INCH-POUND

MIL-DTL-15024F 28 November 1997 SUPERSEDING MIL-P-15024E 29 January 1993

DETAIL SPECIFICATION

PLATES, TAGS, AND BANDS FOR IDENTIFICATION OF EQUIPMENT, GENERAL SPECIFICATION FOR

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

- 1.1 <u>Scope</u>. This performance specification covers the physical characteristics of plates, tags and bands (identification devices) used for identification of equipment. Examples of information to be marked on the identification devices are covered in the applicable specification sheets.
- 1.2 <u>Classification</u>. Identification devices will be one of the following types, as specified (see 6.2):

Type A Etched or chemically engraved plate

Type B Engraved plate

Type C Stamped plate

Type D Cast plate

Type E Screen or litho print plate

Type F Laminated plate

Type G Adhesive-backed plate Type H Photosensitive plate

Type J Tag

Type K1 Cable Band

Type K2 Cable Band (Heat shrinkable)

Type L Laser generated plate

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Air Warfare Center Aircraft Division, Code 414100B120-3, Highway 547, Lakehurst, NJ 08733-5100, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 9905

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2. APPLICABLE DOCUMENTS

2.1 <u>General</u>. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 <u>Specifications, standards, and handbooks</u>. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specification and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

P-C-437	-	Cleaning Compound, High Pressure (Steam) Cleaner.
GG-P-455	-	Plates and Foils, Photographic, (Photosensitive, Anodized
		Aluminum).
QQ-A-250/1	-	Aluminum 1100, Plate and Sheet.
QQ-A-250/8	-	Aluminum Alloy 5052, Plate and Sheet.

DEPARTMENT OF DEFENSE

MIL-P-19834	-	Plate, Identification, Metal Foil, Adhesive Backed.
MIL-M-43719	-	Marking Materials and Markers, Adhesive, Elastomeric,
		Pigmented, General Specification for.
MIL-M-81531	-	Marking of Electrical Insulating Materials.
MIL-C-87937	-	Cleaning Compound, Aerospace Equipment.

(See supplement 1 for list of specification sheets.)

STANDARDS

FEDERAL

FED-STD-191 - Federal Standard for Textile Test Methods.

FED-STD-595 - Colors Used in Government Procurement.

DEPARTMENT OF DEFENSE

MIL-STD-130 - Identification Marking of U.S. Military Property.

MIL-STD-202 - Test Methods for Electronic and Electrical Component Parts.

HANDBOOKS

DEPARTMENT OF DEFENSE

MIL-HDBK-454 - General Guidelines for Electronic Equipment.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.3 <u>Non-Government publications</u>. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM-B36	-	Brass Plate, Sheet, Strip, and Rolled Bar, Standard
		Specification for.
ASTM-B117	-	Operating Salt Spray (Fog) Apparatus, Standard Practice for
		(DoD adopted).
ASTM-D523	-	Specular Gloss, Standard Test Method for (DoD adopted).
ASTM-D709	-	Laminated Thermosetting Materials, Standard Specification
		for (DoD adopted).
ASTM-G21	-	Determining Resistance of Synthetic Polymeric Materials to
		Fungi, Standard Practice of (DoD adopted).

(Applications for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

AMERICAN NATIONAL STANDARDS INSTITUTE

ANSI-Z1.4 - Sampling Procedures and Tables for Inspection by Attributes (DoD adopted).

(Application for copies should be addressed to the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.)

2.4 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for related specification sheets), the text of this document shall take precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

- 3.1 <u>Specification sheets</u>. The individual item requirements shall be specified herein and in accordance with the applicable specification sheet. In the event of any conflict between the requirements of this specification and the specification sheet, the latter shall govern.
- 3.2 <u>Marking format and information</u>. The marking format and information shall be as specified in the applicable specification sheet. For an application not specifically covered by a specification sheet, the acquiring activity shall specify the legend and the identification device location in the contract or order.
- 3.2.1 <u>Identification plates</u>. Identification plates shall be used on the types of equipment specified in the applicable specification sheet. When an identification plate cannot be installed due to the physical size, space, or mounting surface geometry of the end item, the contractor shall propose a reduced size for the plate, direct marking or other solution to the acquiring activity, in that order or precedence. The contractor shall include all required marking information, and shall use the required format and sequencing of the marking information (see 6.2).
- 3.2.1.1 Additional marking information. Additional marking information consists of information that is not required by the contract or order. The information may be added sometime after initial manufacture. Types A, B, C, D, F (having a thickness greater than 0.03 inch), and H, J, and L identification devices may be permanently stamped with additional information. When additional information is stamped on the plate or tag, the characters shall be not less than 0.003-inch deep unless specified in the specification sheet. Additional marking information need not be filled.
- 3.2.2 <u>Information plates</u>. When specified in the contract or purchase order, proposed information plates shall be submitted to the acquiring activity (see 6.2).
- 3.2.3 <u>Fillings of markings</u>. Characters on types A, B, and C plates shall be filled with a hard paint, enamel or lacquer of the color specified (see 6.2). Fillings of markings with paint, enamel or lacquer may be omitted for color styles III, VIII and IX (see table I) if color anodized material is used. The face of identification devices shall be coated with a moisture-resistant coating when markings are filled or when preservation of a finish is required. Laminated non-metallic

identification devices engraved through one lamination to show a contrasting color, do not require filling of the character or a protective coating.

Style	Bac	kground	Characters				
	Color	FED-STD-595 color number	Color	FED-STD-595 color number			
I	White	37875	Black	37038			
II	Black	37038	White	37875			
III	Black	37038	Natural	-			
IV	Natural	-	Black	37038			
V	Olive Drab	24084	White	37875			
VI	Red	21105	White	37875			
VII	Yellow	23655	Black	37038			
VIII	Red	21105	Natural	-			
IX	Orange	12197	Natural	-			

TABLE I. Color styles. 1/

- <u>1</u>/ When plates are designed with blank spaces or pads upon which additional marking will be added at a later time, the background and the color requirements do not apply to the pads or characters marked thereon.
- 3.2.4 <u>Characters</u>. Except for identification devices smaller than size 1 in table II, the size of the characters shall be not less than 3/32-inch in height. Nomenclature characters shall be not less than 3/16-inch in height. MIL-STD-130 provides guidance on characters.
- 3.2.5 <u>Permanency and legibility</u>. Marking shall be permanent and legible. MIL-STD-130 is a standard for permanency and legibility.
 - 3.3 General physical properties.
 - 3.3.1 Materials.
- 3.3.1.1 <u>Materials for identification devices</u>. Identification devices shall be made of a fungus inert material which shall withstand the same environmental and cleaning conditions as the item to which the device is attached. Paints, fillers, coatings, and adhesives used shall not show any evidence of fungus. The plate material shall be selected from materials which provide optimum compatibility with the end item surface over its entire range of operating environments. Flammable materials shall not be used. The contractor shall select the materials, but the materials

shall meet the operational and environmental requirements specified herein and in the applicable specification sheet. The following material lists are provided for guidance:

- a. Brass (Commercial) (ASTM-B36) or bronze.
- b. Corrosion resistant steel.
- c. Aluminum alloy (QQ-A-250/1 and QQ-A-250/8).
- d. Plastic.

Other materials may be used if the requirements of this document are met. Recommended materials for each type of identification device are listed in 3.4 and subparagraphs.

TABLE II. <u>Identification device sizes</u>. <u>1</u>/ <u>2</u>/

Size number	Length	Width	Diameter of holes	Number of holes	Hole center to	Hole cente	er spacing			
					edge	Length	Width			
1	2	3/4	1/8	2	1/8	1-3/4				
3	2	2	1/8	4	1/8	1-3/4	1-3/4			
4	3	1	1/8	2	1/8	2-3/4				
5	3	2	1/8	4	1/8	2-3/4	1-3/4			
6	3	3	1/8	4	1/8	2-3/4	2-3/4			
7	4	1-1/2	1/8	2	1/8	3-3/4				
8	4	2	1/8	4	1/8	3-3/4	1-3/4			
9	4	3	1/8	4	1/8	3-3/4	2-3/4			
10	4	4	1/8	4	3/16	3-5/8	3-5/8			
12	5	3	5/32	4	3/16	4-5/8	2-5/8			
14	5	5	5/32	4	3/16	4-5/8	4-5/8			
17	6	4	5/32	4	3/16	5-5/8	3-5/8			
19	6	6	5/32	4	3/16	5-5/8	5-5/8			
21	7	3	5/32	4	3/16	6-5/8	2-5/8			
23	7	5	5/32	4	3/16	6-5/8	4-5/8			
25	7	7	5/32	4	3/16	6-5/8	6-5/8			
Other	As approved by the acquiring activity									

- 1/ All dimensional units are in inches.
- 2/ Tolerances shall be specified by the acquiring activity.

- 3.3.1.2 <u>Recycled, recovered, or environmentally preferable materials</u>. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.
- 3.3.2 <u>Color style</u>. The background and character color of the identification device shall comply with the requirements of the applicable specification sheet and with the color styles in table I (see 6.2). When a color style is not specified for identification devices used on electronic equipment, style III shall be used. The color numbers of FED-STD-595 shall be used as a color comparison when anodic coatings and finishes are used other than paint, enamel, lacquer, or varnish.
- 3.3.2.1 Opacity. The opacity of the paint and ink used for marking shall completely cover the background color.
- 3.3.3 <u>Finishes</u>. All front surfaces shall be matte, satin (line), or semi-gloss, as the type of material or finish thereon permits.
- 3.3.3.1 Gloss. The surfaces of non-metallic plates shall have a specular gloss of 25 ± 10 , except that adhesive backed type F plates may be designated as lusterless with a gloss of 6 or less, or gloss with a specular gloss of 40 or more (see 4.3.1.10).
- 3.3.4 <u>Plate size</u>. The size of the identification device shall be as specified in the specification sheet. When the size is not specified, a size compatible with the equipment on which the identification device will be attached shall be used (see 6.2). For plates with dimensions given in table II, the number, size, and location of mounting holes shall comply with the guidance contained in table II. Plates using an adhesive for mounting shall not have mounting holes. Sizes for type G plates may be other than the sizes given in table II.
- 3.4 <u>Specific physical properties</u>. The following information is provided for guidance in selecting materials used for the different types of identification devices. Where detail specifications are listed, it is for guidance and materials of similar properties may be used.
 - 3.4.1 Type A.
 - 3.4.1.1 <u>Materials</u>. The following materials are recommended, but are not mandatory:
 - a. Brass.
 - b. Corrosion resistant steel.
 - c. Aluminum alloy.

- 3.4.1.2 <u>Marking method</u>. Characters shall be either sunken or relief etched. Etched areas should be filled with the appropriate color (see 3.2.3).. Fillings of markings with paint, enamel, or lacquer may be omitted for color anodized aluminum plates meeting color styles III, VIII, and IX. Plates that are relief etched (characters in relief) should have a border in relief. Additional information may be permanently stamped.
- 3.4.1.3 <u>Dimensions</u>. Etched areas shall be not less than 0.003-inch deep except that color anodized plates (which are not filled) should be etched to the depth necessary to produce clear, legible characters. The thickness of type A plates shall be not less than 0.03 inch.
 - 3.4.2 Type B.
 - 3.4.2.1 <u>Materials</u>. The following materials are recommended, but are not mandatory:
 - a. Brass.
 - b. Corrosion resistant steel.
 - c. Aluminum alloy.
 - d. Plastic (type NDP opaque and fungus resistant in accordance with ASTM-D709).
- 3.4.2.2 <u>Marking method</u>. All characters shall be engraved in the plate. Engraving in metal plates shall be filled with the desired color of opaque filler. Additional information may be permanently stamped except for type B plastic plates.
- 3.4.2.3 <u>Dimensions</u>. Engraving shall be uniform in depth for characters of the same size. The engraving shall be not less than 0.008-inch deep. In plastic plates, the depth shall ensure uniform penetration of the cover (top layer). Line widths shall be not less than 1/8 or more than 1/5 of the related character heights. The thickness of type B plates shall be not less than 0.03 inch.
 - 3.4.3 <u>Type C</u>.
 - 3.4.3.1 <u>Materials</u>. The following materials are recommended, but are not mandatory:
 - a Brass
 - b. Corrosion resistant steel.
 - c. Aluminum alloy.

- 3.4.3.2 <u>Marking method</u>. All characters shall be marked on the plate by stamping. Additional information may be permanently stamped.
- 3.4.3.3 <u>Dimensions</u>. Characters shall be not less than 0.003-inch deep. The thickness of type C plates shall be not less than 0.03 inch.
 - 3.4.4 <u>Type D</u>.
- 3.4.4.1 <u>Materials</u>. Type D plates shall be of cast metal. Cast brass or bronze of commercial quality is recommended, but not mandatory.
- 3.4.4.2 <u>Marking method</u>. All characters shall be raised above the body of the plate and shall be smooth and free from burrs and sharp edges. The balance of the plate shall have a roughened or stippled finish. Additional information may be permanently stamped on raised pads provided for this purpose.
- 3.4.4.3 <u>Dimensions</u>. Characters shall be raised not less than 0.03 inch. The thickness of type D plates shall be specified in the contract or purchase order (see 6.2). When it is not specified in the specification sheet, the thickness may be the manufacturer's standard.
 - 3.4.5 <u>Type E</u>.
 - 3.4.5.1 <u>Materials</u>. The following materials are recommended, but are not mandatory:
 - a. Brass.
 - b. Corrosion resistant steel.
 - c. Aluminum alloy.
 - d. Plastic.

Type E plates may be fabricated from a MIL-M-43719 Type I adhesive backed film adhered to aluminum alloy sheet conforming to QQ-A-250/8. Type E plates shall only be used in areas protected from the environment.

- 3.4.5.2 <u>Marking method</u>. Marking shall be applied by litho printing, or screen. A protective coating of compatible fungus-resistant, moisture-resistant clear varnish may be applied over the marking.
 - 3.4.5.3 Dimensions. The thickness of the plate shall be not less than 0.03 inch.

3.4.6 <u>Type F</u>.

- 3.4.6.1 <u>Materials</u>. Type F plates shall be made from a laminated, transparent, non-metallic material
- 3.4.6.2 <u>Marking method</u>. Characters shall be included between the laminations and shall be clearly visible through a transparent outer layer. Additional information may only be permanently stamped on type F plates with a thickness of 0.03 inch or greater (see 3.2.1.1).
- 3.4.6.3 <u>Dimensions</u>. Fasteners shall only be used on type F plates with a thickness greater than 0.03 inch. For plates using adhesives, the thickness shall be not less than 0.006 inch or be not greater than 0.025 inch.

3.4.7 <u>Type G</u>.

- 3.4.7.1 <u>Materials</u>. Material shall be an adhesive backed metal foil. Materials listed in MIL-P-19834 are recommended, but not mandatory. Other materials may be used if they meet the requirements of this document.
- 3.4.7.2 <u>Marking method</u>. All characters shall be integrated into the plate. Whatever process (screening, anodizing, chemical etching, or photographic process) is used, the device shall meet the durability requirements for the application. Additional information may be added by a typewriter or serializing device which will not break through the foil or produce an impression or raised surface which would affect the adhesive qualities of the plate.

3.4.8 <u>Type H</u>.

- 3.4.8.1 <u>Materials</u>. Photosensitive, anodized aluminum alloy in accordance with GG-P-455 shall be used except the thickness shall be as specified in 3.4.8.3. Plates may be mounted by fastener devices or by an adhesive.
- 3.4.8.2 <u>Marking method</u>. Characters shall be integrated into the material by using compounds. Type H plates, subjected to sunlight and high temperatures, shall use a silver compound that is fade resistant. Additional marking information may be permanently stamped (see 3.2.1.1).
- 3.4.8.3 <u>Dimensions</u>. The thickness of type H plates shall be not less than 0.02 inch for plates using fasteners. For plates using adhesives, the thickness shall be not less than 0.012 inch and not greater than 0.025 inch.

3.4.9 Type J.

- 3.4.9.1 <u>Materials</u>. The following materials are recommended, but not mandatory:
- a. Plastic.
- b. Aluminum.
- c. Corrosion resistant steel.

Plastic tags shall be black or white.

- 3.4.9.2 Marking. All characters shall be permanently stamped in the tag.
- 3.4.9.3 <u>Dimensions</u>. The thickness of the tag shall be not less than 0.03 inch. Unless otherwise specified in the applicable specification sheet, the length and width of the tag shall be governed by the amount of data to be marked and the dimensions of the item to be identified.
- 3.4.9.4 <u>Mounting</u>. Mounting provisions shall be as specified in the contract or purchase order (see 6.2).
 - 3.4.10 Types K1 and K2.
- 3.4.10.1 <u>Materials</u>. Type K1 bands shall be a non-metallic material which will meet or exceed the operating and environmental requirements of the cable on which it is used. Material shall be compatible with the cable jacket material on which it is used. Unless otherwise specified, type K1 bands shall be black or white. Type K1 may use a metallic material when specified in the applicable specification sheet. Type K2 bands shall be a heat-shrinkable tubing. Unless otherwise specified, type K2 bands shall be yellow.
- 3.4.10.2 <u>Marking method</u>. All characters shall be permanently stamped. MIL-M-81531 provides one method.
- 3.4.10.3 <u>Dimensions</u>. The size of the cable band shall be as specified in the applicable specification sheet. When no size is specified, the size shall be determined by the information to be marked and the size of the cable to be identified. The thickness of K1 non-metallic cable bands shall be not less than 0.010 inch.
 - 3.4.11 Type L.
- 3.4.11.1 <u>Materials</u>. Materials used for type L plates shall meet the requirements of this document as determined by the acquiring activity.

- 3.4.11.2 <u>Marking method</u>. All characters shall be permanent using best commercial practices for laser engraving.
- 3.5 <u>Environmental</u>. Identification devices covered by this specification shall be capable of passing the tests specified in 4.3
- 3.6 <u>Workmanship</u>. The manufacture of the identification devices covered by this specification shall be representative of the best commercial practices and shall conform to the specification for the type involved.

4. VERIFICATION

- 4.1 <u>Classification of inspection</u>. When specified in the contract or purchase order, the inspection requirements specified herein are classified as conformance inspections (see 4.1.1).
- 4.1.1 <u>Conformance inspection</u>. Identification devices shall meet or exceed the test requirements specified herein but the tests need not be performed unless specified in the contract or purchase order. When testing is specified, the following shall apply (see 6.2).
- 4.1.2 <u>Lot</u>. All identification devices of the same type, style and size offered for delivery at one time shall be considered a lot for purposes of inspection.
- 4.1.3 <u>Sampling for examination</u>. A random sample of identification devices shall be selected from each lot in accordance with ANSI-Z1.4 inspection level III (see 6.2).
- 4.1.4 <u>Sampling for tests</u>. A random sample of identification devices shall be selected from a lot in accordance with ANSI-Z1.4 inspection level S-4. Tests shall be as specified in 4.3, completed for the initial lot, and once every six months (see 6.2).
- 4.2 <u>Examination</u>. Each of the sample items, selected per 4.1.3, shall be examined for compliance with the requirements of this document. Examination shall be conducted as specified in table III. Any item in the sample containing one or more defects shall be rejected.
- 4.3 <u>Test procedure</u>. Each of the samples of a specific type selected in accordance with 4.1.4 shall be subjected to all of the tests specified in table IV for that type. A completely marked item shall be considered a unit of product for testing purposes. Test specimens of adhesive backed plates and types K1 and K2 bands shall be secured to a replica of the surface on which they will be mounted, or the cable to which they will be attached during normal use. If any sample fails to conform to any test, the lot represented by the sample shall be rejected (see 6.2).
- 4.3.1 <u>Deterioration</u>. Deterioration tests shall consist of the tests specified in 4.3.1.1 through 4.3.1.11. Evidence of flaking, peeling, dissolving, distorting, softening, presence of oxidation,

discoloration, or visible evidence of fungus shall constitute a failure. Slight discoloration or fading of anodized colors which do not exhibit a deleterious effect on legibility is permissible.

TABLE III. Classification of Defects.

Categories	Defects
Major:	
101	Finish blistered, flaked, peeled, chipped, cracked, softened, or not as specified.
102	Burred, slivered, splintered, split, delaminated, or injurious to personnel.
103	Incorrect color.
104	Illegible.
105	Inscription or description does not conform to specification sheet or contract requirements.
106	Materials not as specified.
107	Dimensions do not meet requirements.

- 4.3.1.1 <u>Temperature test</u>. The finished item shall be tested in accordance with MIL-STD-202, Method 107, Condition B, for three cycles.
- 4.3.1.2 <u>Moisture resistance test</u>. The finished item mounted to a test surface shall be tested in accordance with MIL-STD-202, Method 106.
- 4.3.1.3 <u>Solvent resistance test</u>. The finished item mounted to a test surface shall be tested in accordance with MIL-STD-202, Method 215. The face of the plate shall be brushed.
- 4.3.1.4 <u>Salt spray test</u>. The finished item mounted to a test surface shall be tested in accordance with ASTM-B117.

TABLE IV. Test methods.

:	Fungus	4.3.1.11	X	×	77	×	×	×	77	77	×	×	77	77	
	Specular	gloss 4.3.1.10			2/			×	2/	2/			2/		
	Thermal	shock 4.3.1.9			2/			×	2/	2/			2/	77	supplier.
	Abrasion Cleaning	4.3.1.8	×	×	2/	×	×	×	2/	2/	×	×	2/		ty and the
1/3/	Abrasion	resist 4.3.1.7	×	×	2/	×	×	:			×	×		77	Testing shall be determined by the acquiring activity and the supplier.
Applicable tests $1/3$	Flam	4.3.1.6	-		77				2/	2/			77	/2/	y the acqui
Appli	Weather	4.3.1.5	×	×		×		×	2/	2/	×	×			termined b
	Salt	spray 4.3.1.4	×	×		×	×				×	×			shall be der
	Solvent	resist 4.3.1.3	×	×	77	×		×	2/	2/	×	×	2/	2/	Testing s
	Moisture	resist 4.3.1.2	×	×	7 <u>7</u>	×		×	2/	2/	×	×	2/	2/	
	Temp	4.3.1.1	×	×		×					×	×			
Type			A	В		၁	Q	田		H	H	ŗ		K1,	T

NOTES: 1/Unless otherwise specified, X denotes tests apply to a metallic material. 2/These apply if a non-metallic material is used. 3/Type G plates shall be tested using the tests in MIL-P-19834.

- 4.3.1.5 <u>Weather test</u>. The finished item mounted to a test surface shall be exposed to a flaming carbon arc with a distance of approximately 18 inches for a period of 50 hours. The carbon used shall operate on a current between 50 to 60 amperes. A water spray shall be adjusted to spray the identification device for approximately 20 minutes of each two hours of exposure.
- 4.3.1.6 <u>Flammability test</u>. MIL-HDBK-454, Guideline 3, provides guidance on how to determine the flammability of the finished item. Type F adhesive backed plates shall be laminated to a self-extinguishing backing plate to a total thickness of 0.03 inch or greater for testing purposes.
- 4.3.1.7 <u>Abrasion resistance tests</u>. The abrasion test shall be in accordance with FED-STD-191, Method 5306, using a standard abrasion apparatus with CS-17 calibrase wheels and 1,000-gram loading. The test shall consist of 500 cycles.
- 4.3.1.8 <u>Cleaning resistance test</u>. The finished item shall withstand the effects of cleaning agents applied by cold stream process, hose, brush, and hand-wipe for a period of one minute. The cleaning agents of P-C-437 and MIL-C-87937 shall be used for this test.
- 4.3.1.9 <u>Thermal shock for non-metallic items</u>. Non-metallic items shall not exhibit chipping, peeling, cracking, shrinking or other damage when tested in accordance with MIL-STD-202, Method 107, Condition A.
- 4.3.1.10 <u>Gloss for non-metallic items</u>. Specular gloss testing of non-metallic items shall be in accordance with ASTM-D523 to determine conformance with 3.3.3.1.
- 4.3.1.11 <u>Fungus test</u>. The finished item, mounted to a test surface, shall be tested in accordance with ASTM-G21 with a visual reading of zero "0".

5. PACKAGING

5.1 <u>Packaging</u>. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

- 6.1 <u>Intended use</u>. The plates, tags, and bands covered by this specification are intended to identify electrical, electronic, or mechanical equipment; or when required for the installation, use, operation, or maintenance of these equipment items.
 - 6.2 <u>Acquisition requirements</u>. Acquisition documents must specify the following:
 - a. Title, number, and date of this specification.
 - b. Type of identification device (see 1.2).
- c. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- d. Required marking information, required format and required redundancy of information (see 3.2.1).
 - e. Color of filler (see 3.2.3).
 - f. Color style (see 3.3.2).
 - g. Specific size of identification device, if applicable (see 3.3.4).
 - h. Thickness of Type D plates (see 3.4.4.3).
 - i. Mounting provisions (see 3.4.9.4).
 - j. If testing is required (see 4.1.1).
 - k. Sampling for examination (see 4.1.3).
 - 1. Sampling for testing (see 4.1.4).
 - m. Criteria for lot acceptance or rejection (see 4.3).
 - n. Packaging requirements (see 5.1).
 - 6.3 Subject term (key word) listing.

Engraved

Etched

Laminated plastic

Metal foil

Photosensitive

Stamped

6.4 <u>Changes from previous issue</u>. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL

(Project 9905-0333)

Custodians: Preparing activity: Army - MI Navy - AS

Navy - AS

Review activities:

Air Force - 99

Army - AV, ME

Navy - OS, TD

Air Force - 16, 84

DLA - GS