SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS 4184F

Issued MAY 1948
Revised JUL 2000
Cancelled OCT 2007

Superseded by AWS A5.8

Filler Metal, Aluminum Brazing
10Si - 4.0Cu (4145)

A94145

RATIONALE

AMS 4184E has been designated Cancelled and Superseded because equivalent technical requirements are provided by AWS A5.8 Class BAlSi-3.

CANCELLATION NOTICE

This specification has been declared “CANCELLED” by the Aerospace Materials Division, SAE, as of October, 2007, and has been superseded by AWS A5.8, BAlSi-3. The requirements of the latest issue of AWS A5.8, BAlSi-3 shall be fulfilled whenever reference is made to the cancelled AMS 4184E. By this action, this document will remain listed in the Numerical Section of the Index of Aerospace Material Specifications, noting that it has been superseded by AWS A5.8, BAlSi-3.

Cancelled specifications are available from SAE.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

1. SCOPE:

1.1 Form:

This specification covers an aluminum alloy in the form of wire, sheet, foil, pig, grains, shot, and chips.

1.2 Application:

This material has been used typically for joining aluminum by brazing, but usage is not limited to such applications.

2. APPLICABLE DOCUMENTS:

The issue of the following documents in effect on the date of the purchase order form a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been canceled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM B 660 Packaging/Packing of Aluminum and Magnesium Product
ASTM E 34 Chemical Analysis of Aluminum and Aluminum Alloys

2.2 ANSI Publications:

Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ANSI H35.2 Dimensional Tolerances for Aluminum Mill Products
ANSI H35.2(M) Dimensional Tolerances for Aluminum Mill Products (Metric)

3. TECHNICAL REQUIREMENTS:

3.1 Composition:

Shall conform to the percentages by weight shown in Table 1, determined by wet chemical methods in accordance with ASTM E 34, by spectrochemical methods, or by other analytical methods acceptable to purchaser.

TABLE 1 - Composition

Element	min	max
Silicon	9.3	10.7
Iron	--	0.8
Copper	3.3	4.7
Manganese	--	0.15
Magnesium	--	0.15
Zinc	--	0.20
Beryllium (3.1.1)	--	0.0008
Other Elements, each	--	0.05
Other Elements, total	--	0.15
Aluminum	remainder	

3.1.1 Beryllium 0.0008 maximum for welding electrode and welding rod only.

3.2 Condition:

Filler metal shall be furnished in the following condition:

3.2.1 Round Wire, Flattened and Slit Wire, and Sheet: Annealed.

3.2.2 Pig, Grains, Shot, and Chips: As fabricated.

3.2.3 Foil: As ordered.

3.3 Quality:

Filler metal, as received by purchaser, shall be uniform in quality and condition, sound, and free from foreign materials and from imperfections detrimental to usage of the filler metal.

3.4 Standard Sizes and Tolerances:

Filler metal shall be supplied in the following standard sizes and to the tolerances shown.

3.4.1 Round Wire: Shall conform to Table 2.

TABLE 2 - Tolerances, Round Wire

Nominal Diameters Inch	Nominal Diameters Millimeters	Tolerances, Plus and Minus Inch	Tolerances, Plus and Minus Millimeters
1/32	0.8	0.001	0.025
1/16	1.6	0.001	0.025
3/32	2.4	0.0015	0.038
1/8	3.2	0.0015	0.038
3/16	4.8	0.0015	0.038
1/4	6.4	0.0015	0.038

3.4.2 Flattened and Slit Wire: Cross-section 0.020 inch ± 0.001 x 2 inches ± 0.006 (0.51 mm ± 0.03 x 51 mm ± 0.15).

3.4.3 Sheet: Tolerances for nominal thicknesses 0.010, 0.015, and 0.020 inch (0.25, 0.38, and 0.51 mm) shall be as specified in ANSI H35.2 or ANSI H35.2M.

3.4.4 Foil: For coil widths up to 8 inches (203 mm):

3.4.4.1 For thickness 0.006 to 0.99 inch (0.15 to 2.51 mm) inclusive, thickness tolerance shall be ±0.0010 inch (0.025 mm).

3.4.4.2 For thickness 0.0059 and under, thickness tolerance shall be +15% of the nominal thickness.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection:

The vendor of filler metal shall supply all samples for vendor's tests and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the filler metal conforms to the specified requirements.

4.2 Classification of Tests:

All technical requirements are acceptance tests and, except for composition, shall be performed on each lot.