

L-P-528B

August 10, 1976

SUPERSEDING

Int. Fed. Spec. L-P-00528A (GSA-FSS)

October 15, 1964 and

Int. Fed. Spec. L-P-00514A (GSA-FSS)

October 14, 1964

FEDERAL SPECIFICATION

PLASTIC SHEET, PRESSURE SENSITIVE
ADHESIVE COATED, PAPER-BACKED

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

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers cellulose acetate and polyester plastic sheets having an adhesive paper-backing (see 6.1).

1.2 Classification. The plastic sheet covered by this specification shall be the following types, classes and sizes, as specified (see 6.2):

Type I - Cellulose acetate.
Class 1 - Polished finish.
Class 2 - Matte finish.

Type II - Polyethylene terephthalate.

Sheet sizes	
Length, inches	Width, inches
4	3
8	6
11-3/8	9
12 <u>1</u> / ₈	10 <u>1</u> / ₈

1/₈ Type I, class 2 shall be furnished in this size only.

Roll sizes	
Length, feet	Width, inches
50	21 (Type I, class 1 only)
50	26 (Type II only)

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.

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Federal Specifications:

L-P-377 - Plastic Sheet and Strip, Polyester.
 L-P-504 - Plastic Sheet and Film, Cellulose Acetate.
 QQ-A-250/5 - Aluminum Alloy Alclad 2024, Plate and Sheet.
 SS-P-166 - Pencils, Lead.
 TT-I-528 - Ink, Drawing, Waterproof, Black.
 PPP-B-566 - Boxes, Folding, Paperboard.
 PPP-B-636 - Boxes, Shipping, Fiberboard.
 PPP-B-665 - Boxes, Paperboard, Metal Edged and Components.
 PPP-B-676 - Boxes, Setup.

Federal Standards:

Fed. Std. No. 1 - Standard for Laboratory Atmospheric Conditions for Testing.
 Fed. Std. No. 123 - Marking for Shipment (Civil Agencies).
 Fed. Test Method Std. No. 101 - Preservation, Packaging and Packing Materials:
 Test Procedures.

(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 are 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.)

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 suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

National Motor Freight Traffic Association, Inc., Agent:

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent:

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

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American Society for Testing and Materials (ASTM) Standards:

D 883 - Definitions of Terms Relating to Plastics.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

3. REQUIREMENTS

3.1 Material.

3.1.1 Plastic sheet. Type I material shall be transparent cellulose acetate and Type II materials shall be polyethylene terephthalate conforming to type I of L-P-504 and type I of L-P-377, respectively, see 4.4.2. The nominal thickness of the type I cellulose acetate (uncoated) shall be 0.005 inches (actual thickness shall be a minimum of 0.0045 inches and a maximum of 0.006 inches). The nominal thickness of the type II polyethylene terephthalate (uncoated) shall be 0.002 inches (actual thickness shall be a minimum of 0.0016 inches and a maximum of 0.0024 inches). See 4.4.5.

3.1.2 Adhesive coating. The underside of the matte surface and one side of the polished surface of the plastic sheet, as applicable, shall be evenly and uniformly coated with a minimum of 0.001 inches thick (dry) film of a pressure-sensitive adhesive. The adhesive shall have suitable characteristics of flexibility and tackiness for the purpose intended. The adhesive shall require no moisture, heat, or other preparation prior to use of the finished plastic sheet to develop manual pressure-sensitiveness.

3.1.3 Release paper (paper backing). The adhesive side of the plastic sheet shall be covered with a suitable release paper (paper backing). Removal of the release paper at the time of use shall not detach the adhesive nor shall it in any way interfere with the function of the plastic sheet. The paper shall show no fiber separation or detachment from the plastic sheet.

3.2 Sheet dimensions. The sheet shall be furnished in the sizes as specified (see 1.2 and 6.2), unless otherwise specified in the contract or order. The tolerance of length and width shall be plus or minus 1/16 inch (see 4.4.3). Adjacent edges of the sheet shall intersect at a 90 degree angle plus or minus 2 degrees.

3.3 Finish and color. The uncoated surface of type I, class 2 shall have a matte finish. The uncoated surface of type I, class 1 and type II shall have a polished finish (see 4.4.4). Unless otherwise specified, all types and classes shall be colorless (see 6.2).

3.4 Surface characteristics. The matte surface of the plastic sheet shall be capable of accepting the following:

3.4.1 Penciling and erasing. A pencil line shall be erasable without causing ghosting or smudging or any appreciable change of color of the erased surface when tested as specified in 4.4.6.1.

3.4.2 Inking and erasing. Inked lines shall show no appreciable spreading, feathering, ragged edges or skips, upon being drawn over a fresh or an erased area when tested as specified in 4.4.6.2.

3.5 Adhesive bond. The adhesive shall have a minimum peel of 1 lb./in. width when tested as specified in 4.4.7.

3.6 Back printing (rolls only). When specified (see 6.2) in the contract or purchase order, the roll shall be furnished with back printing on the paper back to facilitate accuracy in cutting. The back printing shall be in conformance with normal commercial practices.

3.7 Workmanship. The plastic sheet shall be free from ragged edges, die lines, cracks, holes, pits, gel marks, blisters, discolorations and other defects which would affect the serviceability of the item. The terms cited in this paragraph shall be defined as in ASTM D 883.

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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 in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by 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.

4.2.1 Lot. A lot shall consist of the material processed by one manufacturer, subjected to the same manufacturing and processing conditions. Each lot shall contain plastic sheet or roll of one type, class and size.

4.2.2 Sampling for inspection. Sampling shall be accomplished in accordance with MIL-STD-105.

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 (AQL's) set forth below. The lot size, for purpose of determining the sample size, shall be expressed in units of packages of sheets or rolls, as applicable, for examination in 4.3.1.1, 4.3.1.2, 4.3.1.3 and in units of shipping containers for examination in 4.3.1.4.

4.3.1.1 Examination of the end item for defects in workmanship. The sample unit for this examination shall be one flat sheet, full size, or one yard, full width from a roll, as applicable. Examined in accordance with table I.

TABLE I. Examination for workmanship	
Examine	Defect
Form	Not in rolls or flat sheets, as specified.
Type, class and size	Other than as specified.
Workmanship	Any ragged edges, cracks, holes, pits, gel marks or blisters.

4.3.1.2 Examination of the end item for defects in dimensions. The sample unit for this examination shall be one flat sheet, full size, or one complete roll. Examined in accordance with table II.

TABLE II. Examination for dimensions	
Examine	Defect
Length and width of sheet	Width and length not as specified and not within tolerance.
Length and width of roll.	

4.3.1.3 Examination of the end item for content of unit container. The sample unit shall be one roll or one unit package of sheets, as applicable. Examined in accordance with table III.

TABLE III. Examination for content of containers	
Examine	Defect
Sheet count per container	Less than specified.
Length of roll	Less than specified.

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4.3.1.4 Examination of preparation for delivery. An examination shall be made to determine whether the packaging, packing and marking comply with the requirements of section 5. Defects shall be scored as specified in table IV. The sample unit shall be one shipping container fully prepared for delivery.

TABLE IV. Examination of preparation for delivery

Examination	Defect
Packaging	Not level specified. Packaging material not as specified.
Packing	Not level specified. Any nonconforming component; component missing, damaged or otherwise defective, affecting serviceability.
Count	Less than specified or indicated quantity of rolls or sheets per shipping container.
Marking	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.

4.3.1.5 Inspection levels and acceptable quality levels (AQL's) for examination. The inspection levels for determining the sample size and the acceptable quality levels (AQL's) expressed in terms of percent defective shall be as follows:

Examination paragraph	Inspection level	AQL
4.3.1.1	II	2.5
4.3.1.2	S-2	2.5
4.3.1.3	S-2	-
4.3.1.4	S-2	4.0

4.3.2 Testing of the end item. The end item shall be tested for the applicable characteristics for each lot of material presented for delivery. The sample unit shall be one sheet and the acceptable quality level (AQL) shall be 2.5 percent defective.

4.4 Test methods.

4.4.1 Conditioning test specimens and test conditions. Test specimens shall be conditioned in accordance with Fed. Std. No. 1 and tested under these conditions, unless otherwise specified in the referenced specification.

4.4.2 Plastic sheet. The plastic sheet before coating shall be tested in accordance with the test methods specified in L-P-504 or L-P-377 as applicable.

4.4.3 Length and width. The length and width of the sheet shall be measured with a calibrated steel rule.

4.4.4 Finish and color. Determine the finish and color by accepted visual or instrumental methods.

4.4.5 Thickness. Thickness measurements shall be made with a calibrated micrometer or other equivalent instrument capable of measuring to 0.0001 inch.

4.4.6 Surface characteristics.

4.4.6.1 Pencil and erasing. Single lines approximately 0.4 mm in width and two inches in length shall be drawn on different portions of the sample with a black graphite No. 2 pencil conforming to SS-P-166, held in a vertical position under a pressure of 165 grams, and then erased with a soft, noncritty eraser. There shall be no appreciable change of color of the erased surface, no smudging and no ghosting. The surface shall withstand at least four such erasures of lines drawn and redrawn in exact line of previous drawing without leaving ghosts or traces of sufficient intensity to produce an image on blueprints and without impairing the surface for future reproductions of all types.

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4.4.6.2 Inking and erasing. Single lines of varying widths of black waterproof drawing ink which meets requirements of TT-I-528 shall be drawn on different portion of the sample. There shall be no appreciable spreading, feathering, ragged edges, or skips. Five minutes after the lines have been drawn, they shall be erased with a soft, nongritty eraser. Ink lines shall then be drawn on the erased surface. There shall be no spreading and feathering. The plastic sheet shall withstand four such erasures and redrawing of lines.

4.4.7 Adhesive bond. The adhesive bond shall be determined in accordance with method 2050 of Fed. Test Method Standard No. 101.

5. PREPARATION FOR DELIVERY

5.1 Packaging. Packaging shall be level A, B, or C, as specified (see 6.2).

5.1.1 Levels A and B.

5.1.1.1 Sheets. Fifty units of the 6 x 8 inch sheet or the 9 x 11-3/8 inch sheet, or one hundred units of the 3 x 4 inch sheet or the 10 x 12 inch sheet, shall be packaged in a paperboard box conforming to PPP-B-566, PPP-B-665, or PPP-B-666. Each box shall be secured to prevent accidental opening. Each unit package shall be marked with the Federal stock number, nomenclature (including size), and quantity.

5.1.1.2 Rolls. Fifty-foot rolls shall be packaged individually in fiberboard boxes conforming to PPP-B-636, type, class, and style optional. Closure shall be in accordance with the appendix to PPP-B-636. Each unit package shall be marked with the Federal stock number, nomenclature (including size), and quantity.

5.1.2 Level C. Packaging shall be in accordance with the manufacturer's commercial practice.

5.2 Packing. Packing shall be level A, B, or C, as specified (see 6.2).

5.2.1 Level A.

5.2.1.1 Sheets. Unit packages of one stock number assembled as specified in 5.1.1.1 shall be packed in boxes conforming to PPP-B-636, class weather-resistant, type and style optional in the quantities specified in table V. The box shall meet with the appendix to PPP-B-636.

TABLE V. Packing of sheet unit packages

Size sheet	Number of sheets to unit package	Number of unit packages to shipping container
3x4 inch	100	40
6x8 inch	50	40
9x11-3/8 inch	50	10
10x12 inch	100	10

5.2.1.2 Rolls. Rolls packaged as specified in 5.1.1.2 shall be packed in boxes conforming to PPP-B-636, class weather-resistant, type and style optional, in the quantity of nine rolls to the box. The box shall meet the special requirements of table II of PPP-B-636. Closure shall be in accordance with the appendix of PPP-B-636.

5.2.2 Level B.

5.2.2.1 Sheets. Unit packages of one stock number assembled as specified in 5.1.1.1 shall be packed in fiberboard boxes conforming to PPP-B-636, type, class and style optional in the quantities specified in table I. The box shall meet the special requirements of table I of PPP-B-636. Closure shall be in accordance with the appendix to PPP-B-636.

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5.2.2.2 Rolls. Rolls packaged as specified in 5.1.1.2 shall be packed in fiber-board boxes conforming to PPP-B-636, type, class and style optional in the quantity of nine rolls to the box. The box shall meet the special requirements of table I of PPP-B-636. Closure shall be in accordance with the appendix to PPP-B-636.

5.2.3 Level C. The material, packaged as specified in 5.1.2, shall be packed in containers to assure carrier acceptance and safe arrival at destination. Shipping containers shall comply with the Uniform Freight Classification or National Motor Freight Classification rules, as applicable.

5.3 Marking.

5.3.1 Civil agencies. Marking shall be in accordance with Federal Standard No. 123.

5.3.2 Military agencies. Marking shall be in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use.

6.1.1 Type I, class 1 and type II. The plastic sheet is intended for use in the protection of cards and documents.

6.1.2 Type I, class 2. The plastic sheet is intended for use in the preparation of illustrations, sketches, drawing and etc. It provides a suitable surface for marking, lettering, writing and erasing.

6.2 Ordering data. Purchasers should select the preferred options permitted herein, and include the following information in procurement documents:

- (a) Title, number, and date of this specification.
- (b) Type, class and size required (see 1.2).
- (c) If color other than specified is required (see 3.3).
- (d) Back printing of rolls if required (see 3.6).
- (e) Level of packaging and packing required (see 5.1 and 5.2).
- (f) Applicable marking required (see 5.3).

6.3 Supersession data. The following table lists the classification of this specification which corresponds to the superseded specifications:

<u>L-P-528B</u>	<u>L-P-00528A</u>	<u>L-P-00514A</u>
Type I, Class 1	Type I	
Type I, class 2		Type and size
Type II	Type II	

MILITARY INTERESTS:

DOD has waived coordination on revisions and amendments to this Federal Specification until further notice.

Preparing Activity:

GSA-FSS

Civil Agency Coordinating Activities:

COM-NBS

GSA-FSS

VA-DMS

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See Section 2 of this specification to obtain extra copies and other documents referenced herein. Price 35 cents each.

