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

AMS 5800A

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ALLOY WIRE, WELDING, CORROSION AND HEAT RESISTANT
Nickel Base - 19Cr - 11Co - 10Mo - 3.2Ti - 1.5Al
Vacuum Melted

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 corrosion and heat resistant alloys of similar composition.

3. COMPOSITION:

Carbon	0.12 max
Manganese	0.10 max
Silicon	0.50 max
Sulfur	0.015 max
Chromium	18.00 - 20.00
Cobalt	10.00 - 12.00
Molybdenum	9.00 - 10.50
Titanium	3.00 - 3.30
Aluminum	1.40 - 1.60
Boron	0.003 - 0.010
Iron	5.00 max
Nickel	remainder

3.1 Check Analysis: Composition variations shall meet the requirements of the latest issue of AMS 2269.

4. CONDITION: Cold drawn, solution heat treated, and descaled if necessary. Wire shall be furnished on disposable spools for machine welding or in cut lengths for manual welding, as ordered.

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 Cast: Wire shall have imparted to it a curvature such that a specimen 10 - 12 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.

5.3 Heat: Wire on each spool shall be one continuous length from the same heat of material. Cut lengths in any one package shall be from the same heat of material.

6. QUALITY: Material shall be produced by vacuum melting using induction or consumable electrode practice. 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	minus
Cut	0.030, 0.045, 0.062, 0.093, 0.125	0.003	0.003
Spools	0.062, 0.093	0.002	0.002
Spools	0.030, 0.035, 0.045	0.001	0.002
Spools	0.007, 0.010, 0.015, 0.020	0.0005	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.