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

AEROSPACE MATERIAL SPECIFICATION

AMS 4713B
Superseding AMS 4713A
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UNS C27000

BRASS WIRE
65Cu - 35Zn (CDA 270)
Eighth-Hard

1. SCOPE:

1.1 Form: This specification covers one type of brass in the form of wire.

1.2 Application: Primarily for cold-headed parts such as pins and rivets.

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 2224 - Tolerances, Copper and Copper Alloy Wire
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 B250 - General Requirements for Wrought Copper-Alloy Wire
ASTM E8 - Tension Testing of Metallic Materials
ASTM E36 - Chemical Analysis of Brasses

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 Specifications:

MIL-C-3993 - Copper and Copper-Base Alloy Mill Products, Packaging of

3. TECHNICAL REQUIREMENTS:

3.1 Composition: Shall conform to the following percentages by weight, determined by wet chemical methods in accordance with ASTM E36, by spectrographic methods in accordance with Federal Ø Test Method Standard No. 151, Method 112, or by other approved analytical methods:

	min	max
Copper	63.00 -	68.50
Lead	--	0.10
Iron	--	0.07
Zinc	remainder	

3.2 Condition: Cold-drawn or cold-rolled, eighth-hard temper.

3.3 Properties: Wire shall conform to the following requirements:

3.3.1 Tensile Strength: Shall be 50,000 - 65,000 psi (345 - 448 MPa), determined in accordance Ø with ASTM E8.

3.4 Quality: Wire, as received by purchaser, shall be uniform in quality and condition, sound, and Ø free from foreign materials and from internal and external imperfections detrimental to usage of the wire.

3.5 Tolerances: Unless otherwise specified, tolerances shall conform to AMS 2224 as applicable to nonrefractory alloys.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of wire shall supply all samples and shall be responsible Ø 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 wire 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.

Ø 4.3 Sampling: Shall be in accordance with ASTM B250.

4.4 Reports:

4.4.1 The vendor of wire shall furnish with each shipment three copies of a report showing the results of tests on each lot to determine conformance to the technical requirements of this specification. This report shall include the purchase order number, lot number, material specification number and its revision letter, nominal size, and quantity.

4.4.2 The vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number and its revision letter, contractor or other direct supplier of wire, part number, and quantity. When wire for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of wire to determine conformance to the requirements of this specification, and shall include in the report a statement that the wire conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

4.5 Resampling and Retesting: If any specimen used in the above tests fails to meet the specified requirements, disposition of the wire may be based on the results of testing three additional ø specimens for each original nonconforming specimen. Failure of any retest specimen to meet the specified requirements shall be cause for rejection of the wire represented and no additional testing shall be permitted. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY:

5.1 Wire shall be supplied on spools or in coils except when straight lengths are ordered.

5.2 Identification:

5.2.1 Spools and Coils: Shall be marked with a durable tag or label showing the manufacturer's identification, purchase order number, AMS 4713B, nominal size, and quantity; boxes or drums shall be marked with the same information.

5.2.2 Straight Lengths: Shall have attached to each bundle or enclosed in each box a durable tag or label marked with the information of 5.2.1; when boxed, the box shall be marked with the same information.

5.3 Packaging:

5.3.1 Spools and Coils: Coils shall be individually wrapped with waterproof paper or packed in waterproof drums. Spools, when ordered, shall be boxed.

5.3.2 Straight Lengths: Shall be bundled or boxed.

5.3.3 Wire shall be prepared for shipment in accordance with commercial practice and in compliance ø with applicable rules and regulations pertaining to the handling, packaging, and transportation of the wire to ensure carrier acceptance and safe delivery. Packaging shall conform to carrier rules and regulations applicable to the mode of transportation.

5.3.4 For direct U.S. Military procurement, packaging shall be in accordance with MIL-C-3993, ø Level A or Level C, as specified in the request for procurement. Commercial packaging as in 5.3.3 will be acceptable if it meets the requirements of Level C.