



T H E H A R R I S P R O D U C T S G R O U P
A L I N C O L N E L E C T R I C C O M P A N Y
 4501 Quality Place • Mason, OH 45040 U.S.A Tel: 513-754-2000 Fax: 513-754-6015

TECHNICAL INFORMATION SHEET

4043 ALUMINUM WELDING WIRE & ROD

DESCRIPTION:

4043 is an aluminum/silicon filler metal designed for welding heat treatable base metals and is a common choice for welding 6061. 4043 offers good fluidity and less crack sensitivity than 5356 when welding 6000 series base metals. It is often used to for repair welding aluminum/silicon cast alloys such as grades 353/A356.

NOMINAL COMPOSITION:

Aluminum	BALANCE	Titanium	0.20 % max.
Magnesium	0.05 % max.	Copper	0.30 % max.
Manganese	0.05 % max.	Silicon	4.5-6.0 %
Beryllium	0.0008 % max.	Zinc	0.10 % max.
Others	Each 0.05% max.	Iron	0.80% max.
Total	0.15 % max.		

PHYSICAL/MECHANICAL PROPERTIES:

Solidus	1065 °F (574 °C)	Density lbs/cu in	0.097
Liquidus	1170 °F (632 °C)	Post Anodize Color	Gray

As Welded 6061 Base Plate

Tensile Strength	27,000 psi
Yield Strength	18,000 psi
Elongation in 2"	8%

SPECIFICATION COMPLIANCE:

ANSI/AWS A5.10 Class R/ER 4043, ASME SFA 5.10, QQ-R-566B, AMS 4190 (Chemistry Only)

RECOMMENDED WELDING PARAMETERS:

*GMAW (MIG)

(DC Reverse Polarity)

Electrode Positive Spray transfer

Metal Thickness	Wire Diameter	Amps	Volts	Argon
1/16"	.030	70-110	15-20	25
1/8"	.030-3/64	120-150	20-24	30
3/16"	.030-3/64	130-210	22-26	30-35
1/4"	3/64-1/16	170-225	24-28	40
	1/16	225-300	26-29	50

All statements, information and data given are believed to be accurate and reliable but are presented without guarantee, warranty or responsibility of any kind, expressed or implied.

Additional information available at our web site: www.harrisproductsgroup.com



***GTAW (TIG)**
(AC) hemisphere tip
shape tungsten
electrode

Thickness	Pure or zirconiated Tungsten	<u>Filler Wire</u> <u>Size</u>	Amps	Volts ACHF	Gas Cup	Argon (cfh)
1/16"	1/16"- 3/32"	1/16"-3/32"	70-100	15	3/8	20
1/8"	1/8"-5/32"	1/8"-5/32"	125-175	15	7/16	20
3/16"	5/32"-3/16"	5/32-3/16"	170-225	15	7/16-1/2	25
1/4	3/16"-1/4"	3/16"	220-275	15	1/2	30
3/8"	1/4"	3/16"-1/4"	330-380	15	5/8	35
1/2"	1/4"	1/4"	400-450	25	5/8	35

* All parameters are suggested as basic guidelines and will vary depending on joint design, number of passes and other factors.

WARNING: PROTECT yourself and others. Read and understand this information.

FUMES AND GASES can be hazardous to your health.

ARC RAYS can injure eyes and burn skin.

ELECTRIC SHOCK can KILL.

- Before use, read and understand the manufacturer's instructions, Material Safety Data Sheets (MSDSs), and your employer's safety practices.
- Keep your head out of fumes.
- Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.
- Wear correct eye, ear, and body protection.
- Do not touch live electrical parts.
- See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 550 N.W. LeJeune Road, Miami, Florida 33126; OSHA Safety and Health Standards, available from the U.S. Government Office, Washington, DC 20402

STATEMENT OF LIABILITY - DISCLAIMER

Any suggestion of product applications or results is given without representation or warranty, either expressed or implied. Without exception or limitation, there are no warranties of merchantability or of fitness for particular purpose or application. The user must fully evaluate every process and application in all aspects, including suitability, compliance with applicable law and non-infringement of the rights of others. The Harris Products Group and its affiliates shall have no liability in respect thereof.

All statements, information and data given are believed to be accurate and reliable but are presented without guarantee, warranty or responsibility of any kind, expressed or implied.

Additional information available at our web site: www.harrisproductsgroup.com