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400 Commonwealth Dr., Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

Submitted for recognition as an American National Standard

AMS 4507F

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Superseding AMS 4705E

BRASS SHEET, STRIP, AND PLATE
70Cu - 30Zn
Half Hard (H02)

UNS C26000

1. SCOPE:

1.1 Form: This specification covers one type of brass in the form of sheet, strip, and plate.

1.2 Application: Primarily for stampings.

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

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2222 - Tolerances, Copper and Copper Alloy Sheet, Strip, and Plate
MAM 2222 - Tolerances, Metric, Copper and Copper Alloy Sheet, Strip, and Plate
AMS 2350 - Standards and Test Methods

2.2 ASTM Publications: Available from ASTM, 1916 Race Street, Philadelphia, PA 19103.

ASTM B248 - General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip, and Rolled Bar
ASTM B248M - General Requirements for Wrought Copper and Copper-Alloy Plate, Sheet, Strip and Rolled Bar (Metric)
ASTM E8 - Tension Testing of Metallic Materials
ASTM E8M - Tension Testing of Metallic Materials (Metric)
ASTM E18 - Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials
ASTM E478 - Chemical Analysis of Copper Alloys

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

2.3.1 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, Ø determined by wet chemical methods in accordance with ASTM E478, by spectrochemical methods, or by other analytical methods acceptable to purchaser:

	min	max
Copper	68.50	71.50
Lead	--	0.07
Iron	--	0.05
Zinc + Sum of Named Elements (3.1.2)	99.7	--
Zinc (3.1.1)	remainder	

3.1.1 Applicable when zinc is not determined by analysis. The reported Ø (certified) value is the difference between the sum of all other specified elements and 100% and will, therefore, include unnamed elements. Limits for unnamed elements may be established by agreement between purchaser and manufacturer.

3.1.2 Applicable only when zinc is determined by direct analysis. Ø

3.2 Condition: Cold rolled, half-hard (HO2) temper (See 8.2).

3.3 Properties: The product shall conform to the following requirements:

3.3.1 Tensile Strength: Shall be 57,000 - 67,000 psi (393 - 462 MPa), determined in accordance with ASTM E8 or ASTM E8M.

3.3.2 Hardness: Should be 56 - 68 HR30T, or equivalent, determined in accordance with ASTM E18, but the product shall not be rejected on the basis of hardness if the tensile strength requirement is met.

3.4 Quality: The product, 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 product.

3.5 Tolerances: Shall conform to AMS 2222 or MAM 2222 as applicable to non-refractory alloys.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the product shall supply all samples for vendor's tests 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 sample and to perform any confirmatory testing deemed 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 specification are classified as acceptance tests and shall be performed on each lot.

4.3 Sampling: Shall be in accordance with ASTM B248 or ASTM B248M.

4.4 Reports: The vendor of the product shall furnish with each shipment a report showing the results of tests to determine conformance to the chemical composition and other technical requirements of this specification. This report shall include the purchase order number, lot number, AMS 4507F, size, and quantity.

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

5. PREPARATION FOR DELIVERY:

5.1 Identification: The product shall be identified as in 5.1.1 unless line marking as in 5.1.2 is specified by purchaser.

5.1.1 Each sheet, strip, and plate shall be marked near one end, coils being marked near the outside end, with AMS 4507F, lot number, manufacturer's identification, and nominal thickness, using any suitable marking fluid. As an alternative method, individual pieces or bundles shall have attached a durable tag marked with the above information or shall be boxed and the box marked with the same information.

5.1.2 When specified by purchaser, each sheet, strip, and plate shall be marked on one face, in the respective location indicated below, with AMS 4507F, lot number, manufacturer's identification, and nominal thickness. The characters shall be of such size as to be legible, shall be applied using a suitable marking fluid, and shall be removable in hot alkaline cleaning solution without rubbing. The markings shall have no deleterious effect on the product or its performance and shall be sufficiently stable to withstand normal handling. The specification number, manufacturer's identification, and nominal thickness shall be continuously line marked; the lot number may be included in the line marking, or may be marked at one location on each piece.

5.1.2.1 Flat Strip 6 Inches (152 mm) and Under in Width: Shall be marked in one or more lengthwise rows of characters recurring at intervals not greater than 3 feet (914 mm).

5.1.2.2 Flat Sheet, Flat Strip Over 6 Inches (152 mm) in Width, and Plate: Shall be marked in lengthwise rows of characters recurring at intervals not greater than 3 feet (914 mm), the rows being spaced not more than 6 inches (152 mm) apart and alternately staggered.

5.1.2.3 Coiled Sheet and Strip: Shall be marked near both the outside and inside ends of the coil; the markings shall be applied as in 5.1.2 or shall appear on a durable tag or label attached to the coil and marked with the information of 5.1.2. When the product is wound on cores, the tag or label may be attached to the core.

5.2 Packaging:

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

5.2.2 For direct U.S. Military procurement, packaging shall be in accordance with MIL-C-3993, Level A or Level C, as specified in the request for procurement. Commercial packaging as in 5.2.1 will be acceptable if it meets the requirements of Level C.

6. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS: Product not conforming to this specification, or to modifications authorized by purchaser, will be subject to rejection.

8. NOTES:

8.1 Marginal Indicia: The phi (Ø) symbol is used to indicate technical changes from the previous issue of this specification.

8.2 Copper temper designations are defined in ASTM B601.