

L-P-387a
October 29, 1963
SUPERSEDING
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July 1, 1963

FEDERAL SPECIFICATION

PLASTIC SHEET, LAMINATED, THERMOSETTING (FOR DESIGNATION PLATES)

This specification was approved by the Commissioner, Federal Supply Services, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the basic plastic material used in the fabrication of designation plates, including charts and instruction plates.

1.2 Classification.

1.2.1 Types. Laminated thermosetting plastic material shall be of the following types, as specified (see 6.1):

Type GCP-F--Flexible, stampable.
Type GCP-H--Heat-resistant.
Type NDP--For engraving.
Type HSP--Heat-resistant, for surface marking.

2. APPLICABLE SPECIFICATIONS AND STANDARDS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

Federal Specifications:

PPP-B-636--Box, Fiberboard.
PPP-B-640--Boxes, Fiberboard, Corrugated, Triple, Wall.

Federal Standards:

Fed. Std. No. 102--Preservation, Packaging, and Packing Levels.
Fed. Std. No. 123--Marking for Domestic Shipment (Civilian Agencies).
Fed. Test Method Std. No. 406--Plastics: Methods of Testing.
Fed. Std. No. 595--Colors.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications, Standards, and Handbooks and at the prices indicated to the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C.)

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional

Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, and Auburn, Wash.)

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications, Standards, and Handbooks from established distribution points in their agencies.)

Military Specifications:

MIL-L-3891 -- Luminescent Material and Equipment (Nonradioactive).

MIL-M-3935 -- Markers, Self-Luminous.

MIL-C-4996 -- Coating Compound, Luminescent, Phosphorescent.

MIL-E-15090 -- Enamel, Equipment Light Gray (Formula No. 111).

MIL-L-25142 -- Luminescent Material Fluorescent.

FSC 9330

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Military Standards:

MIL-STD-105 -- Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129 -- Marking for Shipment and Storage.

(Copies of Military specifications, standards, and drawings required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Material. The material shall consist of suitable bases or fillers properly impregnated and bonded with thermosetting resin compounds or binders, laminated and processed to conform to this specification.

3.1.1 Uniformity. All sheets of corresponding thickness of a given type of any laminator shall be uniform in texture, finish, and specified properties.

3.1.2 Surface defects. The material shall be free from blisters, wrinkles, or cracks, and reasonably free from other small defects such as scratches, dents, heat marks etc. Edges, drilled holes, and machined, milled, or ground faces of laminated material shall be smooth and shall be present a neat appearance.

3.1.3 Marking. Each full size sheet shall be legibly marked with the manufacturer's name or trademark and the type. A method of marking that will permit the designation of the material even after the original piece has been cut is preferred. The method of marking shall be satisfactory to the bureau or agency concerned.

3.1.4 Property values. The material shall conform to the property values shown in table I.

TABLE I.—Property values

Property to be tested	Conditioning (see 4.6)	Units of value	Thickness (inch)	Value required for each type			
				GCP-F	GCP-II	NBP	HSP
Warp and twist	A	Maximum percent	All	3	3	3	3
Water absorption	{ Precondition at E-1/105; condition at D ₁ -24/23.	Maximum percent	1/32	10.0	8.5	—	7.0
			3/64	10.0	5.5	—	7.0
			1/16	7.0	4.0	2.5	4.0
			3/32	6.0	3.0	2.0	3.0
			1/8	5.0	2.5	1.5	2.4
			3/16	3.5	1.7	1.4	2.1
			1/4	2.7	1.4	—	1.7
Stability	{ See 4.5.3.1	Maximum percent	All	10.0	1.5	1.5	1.3
	{ See 4.5.3.2		All	10.0	1.5	1.5	1.5
Delamination	See 4.5.4.2	Maximum	All	1	1	1	1
Flexural strength tested flatwise	A	Minimum, pounds per square inch	1/32 to 1/4, inclusive ...	12,000	12,000	13,500	10,000
Wear resistance	A	Minimum percent of initial gloss	All	85	50	60	50
Flammability (burning rate)	A	Inch per minute	1/16 to 1/4, inclusive ...	1.5	2	2	1.0
Flexibility	{ E-1/2/75 .....	.....	All	1	—	—	—
	{ E-1/2/23		All	1	—	—	—
	{ E-1/2/0		All	1	—	—	—
Machinability	A .....	.....	All	1	1	1	1

¹ No delamination, discoloring, blistering, pitting, or deterioration.

² Self-extinguishing.

³ No cracking.

⁴ No cracking, splitting, chipping, chattering, or flaking.

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3.2 Dimensions and tolerances.

3.2.1 Length and width. Unless otherwise specified, the laminator's standard sizes between 24 and 96 inches in length and between 24 and 96 inches in width will be acceptable. The length and width of sheets may vary 1 inch over or under the laminator's standard size. Nonuniform standard sheet dimensions caused by cutting specimens for tests required by this specification shall not be cause for rejection, unless particular dimensions are specified. (See 6.1.)

3.2.1.1 When smaller pieces are to be cut from standard size sheets, the permissible variations from the specified length or width shall be as shown in table II.

TABLE II.--Permissible variations in length or width

Length or width (inches)	Permissible variation (+/-)
	Inch
6 and under.....	0.0103
Over 6 to under 24.....	.015
24 and over.....	1/32

3.2.2 Thickness. The material shall be furnished in the nominal thickness shown in table III, as specified. (See 6.1.) At least 90 percent of the area of the sheet shall be within the tolerances specified and at no point shall the thickness as measured vary from the nominal thickness by a value greater than 125 percent of the permissible variation.

TABLE III.--Thickness

Nominal thickness		Type HSP	Permissible variation (+/-)
Types GCP-F and GCP-H	Type NDP		
Inch	Inch	Inch	Inch
1/32	--	1/32	0.0065
3/64	--	3/64	.0075
1/16	*1/16	1/16	.008
3/32	3/32	3/32	.009
1/8	1/8	1/8	.0125
3/16	3/16	3/16	.0125
1/4	--	1/4	.015

* Not available in 5-ply construction.

3.3 Types GCP-F and GCP-H.

3.3.1 Primary characteristics. The material shall consist of a laminated construction having printed graphs, charts, instructions, etc., included between the laminations. The printed matter shall be clearly legible through a transparent outer layer. The material shall be furnished opaque or translucent as specified (See 6.1.) In translucent material the printed matter shall be clearly legible by illumination from the rear. In both

translucent and opaque material the printed matter shall be clearly legible by reflected light. The material shall be furnished in the colors specified (see 6.1), black printing on white background and white printing on black background being usual. The surface finish shall be satin, dull or matte finish, as specified. (See 6.1.)

3.3.1.1 Type GCP-F material shall be such that it can be easily stamped.

3.4 Type NDP.

3.4.1 Primary characteristics. Type NDP shall be laminated material suitable for engraving, and shall be furnished opaque or translucent as specified (see 6.1). The opaque material shall consist either of a white core or two white subcores and a black center core laminated on both sides with a black, red, willow green or light gray cover sheet, or of a black core laminated on both sides with a white, yellow, or light gray cover sheet or of a black core laminated on one side with a white cover sheet on the other side with a light gray cover sheet. The translucent material shall consist of a translucent sheet laminated with an opaque cover sheet on one side. The legend, after engraving, shall be clearly legible either by reflected light or by illumination from the rear. Translucent material shall be furnished with white, blue, willow green or red translucent sheets, and with black, light gray, or other approved color cover sheet. Cover sheets, cores and translucent material shall be furnished in such colors as specified (see 6.1), and the surface finish shall be dull unless otherwise specified. The colors shall conform to the following:

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Color	Match standard color chip
White.....	27875 of Fed. Std. No. 595.
Light Gray.....	Class 2 of MIL-E-15090.
Black.....	27038 of Fed. Std. No. 595.
Red.....	21105 of Fed. Std. No. 595.
Yellow.....	23538 of Fed. Std. No. 595.
Willow green.....	14187 of Fed. Std. No. 595.
Blue.....	15123 of Fed. Std. No. 595.

3.4.2 Thickness of laminations. The thickness of the outer layer shall be not more than 0.10 inch for paper-base materials and not more than 0.022 inch for fabric-base materials.

3.5 Type HSP--primary characteristics. Unless otherwise specified, type HSP material shall consist of a laminated construction, furnished black opaque. The surface shall be such that the marking may be applied by lithographing, by the silk screen or similar process, or by direct etching, stamping, or engraving, with the depressed portions filled in with a white enamel. The surface finish shall be satin dull, or matte finish, as specified (See 6.1)

3.6 Luminescent markings. When luminescent markings are required for particular applications (see 6.1), the quality of the luminescent material shall be in accordance with Specification MIL-L-3891 or MIL-M-3935, for the Army and Navy; in accordance with Specification MIL-L-25142 or MIL-C-4996, for the Air Force, as applicable.

4. SAMPLING, INSPECTION, AND TEST PROCEDURES

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification, where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Sampling for quality conformance inspection. Sampling for quality conformance inspection shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated hereinafter. For purposes of sampling, an inspection lot for examination and tests shall consist of all material of the same type, finish, color and thickness submitted for delivery at one time.

4.3 Inspection of the end item.

4.3.1 Examination of the end item. Examination of the end item shall be made in accordance with the classification of defects, inspection levels and acceptable quality levels (AQLs) set forth hereinafter. The lot size, for purpose of determining the sample size in accordance with MIL-STD-105, shall be expressed in units of plastic sheets for examination in 4.3.1.1 and 4.3.1.2 and in units of shipping containers for examination in 4.3.1.3.

4.3.1.1 Examination of the item for defects in appearance and color. The sample unit for the examination specified in table VI shall be one plastic sheet.

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TABLE IV.--Examination of the end item for defects in appearance and color

Examine	Defect
Appearance and workmanship	Any blisters, wrinkles, cracks, scratches, dents, or heat marks. Ragged or rough edges or sides. Surface not made to a smooth or even finish. Imbedded particles such as grit or other foreign matter.
Laminations	Number and color of laminations not as specified or required.
Type GCP-F and GCP-H	Printed charts, graphs, instructions, etc., between laminations, not as specified or required. Printed matter not clearly legible as required.
Type NDP	Core and laminations not as specified; color not as required.
Markings	Not legibly marked with manufacturer's name or trademark, and the type, as specified (see 3.1.3 and 3.6).

4.3.1.2 Examination of the end item for defects in dimensions. The sample unit for the examination specified in table V shall be one plastic sheet.

TABLE V.--Examination of the end item for defects in dimensions

Examine	Defect
Sheets:	
Standard size sheets	Length or width varies by more than +/- 1 inch from size specified (unless greater tolerance is permitted by the contract or order).
Cut sheets	Length or width varies by more than +/- the tolerance specified in table I.
Thickness of fabricated	Varies by more than +/- the applicable tolerance specified in table II.
Thickness of outer layer of laminations (type NDP)	More than thickness specified (see 3.4.2).

4.3.1.3 Examination of the end item for defects in preparation for delivery. An examination in accordance with table VI shall be made to determine that the packaging, packing and marking comply with the requirements of section 5 of this specification. The sample unit for this examination shall be one shipping container, fully packed, selected just prior to the closing operation. Shipping containers fully prepared for delivery shall be examined for closure defects.

TABLE VI.--Examination of the end item for defects in preparation

Examine	Defect
Packaging	Individual sheets not packaged as specified. Packaging material not as specified.
Packing	Not in accordance with contract requirements. Container not as specified, closures not accomplished by specified or required methods of materials.

Count	Inadequate application of components; such as incomplete closures of container flaps, loose or inadequate strappings, bulged or distorted containers.
Weight	Less than specified or indicated quantity.
Markings	Gross weight exceeds specified requirements.
	Interior or exterior markings (as applicable) omitted, illegible, incorrect, incomplete or not in accordance with contract requirements (see 5.3).

4.3.1.4 Inspection levels and acceptable quality levels (AQLs) for examinations. The inspection levels for determining the sample size, and the acceptable quality levels (AQLs) expressed in defects per 100 units, shall be as follows:

Examination paragraph	Inspection level	AQL
4.3.1.1	I	1.5
4.3.1.2	L-5	2.5
4.3.1.3	L-4	4.0

4.4 Testing of the end item. The end item shall be tested for the applicable characteristics as indicated in table VII from each lot presented for examination. The sample unit shall be one sheet. The inspection level for determining the sample size for test shall be L-2, except that no less than three sample units shall be randomly selected throughout the lot. The

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acceptable quality level (AQL) shall be 6.5, expressed in defects per 100 units. The lot size shall be expressed in units of plastic sheets of the specified type and color.

TABLE VII.--Instructions for testing

Characteristic	Specification reference		Requirements applicable to individual units	Number determinations per sample unit	Results reported as	
	Requirement	Test Method			Pass or fail ^{L1J}	Numerically to nearest ^{L2J}
Property values...	3.1.4					
Warp and twist....	Table I	4.6.1	X	1	--	0.1 percent
Water absorption..	Table I	4.6.2	X	Avg. of 3	--	.01 percent
Stability.....	Table I	4.6.3	X	Avg. of 3	--	.01 percent
Delamination.....	Table I	4.6.4	X	2	X	--
Flexural strength, tested flatwise..	Table I	4.6.5	X	Avg. of 3	--	100 psi
Mar resistance....	Table I	4.6.6	X	3	--	0.1 percent
Flammability (burning rate):...						
Types GCP and HSP inch/min.	Table I	4.6.7	X	Avg. of 3	--	0.1 inch/min.
Types CGP-H and NDP.....	Table I	4.6.7	X	3	X	--
Flexibility (Type. Type GCP-F).....	Table I	4.6.8				
Conditioned at 75 deg. C.....			X	3	X	--
Conditioned at 25 deg. C.....			X	3	X	--
Conditioned at 0 deg. C.....			X	3	X	--
Machinability.....	Table II	4.6.9	X	10	X	--

^{L1J} If failure is indicated report either description of failure or numerical point of failure, as applicable.

^{L2J} Test reports shall include all values on which average results are based.

4.5 Conditioning.

4.5.1 Nomenclature. The following letters shall be used to indicate the respective general conditioning procedures:

Condition A--As received, no special conditioning.

Condition D--Immersion conditioning in distilled water.

Condition E--Temperature conditioning.

Note.--Whenever a conditioning letter is followed by an inferior 1, as D^{L1J}, a prior temperature conditioning has been carried out.

4.5.2 Designation. Conditioning procedures shall be designated as follows:

- A capital letter indicating the general condition of the specimen, i.e., as received, immersion, or temperature conditioning.
- A number indicating in hours the duration of the conditioning.

- (c) A number indicating in degrees centigrade the conditioning temperature.

Example: Condition E-1/2/75--temperature condition 1/2 hour at 75 deg. C.

The numbers shall be separated from each other by a slant mark, and from the capital letter by a dash.

4.5.3 Time tolerances. Temperature conditioning shall be followed by cooling to room temperature (23 deg. C.) in a desiccator and immersion conditioning shall be followed by cooling to room temperature in distilled water, as specified in table VIII.

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TABLE VIII.--Conditioning time tolerances

Conditioning		Cooling		Comments
Condition	Time tolerance	Time	Time tolerance	
E-1/2/75	- 0 minutes, + 6 minutes	2 hours or more	- 0 hours	Cool in desiccator. Start test within 1/2 hour after removing specimen from desiccator.
E-1/2-23	- 0 minutes, + 6 minutes	.....	.....	.....
E-1/2/0	- 0 minutes, + 6 minutes	.....	.....	After conditioning, allow specimen to come to room temperature (23 deg. C.) within 16 hours.
E-1/105	- 0 minutes, + 6 minutes	2 hours or more	- 0 hours	.....
D-1/24/23	- 0 hours, + 2 hours	.....	.....	See water-absorption test (4.6.2).

4.5.4 Temperature tolerances. The conditioning temperature tolerances shall be as follows:

Nominal temperature, degrees C.	Tolerance (+/-) degrees C.
75	2
105	2
23	2
0	2

4.6 Test methods.

4.6.1 Warp and twist. The warp and twist test shall conform to method 6051 of Fed. Test Method St. No. 406.

4.6.2 Water absorption. The water absorption test shall conform to method 7031 of Fed. Test Method Std. No. 406.

4.6.3 Stability.

4.6.3.1 Specimens. The specimens shall be 6 inches by 1 inch by thickness.

4.6.3.2 Apparatus. The apparatus shall be as shown on figure 1.

4.6.3.3 Procedure. The specimens shall be suspended vertically by means of a small hole drilled 1/8 inch from the end and shall then be subjected successively to the following conditions:

4.6.3.3.1 Conditions. The specimens shall be conditioned for 6 hours in an oven 100 deg. +/- 2 deg. C. (except for type GCP-F when the temperature in the oven shall be 75 deg. +/- 2 deg. C.). Any distortion occurring at this

temperature shall be reported. The specimens shall then be removed from the oven and allowed to cool to room temperature. The distortion shall then be determined for each specimen.

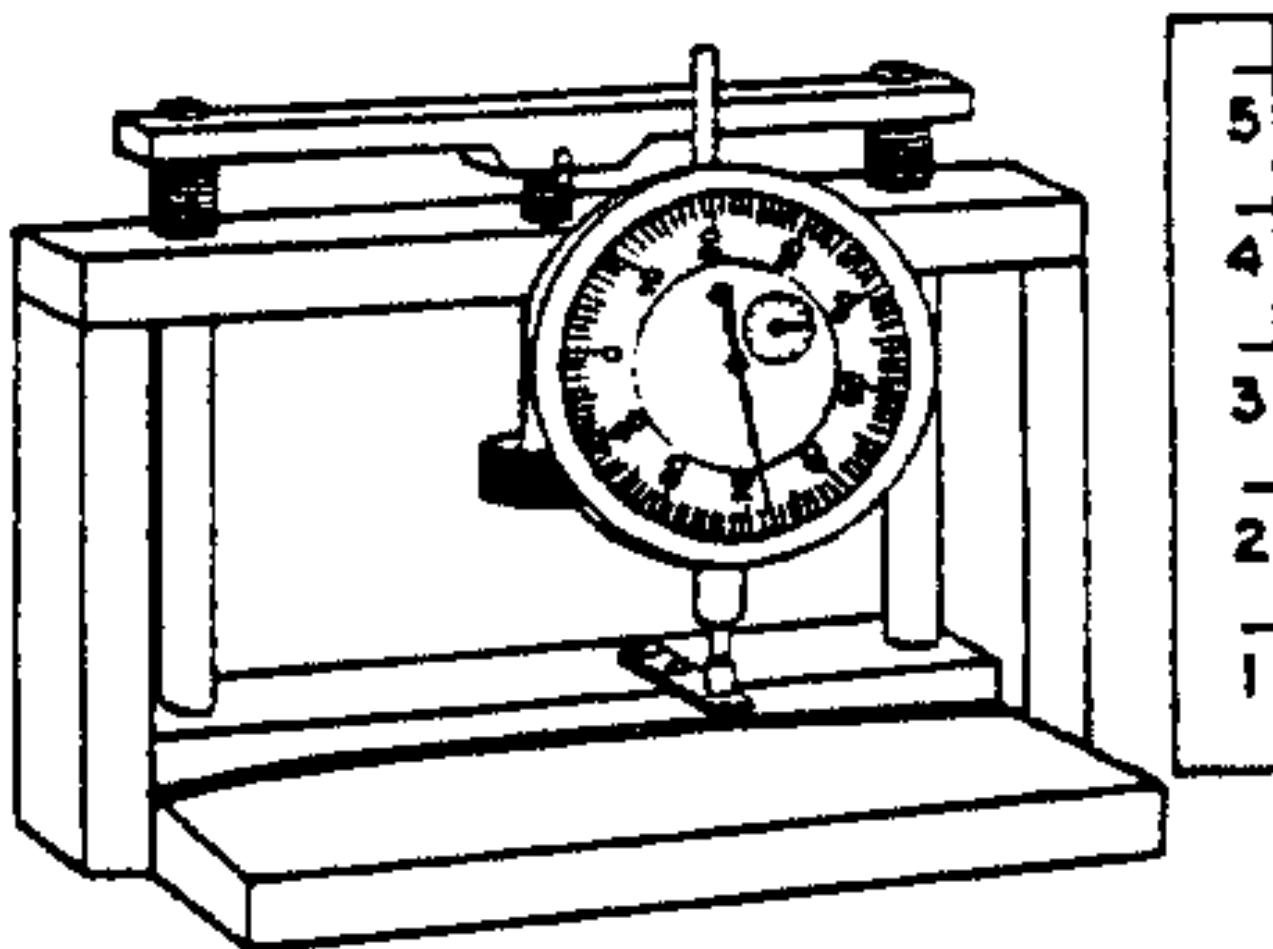


FIGURE 1.—Stability test jig.

4.6.3.3.2 The specimens shall then be conditioned for 6 hours in water at 100 deg. \pm 2 deg. C. (except for type GCP-F when the temperature of the water shall be 75 deg. \pm 2 deg. C.) Any distortion occurring at this temperature shall be reported. The specimens shall then be removed, allowed to cool to room temperature, and wiped. The distortion shall then be determined for each specimen.

4.6.3.4 Calculations. After each conditioning procedure, the specimens shall be laid flat on the bottom plate of the testing apparatus and the distortion determined by measuring the maximum height of the material above the flat surfaces as follows:

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$$\text{Distortion (percent)} = \frac{100 (h-T)}{l}$$

Where:

h = maximum height of material above surface

T = thickness of material

l = original length of specimen

4.6.4 Delamination. The delamination test shall conform to method 6041 of Fed. Test Method Std. No. 406.

4.6.5 Flexural strength (tested flatwise).

4.6.5.1 Specimens. Specimens from sheets 1/32 to 1/4 inch in thickness, inclusive, shall be tested. The dimension of the specimens shall be as specified in table IX.

TABLE IX.--Dimensions of specimen and speed of test

Nominal specimen thickness	Width of specimen	Length of specimen	Span	Speed of test per minute
Inches	Inches	Inches	Inches	Inches
1/32	1	2-1/2	1/2	0.025
3/64	1	2-3/4	3/4	.025
1/16	1	3	1	.026
3/32	1	3-1/2	1-1/2	.040
1/8	1	4	2	.058
3/16	1/2	5	3	.080
1/4	1/2	6	4	.106

4.6.5.2 Procedure. Specimens shall be tested in accordance with method 1031 of Fed. Test Method Std. No. 406 except that the speed of test shown in table IX shall be used. No modulus data need be taken.

4.6.5.3 Calculations. Calculations shall be made in accordance with method 1031 of Fed. Test Method Std. No. 406.

4.6.6 Mar resistance.

4.6.6.1 Specimens. The specimens shall be 2-1/2 inches by 7-1/2 inches by thickness.

4.6.6.2 Procedure. The procedure shall be as specified in method 1093 of Fed. Test Method Std. No. 406 except that only three abraded spots shall be made, each with 1,800 grams of abrasive.

4.6.7 Flammability.

4.6.7.1 Specimens. The specimens shall be 6 inches by 1/2 inch by thickness. Thicknesses 1/16 to 1/4 inch, inclusive, shall be tested.

4.6.7.2 Procedure. The procedure shall be as specified in method 2021 of Fed. Test Method Std. No. 406.

4.6.8 Flexibility (type GCP-F only).

4.6.8.1 Specimens. The specimens shall be 3 inches by 1 inch by thickness.

4.6.8.2 Procedure. After conditioning as specified in table I, the specimens shall be bent flatwise around a mandrel of the diameter shown in table X for each thickness of the material.

TABLE X.--Mandrel diameters

Thickness of material	Mandrel diameter
Inch	Inches
1/64	2
1/32	4
3/64	6
1/16	8
3/32	12
1/8	16
3/16	24
1/4	32

4.6.9 Machinability. The tests for machinability of the material shall be carried out in conjunction with the other tests specified, i.e., in the preparation of standard test specimens. The test shall be performed by a skilled mechanic who shall employ the same technique for all types of material in order to obtain an idea as to the relative ease or the difficulty of machining in each case. Ten holes of various sizes shall be drilled and countersunk, and 10 holes of various sizes drilled and tapped. The material shall be sawed and machined in a manner representative of that used in the actual production of designation plates and, in addition, shall be machined in accordance with the manufacturer's procedure if it differs from the commonly used technique for such materials. All observations bearing upon the suitability of the material shall be reported. There shall be no evidence of cracking, splitting, chipping, chattering, or flaking.

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5. PREPARATION FOR DELIVERY

(For civil agency procurement, the definitions and applications of the levels of packaging and packing shall be accordance with Fed. Std. No. 102.)

5.1 Preservation and packaging. Preservation and packaging shall be level A or C, as specified (see 6.1).

5.1.1 Level A. Laminated materials shall be wrapped individually, or interleaved to protect them from abrasion, using not less than 25-pound basis weight kraft paper.

5.1.2 Level C. Preservation and packaging shall be sufficient to afford adequate protection against deterioration and physical damage during shipment from the supply source to the first receiving activity for immediate use. This level may conform to the supplier's commercial practice when such meets the requirements of this level.

5.2 Packing. Packing shall be level A, B, or C, as specified (see 6.1).

5.2.1 Level A. Laminated material, packaged as specified (see 6.1), shall be packed in containers conforming to PPP-B-636, class 2, or PPP-B-640, class 2, as applicable. Shipping containers shall be closed, strapped or banded in accordance with the applicable box specification or appendix thereto. The gross weight of wood or wood-cleated boxes shall not exceed 200-pounds; fiberboard boxes shall not exceed the weight limitations of the applicable fiberboard box specification.

5.2.2 Level B. Laminated material, packaged as specified (see 6.1), shall be packed in containers conforming to PPP-B-636, class 1, or PPP-B-640, class 1, as applicable. Shipping containers shall be closed in accordance with the applicable box specification or appendix thereto. The gross weight of wood or wood-cleated boxes shall not exceed 200 pounds; fiberboard boxes shall not exceed the weight limitations of the applicable fiberboard box specification.

5.2.3 Level C. Laminated material, packaged as specified (see 6.1), shall be packed in containers, at the lowest rates, in a manner which will insure acceptance by common carrier and will afford protection against physical or mechanical damage during direct shipment from the supply source to the first receiving activity for immediate use. This level in general shall conform to the rules and regulations as applicable to the mode of transportation and may be the supplier's commercial practice when such meets the requirements of this level.

5.3 Marking.

5.3.1 Military activities. In addition to any special marking required by the contract or order, interior packages and exterior shipping containers shall be marked for shipment in accordance with Military Standard MIL-STD-129.

5.3.2 Civil agencies. In addition to any special marking required by the contract or order, the interior packages and exterior shipping containers shall be marked in accordance with Fed. Std. No. 123.

6. NOTES

6.1 Ordering data. Purchasers should exercise any desired options offered

herein and procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Type required. (See 1.1)
- (c) Sheet size and thickness required. (See 3.2.)
- (d) Whether translucent or opaque material is required for types GCP-F, GCP-H, and NDP. (See 3.3.1 and 3.4.1.)
- (e) Color required, background and lettering (see 3.3.1 and 3.4.1.)

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- (f) Surface finish. (See 3.3.1, 3.4.1 and 3.5.)
- (g) When luminescent markings are required. (See 3.6.)
- (h) Applicable level of preservation, packaging, and packing required (See 5.1 and 5.2).

6.2 Supersession data. This specification includes the requirements of Military Specification MIL-P-78A, dated 30 August 1930.

Notice. When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

MILITARY INTERESTS:

Army--EL

Navy--Sh

Air Force--ASD

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AMENDMENT 1
June 4, 1968

FEDERAL SPECIFICATION

PLASTIC SHEET, LAMINATED, THERMOSETTING
(FOR DESIGNATION PLATES)

This amendment, which forms a part of Federal Specification L-P-387a, dated October 29, 1963, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

PAGES 1 and 2

2: Delete and substitute:

2. APPLICABLE DOCUMENTS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

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Military Specifications:

MIL-L-3891 - Luminescent Material and Equipment (Nonradioactive).
MIL-M-3935 - Markers, Self-Luminous.
MIL-C-4996 - Coating Compound, Luminescent, Phosphorescent.
MIL-E-15090 - Enamel, Equipment, Light Gray (Formula No. 111).
MIL-L-25142 - Luminescent Material, Fluorescent.

Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by
Attributes.

IL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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PAGE 2

Paragraph 3.1.3, last line: Delete "bureau or agency concerned" and substitute "procuring activity (see 6.1)".

PAGE 3

Table I, column 3, 5th line from bottom: Delete "Inch per minute" and substitute "Maximum inches per minute".

PAGE 5

Paragraph 3.4.2: Delete and substitute:

3.4.2 Thickness of laminations. Unless otherwise specified, (see 6.1), the thickness of the outer layer shall be not more than 0.020 inch for paper-base materials and not more than 0.022 inch thick for fabric-base materials.

4 title and paragraph 4.1: Delete and substitute:

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

PAGE 6

Paragraph 4.3.1.4, listing: Delete "L-5" and "l-4" from the "Inspection level" column and substitute "S-3" and "S-2".

Paragraph 4.4, line 7: Delete "L-2" and substitute "S-1".

PAGE 7

Paragraph 4.4, line 1: Delete first sentence and substitute "The sample size for tests shall be three units randomly selected from each lot. If a sample fails to pass one or more test the lot represented shall be rejected."

Table VII, column 5: Opposite "Mar resistance" delete "3" and substitute "Avg. of 3".

PAGE 8

Table VIII, "Time tolerance: column, last line: Delete "+ 2 hours" and substitute "+ 1/2 hour".

PAGE 9

Paragraph 4.6.4: Delete period at the end and add: ", except that the thickness of the specimens shall be as supplied".

PAGE 10

Paragraph 5.2.1, lines 3 and 4: Delete "PPP-B-636, class 2" and substitute "PPP-B-636, class weather-resistant".

Paragraph 5.2.2, lines 3 and 4: Delete "PPP-B-636, class 1" and substitute "PPP_B-636, class domestic".

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PAGE 11

Paragraph 6.1: Add new subparagraph:

- "(i) Acceptable method of marking if required (see 3.1.3).
- (j) Thickness of outer layer required, if other is as specified (see 3.4.2)."

Notice: Delete.

Custodians:

Preparing activity:

Army - EL
Navy - SH
Air Force - 11

Navy - SH

Review activities:

Army - EL
Navy - SH, AS
Air Force - 11, 84, 85

User activities:

Navy - OS

L-P-387a
INT. AMENDMENT-2
July 9, 1971

INTERIM AMENDMENT

TO

FEDERAL SPECIFICATION

PLASTIC SHEET, LAMINATED, THERMOSETTING (FOR DESIGN PLATES)

This Interim Amendment was developed by the Standardization Division, Federal Supply Service, General Services Administration, Washington, DC 20406, based upon currently available technical information. It is recommended that Federal agencies use it in procurement and forward recommendations for changes to the preparing activity at the address shown above.

The General Services Administration has authorized the use of this Interim Amendment as a valid exception to Federal Specification L-P-387A, dated October 29, 1963, and Amendment-1 thereto, dated June 4, 1960.

PAGES 1 and 2

2: Delete and substitute the following:

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specifications

PPP-B-636 - Box, Fiberboard.

PPP-B-640 - Boxes, Fiberboard, Corrugated, Triple, Wall.

Federal Standards

Fed. Std. No. 123 - Marking for Domestic Shipment (Civil Agencies).

Fed. Test Method Std. No. 406 - Plastic: Methods of Testing.

Fed. Std. No. 595 - Colors.

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

(Single copies of this specification and other Federal Specifications required by activities outside the Federal Government for bidding purposes and available without charge from Business Service Centers at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, Mo, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.)

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

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Military Specifications:

MIL-C-4996 - Coating Compound, Luminescent, Phosphorescent.
MIL-E-15090 - Enamel, Equipment, Light Gray (Formula No. 111).
MIL-L-25142 - Luminescent Material, Fluorescent.
MIL-L-3891 - Luminescent Material and Equipment (nonradioactive).
MIL-M-3935 - Markers, Self-Luminous.

Military Standards:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by
Attributes.
MIL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

Paragraph 3.1.3, last line: Delete "Bureau or agency concerned" and substitute "procuring activity (see 6.1)".

PAGE 3

Table I, column 3, 5th line from bottom: Delete "Inch per minute" and substitute "Maximum inches per minute".

PAGE 5

Add the following:

3.4.1.1 In the event that it is not possible to match the color specified in 3.4.1, a commercially available color which approximates a match may be provided.

Paragraph 3.4.2: Delete and substitute:

3.4.2 Thickness of laminations. Unless otherwise specified, (see 6.1), the thickness of the outer layer shall be not more than 0.020 inch for paper-base materials and not more than 0.022 inch thick for fabric-base materials.

4 title and paragraph 4.1: Delete and substitute:

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may use his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

PAGE 6

Paragraph 4.1.1.4 listing: Delete "L-5" and "l-4" from the "Inspection level" column and substitute "S-3" and "S-2".

PAGE 7

Paragraph 4.4, line 1: Delete first sentence and substitute "The sample size for test shall be three units randomly selected from each lot. If a sample fails to pass one or more tests the lot represented shall be rejected."

Table VII, column 5, opposite "Mar resistance": Delete "1" and substitute "Avg. of 3".

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PAGE 8

Table VIII, "Time tolerance" column, last line: Delete "+2 hours" and substitute "+1/2 hour".

Paragraph 4.6.2: Add at end: "Only percent increase in weight shall be determined".

PAGE 9

Paragraph 4.6.4: Delete period at the end and add: ", except that the thickness of the specimens shall be supplied".

PAGE 10

Paragraph 5: Delete reference to Fed. Std. 102.

Paragraph 5.2.1, lines 3 and 4: Delete "PPP-B-636, class 2" and substitute "PPP-B-636, class weather-resistant".

Paragraph 5.2.2, lines 3 and 4: Delete "PPP-B-636, class 2" and substitute "PPP-B-636, class weather-resistant".

Paragraph 5.2.2, lines 3 and 4: Delete "PPP-B-636, class 1" and substitute "PPP-B-636", class domestic".

Paragraph 6.1: Add new subparagraphs:

- (i) Acceptable method of marking if required (see 3.1.3).
- (j) Thickness of outer layer required, if other than as specified (see 3.4.2)."

Delete "Notice" paragraph.

Delete concluding materials and substitute:

MILITARY CUSTODIANS

Army - GL
Navy - SH
Air Force - 68

Review activities:

Army - CL
Navy - SH, AS
Air Force - 11, 84, 85

User activities:

Navy - OS

Preparing activity:

Navy - SH