4.8)	1/2 (13)
3/64" (1.2 mm)	All Position	260	24.0	450 (11.4)	11.9 (5.4)	5/8 (16)
3/64" (1.2 mm)	All Position	270	24.3	500 (12.7)	13.2 (6.0)	5/8 (16)
1/16" (1.6 mm)	All Position	160	20.0	150 (3.8)	7.5 (3.4)	3/4 (19)
1/16" (1.6 mm)	All Position	210	21.0	200 (5.1)	10.0 (4.5)	3/4 (19)
1/16" (1.6 mm)	All Position	250	22.0	250 (6.4)	12.5 (5.7)	3/4 (19)
1/16" (1.6 mm)	All Position	295	23.0	300 (7.6)	15.1 (6.8)	3/4 (19)

**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)	1-lb. (0.45 kg) Plastic Spool	16-lb. (7.3 kg) Plastic Spool	16-lb. (7.3 kg) Wire Basket	22-lb. (10 kg) Plastic Spool	32-lb. (14.5 kg) Plastic Spool	100-lb. (45 kg) Drum	300-lb. (136 kg) Drum	10-lb. (4.5 kg) Box 36-in Length TIG Rod
Net Pallet Weight	1458-lb. (661 kg)	1296-lb. (588 kg)	1296-lb. (588 kg)	1782-lb. (808 kg)	2016-lb. (914 kg)	200-lb. (91 kg)	600-lb. (272 kg)	2160-lb. (980 kg)
0.035 (0.9)	404303504	404303512P	404303512	—	—	—	—	—
3/64 (1.2)	404304704	404304712P	404304712	404304712P22	404304714P	404304723L	404304723	—
1/16 (1.6)	—	—	404306212	404306212P22	—	—	404306223	404306270
3/32 (2.4)	—	—	—	—	—	—	—	404309470
1/8 (3.2)	—	—	—	—	—	—	—	404312570
5/32 (4.0)	—	—	—	—	—	—	—	404315670

300 lb drum dimensions: diameter = 23-1/2"; height = 36"

100 lb drum dimensions: diameter = 23-1/2"; height = 18"

## CONFORMANCES AND APPROVALS:

- **AWS A5.10**, ER4043, R4043
- **ASME SFA 5.10**, ER4043, R4043
- **CWB**, ER4043 (0.9 mm - 1.6 mm), R4043 (1.6 mm - 4.0 mm)
- **ABS**, ER4043 (0.035" - 0.062"), R4043 (0.062" - 0.156")
- **CE Marked** per CPR 305/2011 (0.035" - 0.156")
- **DB**, EN ISO 18273-S AL 4043 (AISI5)
- **AMS 4190** (Chemistry Limits 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](mailto: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](http://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](http://www.hobartbrothers.com).

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