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

AMS 4779

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Revised

BRAZING ALLOY
Nickel Base - 3.5Si - 1.8B

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

2. FORM: Powder, rod, wire, strip, or as ordered.

3. APPLICATION: Primarily for joining corrosion and heat resistant alloys where corrosion and oxidation resistant joints with good strength at high temperatures are required. Also used as a corrosion and oxidation resistant hard coating. Flows well in most reducing and neutral atmospheres.

4. COMPOSITION:

Carbon	0.06 max
Silicon	3.0 - 4.0
Nickel + Cobalt	92.0 - 94.0
Cobalt, if determined	1.0 max
Boron	1.0 - 2.2
Iron	1.5 max

4.1 In wire and strip, these requirements apply after removal of the plastic bonding material.

Note. For the above composition, the following approximate values are listed for reference:

Solidus	1800 F
Liquidus	1950 F

5. CONDITION: Unless otherwise specified, material shall be furnished in the following condition.

5.1 Powder: As fabricated.

5.2 Wire and Strip: Powder bonded in a suitable thermoplastic material.

5.3 Rod: As cast, with fins and projections removed.

6. TECHNICAL REQUIREMENTS:

6.1 Burn-Off of Plastic: The plastic used for bonding powder to form wire and strip shall burn off, leaving no undesirable residue, when material is heated to not higher than 1800 F.

6.2 Tensile Strength of Wire: Shall be not lower than 360 psi.

6.3 Metallic Content of Wire: The ratio of volume of metal to volume of plastic binder shall be the largest possible consistent with the technical requirements.

7. QUALITY: Material shall be uniform in color, quality, and condition, and free from foreign materials and from imperfections detrimental to its working qualities. Wire and strip shall be clean, sound, smooth, and free from splitting, ragged edges, damaged ends, and other injurious imperfections.

8. SIZES AND TOLERANCES: Unless otherwise specified, material shall be supplied in the following standard sizes and tolerances:

8.1 Powder: Shall be of such fineness that none of the material will be retained on a No. 120 screen and not less than 90% will pass through a No. 150 screen.

8.2 Wire: Shall be 1/32, 1/16, 1/8, or 3/16 in. nominal diameter. A tolerance of ± 0.004 in. will be allowed.

8.3 Strip: Shall be as agreed upon by purchaser and vendor.

8.4 Rod:

8.4.1 Diameter: Shall be as specified on the purchase order. Rods shall not vary more than ± 1/32 in. from the size ordered.

8.4.2 Concentricity: When long lengths are supplied as welded composites of cast lengths, the diameters of the adjacent sections shall be concentric within 1/32 inch.

9. REPORTS:

9.1 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 specified. This report shall include the purchase order number, material specification number, form and size, and quantity.

9.2 When parts made of this brazing alloy or assemblies requiring the use of this brazing alloy are supplied, the vendor of finished or semi-finished parts shall, unless otherwise specified, furnish with each shipment three copies of a report showing the purchase order number, this specification number, contractor or other direct supplier of brazing alloy, part number, and quantity. When brazing alloy for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of brazing alloy to determine conformance to the requirements of this specification, and shall include in the report a statement that the brazing alloy conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

10. IDENTIFICATION:

10.1 Material shall be identified as agreed upon by purchaser and vendor.