Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096

AEROSPACE MATERIAL SPECIFICATION

AMS 4780A
Superseding AMS 4780
Issued 6-30-62
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BRAZING FILLER METAL, MANGANESE

UNS M26800

66Mn - 16Ni - 16Co - 0.80B
1770° - 1875° F (965° - 1025° C) Solidus-Liquidus Range

1. SCOPE:

1.1 Form: This specification covers a manganese alloy in the form of powder.

1.2 Application: Primarily for joining corrosion and heat resistant steels and alloys where good ductility and moderate heat resistance are required.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM B214 - Sieve Analysis of Granular Metal Powders
ASTM E354 - Chemical Analysis of High-Temperature, Electrical, Magnetic, and Other Similar Iron, Nickel, and Cobalt-Base Alloys

2.3 Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.3.1 Federal Standards:

Federal Test Method Standard No. 151 - Metals; Test Methods

2.3.2 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

3. TECHNICAL REQUIREMENTS:

3.1 Composition: Shall conform to the following percentages by weight, determined by wet chemical methods in accordance with ASTM E354, by spectrographic methods in accordance with Federal Test Method Standard No. 151, Method 112, or by other analytical methods approved by purchaser:

	min	max
Carbon	--	0.06
Silicon	--	1.00
Ø Nickel	14.00	18.00
Cobalt	14.00	18.00
Boron	0.50	1.10
Other Elements, each (3.1.1)	--	0.10
Other Elements, total (3.1.1)	--	1.00
Manganese	remainder	

Ø 3.1.1 Determination not required for routine acceptance.

3.2 Condition: As fabricated.

3.3 Quality: Powder, as received by purchaser, shall be uniform in color, quality, and condition and free from foreign materials and from imperfections detrimental to its working qualities

3.4 Sizes and Tolerances: Powder shall be of such fineness that not more than a trace of powder will be Ø retained on a No. 120 sieve, not less than 90% will pass through a No. 140 sieve, and not more than 50% will pass through a No. 325 sieve, determined in accordance with ASTM B214.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of powder shall supply all samples and shall be Ø responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.4. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to ensure that the product conforms to the requirements of this specification.

4.2 Classification of Tests: Tests to determine conformance to all technical requirements of this Ø specification are classified as acceptance tests and shall be performed on each lot of powder.

4.3 Sampling: Shall be in accordance with the following; a lot shall be all product produced from a uniform Ø blend of powder produced from one or more furnace charges and presented for vendor's inspection at one time.

Ø 4.3.1 Composition: One sample from each lot.

Ø 4.3.2 Other Technical Requirements: As agreed upon by purchaser and vendor.

4.4 Reports:

4.4.1 The vendor of powder shall furnish with each shipment three copies of a report showing the results of tests on each lot to determine conformance to the composition requirements and stating Ø that the product conforms to the other technical requirements of this specification. This report shall include the purchase order number, lot number, material specification number and its revision letter, and quantity from each lot.