

# AEROSPACE MATERIAL SPECIFICATIONS

## AMS 2814A

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### PACKAGING OF WELDING WIRE Premium Quality

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** To assure cleanliness and freedom from corrosion of bare wire for welding.
3. **PACKAGING:** Wire shall be packaged in such a manner as to ensure that the wire, during shipment and storage, will be protected against mechanical injury, oxidation, corrosion, and contaminating substances detrimental to quality of welds. Packaging shall be performed in an atmosphere of sufficiently low humidity, depending upon the corrosion rate of the material, to ensure that wire will not be corroded during the packaging operation. Wire, after cleaning preparatory to packaging, shall not be handled with bare hands or unclean gloves.
  - 3.1 **Cut Lengths:** Unless otherwise specified in the wire specification or on the purchase order, not more than 40 lengths of wire shall be packaged in an envelope, or in each compartment of a multiple-compartment envelope. Unless otherwise specified, the weight of wire in each envelope or compartment shall be not greater than shown in the following table:

Weight of Wire, lb per Envelope or Compartment  
for Wire Diameters, Inch, Shown

Material	Up to	Over 0.035	Over 0.050	Over 0.080	Over 0.100	Over 0.190
	0.035, incl	to 0.050, incl	to 0.080, incl	to 0.100, incl	to 0.190, incl	
Aluminum, Magnesium, and Titanium	1.0	1.0	2.0	2.0	5.0	5.0
All Others	1.0	2.0	5.0	10.0	10.0	10.0

- 3.1.1 Envelopes shall be made of a material free from oil vapors or other substances detrimental to welding operations. Envelope material used in packaging wire which is susceptible to corrosion (e. g. , aluminum, magnesium) shall have a water vapor transmission rate lower than 0.05 g per 100 sq in. per 24 hr at 100 F (37.8 C) and 90% relative humidity. Envelopes shall be of sufficient strength to withstand normal handling; ends of wires may be capped to prevent puncturing the envelope. Envelopes may be purged with inert gas and this gas maintained as the atmosphere in the envelope and desiccants may also be added for further protection against oxidation and corrosion of the wire, as agreed upon by purchaser and vendor. Envelopes in which an inert gas atmosphere is used shall be heat sealed.

Section 8.3 of the SAE Technical Board rules provides that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no obligation to conform to or be guided by any technical report. In formulating and a patenting which may apply to the subject matter. Prospective users of the re

3.2 Spooled Wire:

- 3.2.1 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.
- 3.2.2 Unless otherwise specified, spool dimensions shall conform to the dimensions shown in Fig. 1 or Fig. 2, as applicable. Barrel outside diameter "B" shall be such as to permit proper feeding of the wire; barrel inside diameter "C" of Fig. 2 shall be such that swelling of the barrel or misalignment of the barrel and flanges will not prevent free assembly of the spool on a welding machine. Holes shall be provided in the flange at the surface of the hub and near the OD of the flange for the start and finish ends of the wire. These holes need not be in line.
- 3.2.3 Unless otherwise specified, wire shall be one continuous length, layer wound, and furnished on spools containing approximately the ordered net weight selected from the following table; up to 20% of the net weight of any lot in the shipment may be on spools containing not less than 50% of the ordered spool net weight. Welding to form a continuous length is not permitted unless performed prior to the final drawing operation.

Material	Spool Net Weight, lb
Aluminum	1, 10, 12-1/2
Magnesium	7, 14
Titanium	1, 10, 20
Copper	25, 50
Steels, Corrosion Resistant Alloys, and Refractory Metals	25, 35, 60

- 3.2.4 Unless otherwise specified, spooled wire shall be packaged in hermetically sealed containers with a desiccant or dry, inert atmosphere, or both. When specified, the hermetically sealed containers shall be so designed that they can be used for storage purposes after opening.
4. PACKING: Envelopes of cut lengths shall be packed in standard exterior shipping containers of approximately 5, 10, 50, or 100 lb, as ordered. Containers of spooled wire shall be packed in standard exterior shipping containers containing the ordered multiple of standard spool weights up to a maximum net weight of 120 pounds.

5. IDENTIFICATION:

5.1 Cut Lengths: Each envelope shall be imprinted with, or shall bear a label showing, the following information; if the envelope is made of a transparent material, the label may be inserted in the envelope:

\_\_\_\_\_ WIRE, WELDING  
 WIRE SPECIFICATION NUMBER \_\_\_\_\_  
 SIZE \_\_\_\_\_  
 QUANTITY \_\_\_\_\_  
 HEAT NUMBER (If Applicable) \_\_\_\_\_  
 MANUFACTURER'S IDENTIFICATION \_\_\_\_\_  
 WIRE IDENTIFICATION SPECIFICATION (AMS 2815 or AMS 2816) \_\_\_\_\_  
 CODE NUMBER (From AMS 2815 or AMS 2816) \_\_\_\_\_  
 DO NOT HANDLE WIRE WITH BARE HANDS OR UNCLEAN GLOVES.  
 OPEN ENVELOPES SHALL NOT BE RETURNED TO THE STOCKROOM.

5.2 Spooled Wire: Spools shall be marked as required by the applicable wire identification or material specification; one end of each spool container shall be permanently and legibly marked with the following information:

\_\_\_\_\_ WIRE, WELDING  
 WIRE SPECIFICATION NUMBER \_\_\_\_\_  
 SIZE \_\_\_\_\_  
 QUANTITY \_\_\_\_\_  
 HEAT NUMBER (If Applicable) \_\_\_\_\_  
 MANUFACTURER'S IDENTIFICATION \_\_\_\_\_  
 WIRE IDENTIFICATION SPECIFICATION (AMS 2815 or AMS 2816) \_\_\_\_\_  
 CODE NUMBER (From AMS 2815 or AMS 2816) \_\_\_\_\_  
 DO NOT HANDLE WIRE WITH BARE HANDS OR UNCLEAN GLOVES.  
 OPEN CONTAINERS SHALL NOT BE RETURNED TO THE STOCKROOM.

5.3 Exterior Shipping Containers: Each container of cut lengths and of spools shall be permanently and legibly marked with the following information:

\_\_\_\_\_ WIRE, WELDING  
 WIRE SPECIFICATION NUMBER \_\_\_\_\_  
 SIZE \_\_\_\_\_  
 QUANTITY \_\_\_\_\_  
 HEAT NUMBER (If Applicable) \_\_\_\_\_  
 PURCHASE ORDER NUMBER \_\_\_\_\_  
 MANUFACTURER'S IDENTIFICATION \_\_\_\_\_  
 WIRE IDENTIFICATION SPECIFICATION (AMS 2815 or AMS 2816) \_\_\_\_\_  
 PACKAGED PER AMS 2814

6. REJECTIONS: Wire not packaged in accordance with this specification or with authorized modifications will be subject to rejection.