AEROSPACE MATERIAL SPECIFICATION

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Superseding AMS-STD-185

Identification Marking of Copper and Copper Base Alloy Mill Products

RATIONALE

AMS-STD-185A stabilizes this document because it is not used by other AMS documents. Federal specifications that referenced this document have been replaced by ASTM documents.

STABILIZATION NOTICE

AMS-STD-185A has been declared "STABILIZED" by AMS Committee D. This document will no longer be updated and may no longer represent standard industry practice. The last technical update of this document occurred in September 2000. Users of this document should refer any certification issues (e.g. exceptions listed on the certification report) to the cognizant engineering organization for their disposition. CAUTION: In many cases the purchaser is not the cognizant engineering organization (i.e. purchaser may be a sub tier supplier).

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NOTICE

This document has been taken directly from U.S. Military Specification Federal Standard 185A, and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace Federal Standard 185A. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

1. GENERAL:

1.1 Purpose:

The purpose of this standard is to provide uniform physical item identification marking of copper and copper-base alloy mill products for the government activities.

1.2 Scope:

This standard establishes the physical item marking requirements for identification purposes for copper and copper-base alloy mill products procured and issued for government activities. Shipment and inspection acceptance markings are not within the scope of this standard.

1.3 Application: The marking specified herein applies to direct shipment for government activities and applies also where specified to contracts or orders between the manufacturer and the government prime contractor. (See 4.1.)

2. DEFINITIONS AND MARKING TERMS:

2.1 Definitions:

Definitions of commodity forms and shapes shall be those commercially acceptable to the Copper and Copper-base Alloy Mill Products Industry and in common use in the industry.

2.2 Marking terms:

Marking terms as used in this standard are defined as follows:

2.2.1 Producer's name or trademark: The producer's name or registered trademark used shall be that of the producer which performs the final processing or finishing operation prior to marketing the product.

2.2.2 Condition designator: The physical condition designator is that designator of temper or other physical condition as indicated by a product specification or as approved by a nationally recognized industrial association such as the Copper Development Association.

2.2.3 Specification data: Specification data shall include:

a. Product specification number. (Base number only not including the letter suffix appended to this number to indicate latest revision.)
b. Nominal composition or alloy designation.
c. Temper designation.

3. GENERAL REQUIREMENTS:

3.1 Marking information:

Physical item identification marking requirements and application thereof to copper and copper-base alloy mill products shall be in accordance with table I, when this standard is specified in the material specification, contract, or order.

TABLE I. Marking information

Subject to the limitations of column (4), markings showing producer's name or trademark, condition designator and the information indicated in column (2) by X, and/or column (3) by number shall be printed, stamped, or otherwise legibly marked on the product. Where tags are specified all the required markings shall be shown thereon.

(1) Item	(2) Symbol Or type	(3) Dimensions: (1) Thickness (2) Diameter (3) Wall thickness	(4) Application Of Markings
(1) Rod: Round hexagonal, and octagonal (see item 8).	--	--	On rod: (a) 1 inch or more in diameter. (b) 1 inch or more in width of flat. (c) Over 3 feet in length. Markings to be in recurring intervals not greater than 3 feet throughout the length. Rod with any dimension less than the above: (d) When packed in containers shall have one tag inside the container (e) When packed in secured lifts or bundles shall be tagged in two places, one inside and one outside the bundle.
(2) Flat products: Flat wire, strip, sheet, bar plate (see item 8). (a) Straight lengths	--	(1)	On flat products in straight lengths: (a) 0.020 inch and over in thickness (b) 6 inch to 12 inch inclusive in width and in length over 3 feet. (c) Over 12 inch in width and in lengths over 1 foot. Markings shall appear on one surface at recurring intervals not greater than 3 feet along one lengthwise edge for material 6 to 12 inch inclusive in width, and two length- wise edges for material over 12 inch in width. Flat products with any dimensions less than the above: (d) When packed in containers shall have one tag inside the container.

TABLE I. Marking information (Cont'd)

(1) Item	(2) Symbol Or type	(3) Dimensions: (1) Thickness (2) Diameter (3) Wall thickness	(4) Application Of Markings
			(e) When packed in secured lifts or bundles shall be tagged in two places, one inside and one outside the bundle.
(b) Flat circles	--	(1)	On flat circles: (a) 0.020 inch and over in thickness (b) Over 12 inch in diameter Marking to be shown one place on the product Flat circles with any dimensions less than the above: (a) When packed in containers shall have one tag inside the container.
(3) Flat products: Flat wire, strip, bar, and sheet (see item 8). In rolls or on bucks or reels.	--	(1)	On flat products in rolls or on bucks or reels: (a) 6 inch and over in width Marking to be in a single row across the end of the product and a tag, label or tape with the required marking to be secured in the center of the rolls or attached to the bucks or reels. Flat products less than 6 inch in width in rolls, or on buck or reels: (b) When packed in containers or individual units shall have one tag inside the container or attached to the unit. (c) When packed in secured lifts or bundles shall be tagged in two places, one inside and one outside the bundle.
4. Tubular products: Straight lengths (see item 8) (a) Miscellaneous tubular products: Round, rectangular or polygonal except items (b), (c), (d), (e), (f), and (g) listed below			On miscellaneous tubular products and tube for salt water service in straight lengths. (a) 1 inch or more in outside diameter. (b) 1 inch or more in width of flat (c) Over 3 feet in length. Markings to be in recurring intervals not greater than 3 feet throughout the length.

TABLE I. Marking information (Cont'd)

(1) Item	(2) Symbol Or type	(3) Dimensions: (1) Thickness (2) Diameter (3) Wall thickness	(4) Application Of Markings
(b) Tube for salt water service			Tube with any dimension less than the above: (d) When packed in containers shall have one tag inside the container. (e) When packed in secured lifts or bundles shall be tagged in two places, one inside and one outside the bundle.
(c) Pipe, SPS, regular and extra strong	X	--	On pipe: Producer's name or trademark, type and composition marking in recurring intervals not greater than 3 feet throughout the length shall be the only required markings.
(d) Pipe, threadless, copper	X	--	On threadless pipe, water and drainage tube:
(e) Copper water tube	X	--	Producer's name or trademark and type, in recurring interval, not greater than 3 feet throughout the length shall be the only required markings.
(f) Copper drainage tube	X	--	
(g) Condenser and heat exchanger tube	--	--	On condenser and heat exchanger tube: Product marking not required.
(5) Tubular products: Coiled lengths (see item 8) (a) Miscellaneous round tubular product except items (b), (c), and (d) listed below	--	(2) (3)	On miscellaneous tubular products in coiled lengths: One tag, label or tape with the required markings shall be attached to each coil
(b) Copper water tube	X	--	On water tube: Producer's name or trademark and type in recurring intervals not greater than 3 feet throughout the length shall be the only required markings.
(c) Refrigeration service tube, copper	--	(2)	On refrigeration and utility tube: When individually packaged, the markings shall be on the package.
(d) Utility general purpose tube, copper	--	(2)	When not individually packed one tag, label or tape with required markings shall be attached to each coil.

TABLE I. Marking information (Cont'd)

(1) Item	(2) Symbol Or type	(3) Dimensions: (1) Thickness (2) Diameter (3) Wall thickness	(4) Application Of Markings
(6) Shapes or shaped tube (other than round, rectangular or polygonal) (see item 8)	--	--	On shapes or shaped tube: (a) Having a flat or approximately flat surface 1 inch or more in width. (b) Over 3 feet in length. Markings to be shown near an end of the product. Shapes with any dimension less than the above: (a) When packed in containers shall have one tag inside the container. (b) When packed in secured lifts or bundles shall be tagged in two places, one inside and one outside the bundle.
7. Wire: In coils or on reels	--	(2)	Wire in coils: Marking to be on a tag or label attached to the coil. Wire on reels: Markings to be on a label, wrapper, or tag attached to the unit.
8. Forgings, forging blanks or slugs, arms components (discs, cups, cases, jackets, etc.), bushings, short tube blanks, tube for microwave use, seamless copper tube for torpedo use, tube for primer bodies, rotating band blanks, and similar items.	--	--	On forgings, etc: Product marking not required.

3.2 Legibility:

Physical item marking on copper and copper-base alloy mill products shall be legible and of such characteristics as to resist effacement by contact incident to normal handling, shipment, and storage.

3.3 Deleterious effect:

Reasonable precaution shall be exercised in the physical item identification marking of copper and copper-based alloy mill products so that the marking will not be deleterious to the functioning of those products in their normal use.