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UU-P-320D
September 16, 1983
SUPERSEDING
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FEDERAL SPECIFICATION

PAPER, LOOSE-LEAF, RULED AND BLANK

This specification was approved by the Assistant Administrator, Office of Federal Supply and Services, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers loose-leaf paper suitable for use as filler sheets in two-, three-, or six-ring binders.

1.2 Classification. Loose-leaf paper shall be one of two types.

Type I - Ruled.
Type II - Blank.

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 Standard:

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

Federal Specification:

PPP-B-636 - Boxes, Shipping, Fiberboard.

(Activities outside the Federal Government may obtain copies of Federal specifications, standards and commercial item descriptions, as outlined under General Information in the Index of Federal Specification, Standards, and Commercial Item Descriptions. The Index, which includes cumulative bimonthly 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, other Federal specifications and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from General Services Administration Business Service Centers in Boston; New York; Philadelphia; Washington, DC; Atlanta; Chicago; Kansas City, MO; Fort Worth; Houston; Denver; Los Angeles; San Francisco; and Seattle, WA.

(Federal Government activities may obtain copies of Federal specifications, standards, commercial item descriptions and the Index of Federal Specifications, Standards and Commercial Item Descriptions from established distribution points in their agencies).

Military Standards:

MIL-STD-105D - 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.)

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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., Traffic Department, 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.)

Technical Association of the Pulp and Paper Industry (TAPPI) Standards:

T 401 - Fiber Analysis of Paper and Paperboard.
T 402 - Standard Conditioning and Testing Atmospheres for Paper, Board, Pulp Handsheets, and Related Products.
T 403 - Bursting Strength of Paper.
T 410 - Weight per Unit Area (Basis Weight or Substance) of Paper and Paperboard.
T 423 - Folding Endurance of Paper (Schopper Tester).
T 511 - Folding Endurance of Paper (MIT Tester).

(Application for copies should be addressed to the Technical Association of the Pulp and Paper Industry, Technical Park/Atlanta, P.O. Box 105113, Atlanta, GA 30341.)

3. REQUIREMENTS

3.1 Material. The loose-leaf paper shall be made from not less than 95 percent bleached chemical pulp, with not more than 5 percent unbleached and/or ground wood pulp, when tested as specified in 4.4. The loose-leaf paper shall conform to the physical requirements in Table I.

3.1.1 Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

TABLE I. Physical Requirements

Characteristics	Requirements
Basis weight, 17 x 22-500, tolerance ± 5 percent	16 pounds
Folding endurance, each direction, minimum	20 double folds (Schopper) or 10 folds (MIT)
Bursting strength, minimum	16 pounds per square inch

3.2 Color. The color of loose-leaf paper shall be white.

3.3 Writing quality. Loose-leaf paper shall be sufficiently sized to accept fountain pen ink writing without feathering or ink penetration through to the opposite side of the sheet, when tested as specified in 4.4.

3.4 Ruling. Ruling shall be as specified in 3.4.1 or 3.4.2.

3.4.1 Type I. Type I loose-leaf paper shall be horizontally ruled on both sides across the smaller dimension (see table II), with faint blue lines. Rulings shall bleed both edges. Waterproof ink shall be used. Sheet sizes 3 by 5 inches and 3-3/4 by 6-3/4 inches shall have lines spaced 3/16 inch apart; all other sheets shall have lines spaced 1/4 inch apart. The top margin shall be 7/8 (± 1/8) inch from the edge of the sheet. When specified a vertical margin shall be applied to both sides of the sheet at a distance of not more than 1-1/4 inch nor less than 1 inch from the left side of the sheet (see 6.2). The margin ruling shall bleed both edges.

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3.4.2 Type II. Type II loose-leaf paper shall be unruled.

3.5 Sheet sizes. Types I and II loose-leaf paper shall comply with the size as designated in table II, and as specified (see 6.2). The binding side size of the sheet shall be cited first.

3.6 Binder holes. Types I and II loose-leaf paper shall have the number of binder holes and spacing between the binder holes as designated in 3.6.1, 3.6.2, and table II, as specified (see 6.2).

3.6.1 Dimensions. The binder holes for size 3 by 5 inches, 3-3/4 by 6-3/4 inches, 5 by 3 inches, and 6-3/4 by 3-3/4 inches, types I and II loose-leaf paper, shall be not less than 9/64 inch diameter nor more than 11/64 inch diameter. The binder holes shall be 3/16 inch from the edge of the sheet to the centers of the binder holes with a tolerance of ± 1/32 inch. All other sizes of types I and II loose-leaf paper shall have binder holes not less than 1/4 inch diameter nor more than 5/16 inch diameter, and these binder holes shall be 3/8 inch from the edge of the sheet to the centers of the binder holes with a tolerance of ± 1/32 inch. The top and bottom binder hole of all sheet sizes shall be located equidistant from top and bottom edge of the sheet.

3.6.2 Reinforcement. When specified, the holes of the loose-leaf paper shall be reinforced on the topside with 2 mil clear mylar such that the reinforcement extends 3/16 ± 1/32 inch around the hole and may extend to the binding edge of the sheet. Alternatively, the binding edge shall be reinforced with a cloth hinge, in 3 or 4 widths, staggered to avoid bulk; reinforcement shall be glued to surface of paper in such manner that reinforcement cannot be removed without tearing paper; sheets shall not stick together so as to cause unclean separations; binding edge shall be applied to top of sheet, and shall extend beyond binder holes.

TABLE II. Sheet sizes and spacing between binder holes

Size 1/		Spacing 2/			
				6 holes	
Binding side	Adjacent side	2 hole	3 hole	Between holes	Between sets of holes
3	5	-	3/4	-	-
3-3/4	6-3/4	-	3/4	-	-
5	3	2-3/4	-	3/4	-
6-1/2	4	-	-	3/4	2
6-3/4	3-3/4	-	2-3/4	3/4	2
7-1/4	4-1/4	-	2-3/4	-	-
7-3/4	5	-	2-3/4	-	-
8-1/2	5-1/2	-	2-3/4	-	-
8-1/2	11	-	2-3/4	-	-
9-1/2	6	-	3-1/2	-	-
9-1/2	12	-	3-1/2	-	-
11	8-1/2	-	4-1/4	-	-
12	9-1/2	-	4-1/4	-	-

1/ Inches (± 1/16 inch)
2/ Measured from center of hole (± 1/32 inch).

3.7 Corners. All corners of types I and II loose-leaf paper shall be either rounded or square-cut at the option of the supplier.

3.8 Workmanship. Loose-leaf paper shall have a clean finish and good formation and shall be free from folds, tears, holes (other than those specified), ink smears, dirt, foreign matter and other defects which might affect appearance or serviceability. Loose-leaf paper shall be square cut with smooth and parallel edges.

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.

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4.2 Sampling. Sampling for inspection and testing shall be performed in accordance with MIL-STD-105D, unless otherwise indicated.

4.3 Inspection of the end item.

4.3.1 Examination. Examination of the end item shall be made for the defects set forth in the applicable paragraphs at the inspection level and acceptable quality level (AQL) specified.

4.3.2 Examination of preparation for delivery. An examination shall be made to determine compliance with the requirements of section 5. The sample unit shall be one shipping container fully prepared for delivery. Sampling shall be in accordance with MIL-STD-105D. The inspection level shall be S-2 with an AQL of 4.0 percent defective.

4.3.3 Examination for count. The package of loose-leaf paper shall be examined for number of sheets per package. The inspection level shall be S-2. The sample unit shall be one package. The lot shall be unacceptable if the average number of sheets per package, of all sample units examined, is less than specified. No individual package of loose-leaf paper shall contain less sheets than the quantity specified, minus 4 percent.

4.3.4 Examination for dimensional defects. The sample unit for this examination shall be one sheet. The inspection level shall be S-3 with an AQL of 1.5 percent defective. The number of sheets comprising the sample shall be made up by taking two consecutive sheets from one package (to count as two sample units). Examine each sheet. A defect is the sheet not the size specified to within ± 1/16 inch, or binder holes not the size or location specified.

4.3.5 Examination for visual defects.

4.3.5.1 Packages. An examination shall be made for the defects listed in table III applicable to packages. The lot size for this examination shall be expressed in units of packages. The inspection level shall be S-2 with an AQL of 2.5 defects per 100 packages. Approximately an equal number of packages shall be taken from each shipping container selected in 4.3.2.

4.3.5.2 Sheets. An examination shall be made for the defects listed in table III applicable to sheets. The lot size for examination shall be expressed in units of sheets of one type and size. The sample unit shall be one sheet. The sheets shall be accumulated by taking an approximately equal number of sheets, in consecutive order, from each of the packages selected in 4.3.5.1. The inspection level shall be S-4 with an AQL of 2.5 defects per 100 sheets for major defects and 25 defects per 100 sheets for minor defects.

TABLE III. Classification of defects

Examine	Defect
Packages	
Major	
Appearance	Not as specified. Crushed corners or edges.
Minor	
Workmanship	Wavy, uneven or ragged edges.
Sheets	
Major	
Appearance	Binder holes missing. Not color specified.
Ruling (type I)	Not color specified. Line spacing not as specified; missing. Margins not as specified.
Minor	
Workmanship	Presence of folds, tears, holes (other than those specified), foreign matter, dirt, ink smears.

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4.4 Testing of the end item. Loose-leaf paper shall be tested for the applicable characteristics in table IV. The tests shall be made in accordance with the indicated TAPPI method or as referenced in the table. The lot size shall be expressed in units of sheets of one type and size. The test sample unit shall consist of 3,000 square inches of paper and the sample size shall be selected in accordance with S-1. Test results shall include all values on which the results are based and there shall be no failure to meet the sample unit, lot average, or composite requirements. All samples shall be conditioned and tested in accordance with the provisions of TAPPI T 402. The composite sample shall consist of approximately equal amounts of all sample units combined into a single sample.

TABLE IV. Testing of the end item

Characteristic	Specification reference Requirement paragraph	Test method	Rqmts. applicable to Sample unit	Lot average	Number of determinations per sample unit	Results reported as numerically to nearest
Atmospheric conditions	4.4	T 402	all testing			
Basis weight	Table I	T 410		X	1	0.1 pound
Bursting strength	Table I	T 403		X	10	0.1 psi
Fiber analysis	3.1	T 401			1 on composite	1 percent
Folding endurance						
Schopper or	Table I	T 423		X	10 each direction	1 fold
M.I.T. 1/	Table I	T 511		X	10 each direction	1 fold
Writing quality	3.3	4.5.1	X		1	pass/fail

1/ Either method may be used at the suppliers option.

4.5 Test methods.

4.5.1 Writing quality. Write or draw several lines of words or characters on both sides of a sheet of loose-leaf paper using a pen with a firm medium point (Esterbrook point No. 9668 or equal) and a 1 percent aqueous solution of either C. I. Acid Red 1 (Color Index 18050) or C. I. Acid Green 3 (Color Index 42805) (see 6.3). To be considered satisfactory, the lines or characters shall be clear-cut and legible without feathering or ink penetration through to the opposite side of the sheet.

5. PREPARATION FOR DELIVERY

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

5.1.1 Level A.

5.1.1.1 Unit package. Fifty or one hundred sheets of paper, of one type and size as indicated in table V shall be banded with a suitable paper wrapper of the type normally used for this purpose or completely wrapped with paper or plastic film.

5.1.1.2 Intermediate package. Five packages of 100 sheets or ten packages of 50 sheets, as indicated in table V, shall be wrapped in paper or plastic film or packaged in a paperboard or fiberboard box. The wrap or box shall be secured to prevent accidental opening.

5.1.1.3 Intermediate package for sheet size 7-1/4 x 4-1/4 inches or smaller. Ten packages, as specified in 5.1.1.2, shall be intermediately packaged in a paperboard or fiberboard box. The box shall be secured to prevent accidental opening.

5.1.2 Commercial. The paper of one type and size, as specified and in quantity specified in table V, shall be packaged in accordance with normal commercial practice. The complete package shall be designed to protect the paper against damage during shipment, handling and storage.

5.2 Packing. Packing shall be level A or commercial as specified (see 6.2).

5.2.1 Level A. The paper in quantities specified in table V, packaged as specified in 5.1.1, shall be packed in a close-fitting box conforming to PPP-B-636, class weather resistant, style optional. The box shall be closed, waterproofed and banded in accordance with the appendix to PPP-B-636.

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TABLE V. Packing and packaging of looseleaf paper

Size	Sheets / Package	Packages / Intermediate pkg.	Intermediate pkg. / 2nd int. pkg.	Intermediate pkg. or 2nd int. pkg. / Shipping container
6-3/4 x 3-3/4	50	10	10	5
3-3/4 x 6-3/4	50	10	10	5
3 x 5	50	10	10	6
5 x 3	50	10	10	6
6-1/2 x 4	50	10	10	6
7-1/4 x 4-1/4	100	5	10	4
8-1/2 x 5-1/2	100	5	--	20
9-1/2 x 6	100	5	--	20
7-3/4 x 5	100	5	--	20
8-1/2 x 11	100	5	--	12
11 x 8-1/2	100	5	--	12
12 x 9-1/2	100	5	--	12
9-1/2 x 12	100	5	--	12
11 x 8-1/2 (reinforced holes)	100	5	--	10

5.2.2 Commercial. The paper packaged as specified in 5.1.2, shall be packed in fiberboard boxes to insure delivery at destination; provide for redistribution by the initial receiving activity; and be acceptable by common carrier under National Motor Freight Classification and Uniform Freight Classification.

5.3 Palletization. The paper shall be palletized on expendable pallets, 2- or 4-way design, to facilitate handling in accordance with commercial practice. The palletized load shall not exceed 2500 pounds in weight, 60 inches in height, 48 inches in length, and 48 inches in width.

5.4 Marking. Interior packages and shipping containers shall be marked in accordance with Fed. Std. No. 123 or MIL-STD-129 as specified (see 6.2).

6. NOTES

6.1 Intended use. Loose-leaf paper covered by this specification is intended for use with two-, three-, or six-ring binders and suitable for ink or pencil writing.

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 (see 1.2).
(c) Ruling required and whether vertical margin is required (see 3.4).
(d) Size of sheet and number of holes (see 3.5).
(e) Whether holes are to be reinforced (see 3.6.2).
(f) Quantity required.
(g) Packaging and packing required (see 5.1 and 5.2).
(h) Marking required (see 5.4).

6.3 Color designations are those listed in the Technical Manual of the American Association of Textile Chemists and Colorists. Acid Red 1, Color Index 18050 may be obtained from the following: Sandoz, Inc.; National Aniline Div. of Allied Chemical Corp.; Geigy Chemical Corporation and American Cyanamid Corp.

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