



**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 SPECIFICATION SHEET**

**1100\_Aluminum Weld Wire**

**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.

**NOMINAL COMPOSITION:**

|          |                |           |              |
|----------|----------------|-----------|--------------|
| Aluminum | 99.0 % min.    | Manganese | .05 % max.   |
| Copper   | .05 % .20%     | Zinc      | .10 % max.   |
| Silicon  | .95 % max. (2) | Beryllium | .0008 % max. |
| Iron     | .95 % max. (2) | Total     | .15 % max.   |
| Others   | Each .05% max. |           |              |

**PHYSICAL PROPERTIES:**

|                  |                              |                    |               |
|------------------|------------------------------|--------------------|---------------|
| Solidus          | 1190 0F (643 0C)             | Density lbs/cu in  | .098          |
| Liquidus         | 1215 0F (657 0C)             | Post Anodize Color | Slight Golden |
|                  | As Welded Base Plate of 3003 |                    |               |
| Tensile Strength | 16,000 psi                   | Elongation in 2"   | 24%           |
| Yield Strength   | 7,000 psi                    |                    |               |

**RECOMMENDED WELDING PARAMETERS:**

\* **GMAW(MIG) Parameters** (DC Reverse Polarity) Electrode Positive Spray transfer

| <u>Metal Thickness</u> | <u>Wire Diameter</u> | <u>AMPS</u> | <u>Volts</u> | <u>Argon (cfh)</u> |
|------------------------|----------------------|-------------|--------------|--------------------|
| 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                 |
| 3/8"                   | 1/16                 | 225-300     | 26-29        | 50                 |

\***GTAW(Tig) Parameters** (AC ) (1) Hemisphere tip shape tungsten electrode

| <u>Material (1)</u> | <u>Pure or Zirconiated</u> | <u>Filler Wire Size</u> | <u>Amps</u> | <u>Volts ACHF</u> | <u>Gas Cup</u> | <u>Argon (cfh)</u> |
|---------------------|----------------------------|-------------------------|-------------|-------------------|----------------|--------------------|
| 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.

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SPECIFICATION COMPLIANCE : ANSI/AWS A5.10 , ASME SFA 5.10 , QQ-R-566B Class R/ER 1100  
(2) QQ-R-566B = SILICON PLUS IRON SHALL NOT EXCEED 1.0%

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

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