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

AEROSPACE MATERIAL SPECIFICATION

AMS 4750B
Superseding AMS 4750A
Issued 2-13-40
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SOLDER, TIN-LEAD
45Sn - 55Pb

1. SCOPE:

1.1 Form: This specification covers a tin-lead solder in the form of wire, strip, bars, and pigs.

1.2 Application: Primarily for bit soldering or sweating joints in plain, tinned, or galvanized iron or steel, copper, and copper alloys.

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 E46 - Chemical Analysis of Lead- and Tin-Base Solder Metal

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 E46, by spectrographic methods in accordance with Federal Test Method Standard No. 151, Method 112, or by other approved analytical methods:

	min	max
Tin	44.00 - 45.00	
Antimony	--	0.40
Bismuth	--	0.25
Copper	--	0.08
Iron	--	0.02
Zinc	--	0.005
Aluminum	--	0.005
Other Elements, total (3.1.1)	--	0.08
Lead	remainder	

3.1.1 Determination not required for routine acceptance.

3.2 Melting Range: Shall be 361° - 441°F (183° - 227°C).

3.3 Quality: Solder shall be uniform in color, clean, and free from foreign materials and from oxide segregation.

3.4 Size and Tolerances: Shall be as specified by the purchaser.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of solder shall supply all samples and shall be 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 solder conforms to the requirements of this specification.

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to composition (3.1), quality (3.3), and size and tolerance (3.4) requirements are classified as acceptance tests.

4.2.2 Periodic Tests: Tests to determine conformance to melting range requirements are classified as periodic tests.

4.3 Sampling: Shall be in accordance with the following; a lot shall be all solder produced in a single furnace charge and presented for vendor's inspection at one time.

4.3.1 Composition: One sample from each lot.

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

4.4 Reports:

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