AEROSPACE
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 4395

Issued 1-15-62
Revised

MAGNESIUM WIRE, WELDING
9Al - 2Zn (AZ92A)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily for use as filler metal for inert gas arc welding of magnesium alloys of similar composition, particularly where consistently high quality joints are mandatory.

3. COMPOSITION:

Aluminum	8.3 - 9.7
Zinc	1.7 - 2.3
Manganese	0.15 min
Silicon	0.05 max
Copper	0.05 max
Nickel	0.005 max
Iron	0.005 max
Other Impurities, total	0.30 max
Magnesium	remainder

4. CONDITION:

4.1 Unless otherwise specified, wire for cut lengths shall be extruded; for spooled wire, shall be extruded and sized. Wire shall be furnished on disposable spools for machine welding and in cut lengths for manual welding operations, as ordered.

4.2 Extruding compounds, oxides, and dirt shall be removed.

5. TECHNICAL REQUIREMENTS:

5.1 Welding: Melted wire shall flow smoothly and evenly during welding and shall be capable of producing acceptable welds.

5.2 Spooled Wire: Shall conform to the following unless otherwise agreed upon by purchaser and vendor.

5.2.1 Layer Winding: Wire shall be closely wound in layers but adjacent turns within a layer need not necessarily be touching; shall be wound so as to avoid producing kinks, waves, and sharp bends; and shall be free to unwind without restriction caused by overlapping or wedging. The outside end of the spooled wire shall be so treated that it may be readily located.

5.2.2 Wire on each spool shall be in one continuous length.

Printed in U. S. A.

6. QUALITY: Wire shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external imperfections detrimental to welding operations, operation of welding equipment, or properties of the deposited weld metal.

7. SIZES AND TOLERANCES: Unless otherwise specified, wire shall be supplied in the following sizes and to the tolerances shown:

7.1 Diameter:

Form	Nominal Diameter Inch	Tolerance, Inch Plus and minus
Cut lengths	0.062, 0.093, 0.125	0.007
Spools	0.030, 0.045, 0.062, 0.093, 0.125	0.002

7.2 Length: Unless otherwise specified, cut lengths shall be furnished in 36 in. lengths and shall not vary more than +0, -1 inch.

8. REPORTS:

8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product conforms to the requirements of this specification. This report shall include the purchase order number, lot number, material specification number, nominal size, and quantity.

8.2 Unless otherwise specified, when parts made of this wire or assemblies requiring the use of this welding wire are supplied, the part or assembly manufacturer shall inspect each lot of wire to determine conformance to this specification and shall furnish with each shipment three copies of a report stating that the wire conforms to the requirements of this specification. This report shall include the purchase order number, material specification number, part or assembly number, and quantity.

9. PACKAGING AND MARKING: Packaging shall be accomplished in such a manner as to ensure that the wire, during shipment and storage, will be protected against mechanical injury, contamination, and moisture.

9.1 Cut Lengths:

9.1.1 Wire shall be furnished in standard containers of approximately 1 or 5 lb net weight, as specified.

9.1.2 When specified, cut lengths shall be marked (Code 512), cleaned, and packaged in accordance with the latest issue of AMS 2815.

9.2 Spooled Wire:

9.2.1 Spools shall be of such materials and construction as to provide adequate strength and rigidity to prevent damage or distortion in normal handling and use, and to insulate the wire from the spindle.

9.2.2 Unless otherwise specified, spool dimensions shall conform to the appropriate dimensions shown in Fig. 1. Barrel diameter B shall be such as to permit proper feeding of the wire.