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

AMS 6462B

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STEEL WIRE, WELDING
0.93Cr - 0.2V (0.28 - 0.33C) SAE 6130

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

2. APPLICATION: Primarily for use as filler metal for inert gas arc welding of non-critical weldments of low alloy steels where the joint is capable of being heat treated to 150,000 psi tensile strength.

3. COMPOSITION:

Carbon	0.28 - 0.33
Manganese	0.70 - 0.90
Silicon	0.20 - 0.35
Phosphorus	0.025 max
Sulfur	0.025 max
Chromium	0.80 - 1.10
Vanadium	0.15 - 0.25

3.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2259, paragraph titled "Low Alloy Steels".

4. CONDITION:

4.1 Unless otherwise specified, wire shall be cold drawn, bright finish, as drawn temper. Wire shall be furnished on disposable spools for machine welding and in cut lengths for manual welding operations, as ordered.

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

4.3 When specified, wire shall be copper flash coated and shall exhibit a thin, continuous, adherent copper coating.

5. TECHNICAL REQUIREMENTS:

5.1 Welding: Melted wire shall flow smoothly and evenly during welding and 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 Cast: Wire shall have imparted to it a curvature such that a specimen 6 - 8 ft in length, when cut from the spool and suspended freely from its approximate midlength, shall form a circle not less than 20 in. and not greater than 36 in. in diameter (See Fig. 1). If the curvature of the wire results in a coil of more than 1-1/2 turns, the excess shall be clipped off and the wire resuspended from its new approximate midlength.

5.2.2 Helix: A specimen cut and suspended as in 5.2.1 and measured between adjacent turns shall show a separation not greater than 4 in. (See Fig. 1).

5.2.3 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.

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 or Minus
Cut lengths	0.045, 0.062, 0.093, 0.125	0.003
Spools	0.030, 0.035, 0.045, 0.062, 0.093	0.001
Spools	0.007, 0.010, 0.015, 0.020	0.0005

7.2 Length: Cut lengths shall be furnished in 18, 27, or 36 in. lengths, as ordered, and shall not vary more than ± 1/4 in. from the length ordered.

8. REPORTS:

8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report of the results of tests for chemical composition of each heat in the shipment and a statement that the product conforms to the technical requirements of this specification. This report shall include the purchase order number, heat number, material specification number, nominal size, and quantity from each heat.

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. IDENTIFICATION: Unless otherwise specified, wire shall be identified in accordance with the latest issue of AMS 2816.

10. PACKAGING AND MARKING: Unless otherwise specified, wire shall be packaged and the packages marked in accordance with the latest issue of AMS 2813.

11. REJECTIONS: Material not conforming to this specification or to authorized modifications will be subject to rejection.

NOTE. SIMILAR SPECIFICATIONS: MIL-R-5632, Class 2, is listed for information only and shall not be construed as an acceptable alternate unless all requirements of this AMS are met.