

INCH-POUND

NOTICE
OF REINSTATEMENT

CCC-W-408D
NOTICE 2
18 DECEMBER 2003

FEDERAL SPECIFICATION

WALL COVERING, VINYL-COATED

CCC-W-408D, dated 14 JANUARY 1994, is hereby reinstated and may be used for acquisition.

(Copies of the referenced federal and military specifications, standards, and handbooks are available from the Department of Defense Single Stock Point, Defense Printing Service Detachment Office, Building 4-D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

Custodians:
Navy - YD

Preparing Activity
DLA-IS

(Project 5640-0011)

**NOTICE OF
CANCELATION**

INCH-POUND

**CCC-W-408D
NOTICE 1
6 September 2001**

FEDERAL SPECIFICATION

WALL COVERING, VINYL-COATED

CCC-W-408D, dated 14 January 1994, is hereby canceled without replacement.

Custodians:

Navy - YD

Preparing activity:

DLA - IS

Review Activities:

Army - CR4

Navy - SH

AMSC N/A

FSC 5640

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

* INCH-POUND *

CCC-W-408D
January 14, 1994
SUPERSEDING
CCC-W-408C
July 11, 1989

FEDERAL SPECIFICATION

WALL COVERING, VINYL-COATED

This specification is 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 vinyl-coated wall coverings.

1.2 Classification. The vinyl-coated wall coverings are of the following types, as specified (see 6.2).

- Type I - Light duty.
- Type II - Medium duty.
- Type III - Heavy duty.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. 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 Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

*Beneficial comments (recommendations, additions, deletions) and any
 *pertinent data which may be of use in improving this document should be
 *addressed to: Commanding Officer (Code 156), Naval Construction Battalion
 *Center, 1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the
 *Standardization Document Improvement Proposal (DD Form 1426) appearing at
 *the end of this document or by letter.

FSC 5640

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

CCC-W-408D

Federal Specification

PPP-P-1136 - Packaging of Coated (Plastic; Rubber) and Laminated Fabrics

Federal Standard

FED-STD-191 - Textile Test Methods

(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 Specifications, 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 and 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, MA; New York, NY; Philadelphia, PA; Washington, DC; Atlanta, GA; Chicago, IL; Kansas City, MO; Fort Worth, TX; Houston, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.)

(Federal Government activities may obtain copies of Federal standardization documents, and the Index of Federal Specifications, Standards, and Commercial Item Descriptions from established distribution points in their agencies.)

Military Standards

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

MIL-STD-1623 - Fire Performance Requirements and Approved Specifications for Interior Finish Materials and Furnishings (Naval Shipboard Use)

(Copies of military specifications and standards required by contractors in connection with specific acquisition 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 document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation (see 6.2).

ASTM

ASTM D 685 - Conditioning Paper and Paper Products for Testing

ASTM D 751 - Coated Fabrics

ASTM D 2486 - Scrub Resistance of Interior Latex Flat Wall Paints

ASTM E 84 - Surface Burning Characteristics of Building Materials

ASTM G 21 - Determining Resistance of Synthetic Polymeric Materials to Fungi

(Application for copies should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.)

CCC-W-408D

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified in the contract or purchase order (see 6.2), the contractor shall furnish a complete roll of vinyl-coated wall covering of the type, surface texture, pattern, color, grain, and size specified for first article inspection and approval (see 4.2.1 and 6.3).

3.2 Standard commercial product. The vinyl-coated wall covering of the same classification shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, shall be included in the vinyl-coated wall covering being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturer's catalogs or brochures, and represents the latest production model.

3.3 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

3.3.1 Supporting material. The supporting substrate of the material shall be of woven cloth, nonwoven fabric, or other suitable materials, the use of which enables the vinyl-coated wall covering to meet the requirements of this specification.

3.4 Physical properties. The physical properties for vinyl-coated wall covering covered by this specification shall meet the requirements of table I when tested in accordance with the tests of 4.4 through 4.4.7.

CCC-W-408D

TABLE I. Physical properties.

Requirements	Type I	Type II	Type III
Color fastness to light 1/	200	200	200
Washability (cycles, min) 2/	100	100	100
Scrubability (cycles, min) 2/	200	300	500
Abrasion resistance (cycles, min) 2/ 3/	200	300	1000
Breaking strength (pounds/kilo, min) (machine direction)	40	50	100
(cross machine direction)	30	55	95
Crocking 4/	Good	Good	Good
Stain resistance (reagents)	1-9	1-12	1-12
Tear resistance (both directions) (scale rating, min)	12	25	50
Blocking resistance (scale rating, max)	2	2	2
Coating adhesion (pounds/inch, min) 5/	2	3	3
Cold crack resistance @20oF (-6.7oC)	No change	No change	No change
Heat aging resistance (7 days at 158oF (70oC))	6/	6/	6/
Flame spread (max)	25	25	25
Smoke development (max) 7/	50	50	50
Shrinkage (percent max) (machine direction)	2	2	2
(cross machine direction)	1	1	1.5

1/ The exposed sample shall not show appreciable change after the prescribed hours of exposure.

2/ Cycles are defined as "double rubs."

3/ Abrasive medium: 220 grit silicon carbon-coated abrasive sheet.

4/ Perform this test dry; the wall covering shall achieve as a minimum a "good."

5/ Nonwoven supporting material shall be bonded to the wearing surface. When an attempt is made to pull the wearing surface from the backing by hand, the backing shall delaminate or break before failure of the bonding.

6/ To pass, the tested sample shall not become stiff, brittle, soft, tacky, discolored, or show loss of grain.

7/ For shipboard applications, the fire performance criteria shall be in accordance with MIL-STD-1623.

3.5 Coating compound. The coating shall be formulated from polymerized or copolymerized vinyl chloride resin, suitably plasticized, stabilized, and pigmented.

3.5.1 Top coating. When necessary to meet the requirements of table I, a clear top coating or film may be used. Coating shall be uniform in thickness and free of blisters.

CCC-W-408D

3.6 Mildew resistant. When specified (see 6.2), the wall covering shall be mildew resistant. Wallcovering described as mildew resistant shall be protected to resist (fungal) mildew growth on the decorative surface to achieve a rating of 0 or 1 when tested in accordance with 4.4.8.

3.7 Fire rating. Unless otherwise specified (see 6.2), the flame spread and the smoke development shall be as stated in table I.

3.8 Finish. The surface texture, pattern, color, and grain of the vinyl-coated wall covering shall be as specified (see 6.2).

3.9 Length and width. The length and width of the wall covering shall be as specified (see 6.2 and 6.6).

3.10 Marking. Each roll shall have two identical labels, one inside the wrapping and one outside the wrapping. The labels shall indicate gross length, piece length, pattern, and color identification.

3.11 Workmanship. The vinyl-coated wall covering shall conform to the quality and grade of product established by this specification.

3.12 Definitions. Terms used in this specification are defined in 6.7.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).
- c. Preparation for delivery inspection (see 4.5).

CCC-W-408D

4.2.1 First article inspection. The first article inspection shall be performed on one complete roll of vinyl-coated wall covering when a first article is required (see 6.2). This inspection shall include the examination of 4.3 and the tests of 4.4 through 4.4.7. When mildew test is specified (see 6.2), test 4.4.8 shall be performed. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the vinyl-coated wall covering meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining vinyl-coated wall covering to be furnished under the contract.

4.2.1.1 First article tests. When first article is required (see 6.2), the first article shall be tested as specified in 4.4 through 4.4.7. The first article tests shall be performed by the contractor under the direction and in the presence of Government representatives. Failure to pass any phase of the required tests shall be cause for rejection.

4.2.1.2 Waiver of first article tests. Unless otherwise specified (see 6.2), the first article testing will be waived provided the following conditions are met by the contractor.

- a. The same type of wall covering being offered must have previously been tested as specified in 4.4 through 4.4.7 and found to have met those test requirements.
- b. There shall have been no changes in the manufacturing techniques or materials which would affect the physical properties of the wall covering during or since the testing was performed.
- c. Records which verify these conditions for waiver must be maintained by the contractor and must be available for review by an authorized contracting officer's representative. When agreed to by the contracting officer, a written statement from the contractor that the conditions for waiver have been met, will be accepted in lieu of the first article testing.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.3, the tests of 4.4 through 4.4.7, and the packaging inspection of 4.5. This inspection shall be performed on the samples selected in accordance with 4.3.

4.2.2.1 Inspection lot. A lot shall consist of each type of vinyl-coated wall covering offered for delivery at one time.

4.2.2.2 Sampling for examination. Sampling for this examination shall be in accordance with in MIL-STD-105. The sample unit shall be one complete fabricated roll of vinyl-coated wall covering.

4.2.2.3 Sampling for test. Sampling for test shall be in accordance with level S-1 of MIL-STD-105. The sample unit shall be one completely fabricated roll of vinyl-coated wall covering.

4.3 Examination. Each roll of vinyl-coated wall covering selected shall be examined for compliance with the requirements specified in section 3 of this specification and table II. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary

CCC-W-408D

redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

TABLE II. Classification of defects.

Categories	Defects	Reference Paragraph
Major:		
X	Type not as specified.	1.2
X	Uneven coating (blistering).	3.5.1
X	Color not as specified.	3.8
X	Surface texture not as specified.	3.8
X	Pattern not as specified.	3.8
X	Grain not as specified.	3.8
X	Dimensions not as specified.	3.9

4.4 Tests. Each sample selected in accordance with 4.2.2.3 shall be tested by the test method indicated in table III. Failure to pass any test shall be cause for rejection.

TABLE III. Tests methods.

Test	Requirement	Test Method
Color fastness 1/	Table I	FED-STD-191, method 5660
Washability	Table I	Para. 4.4.2
Scrubability	Table I	Para. 4.4.3
Abrasion resistance	Table I	Para. 4.4.4
Breaking strength	Table I	ASTM D 751, Grab Method
Crocking resistance	Table I	FED-STD-191, method 5651
Stain resistance	Table I	Para. 4.4.5
Tear resistance	Table I	ASTM D 751, method A
Blocking resistance	Table I	FED-STD-191, method 5972
Coating adhesion	Table I	ASTM D 751
Cold crack resistance 2/	Table I	Para. 4.4.6
Heat aging resistance	Table I	FED-STD-191, method 5850
Flame spread	Table I	ASTM E 84
Smoke development	Table I	ASTM E 84
Shrinkage	Table I	Para. 4.4.7

1/ The exposed sample shall show no appreciable change after the prescribed hours of exposure of table I.

2/ The test for coating adhesion is not applicable to wall covering from which a coating cannot be separated.

CCC-W-408D

4.4.1 Testing conditions. Unless otherwise provided in the test method, samples shall be tested under standard laboratory conditions set forth in ASTM D 685. To determine whether the visual appearance of a test specimen has been appreciably changed by a test, suspend the specimen at eye level in a vertical position, as on the wall, under illumination between 100 to 150 footcandle (1076 to 1615 lux), and view the specimen from a distance of 4 feet (1.2 meters (m)). An appreciable change is on such as discoloration, change in gloss, blistering, softening, swelling or loss of adhesion that is noticeable when the tested specimen is compared with a sample of the original specimen.

4.4.2 Washability. Cut a sample of wall covering 6-1/2 by 17 inches (165.1 millimeters (mm) by 431.8 mm) with the longer dimension in the cross direction. Choose an area with as many different printed colors as possible. If the wall covering is a type that cannot be washed the requisite number of rubs without wrinkling or tearing, the sample should be hung or mounted on a smooth finish board and allowed to dry 24 hours at room temperature with good air circulation prior to testing.

4.4.2.1 Detergent solution. The detergent solution is made by combining the following ingredients in the order given under agitation.

Demineralized water	160 milliliters (mL)
Anhydrous Trisodium Phosphate	4 grams (g)
Rohm & Haas Triton X100	8 g
Rohm & Haas ASE60	12 g mixed with 40 mL demineralized water
Glacial Acetic Acid	Trace*

*If necessary to adjust pH to 9.0 - 9.5.

4.4.2.2 Washability test procedure. Place the sample on a Gardner Washability Machine, Model M-105-A, or equal, equipped with a WG-2000C cellulose sponge, or equal, mounted on a plated brass holder (weight 1 pound (lb)) (0.455 kilograms (kg)). Distribute 1 tablespoon (14.79 milliliters) of detergent solution over the area to be washed. Install the cellulose sponge holder (which has been soaking in detergent solution for at least 15 minutes) onto the machine. Set the counter at zero and turn the machine on. At the end of the requisite number of cycles, stop the machine. Remove the sample, rinse it under running water and set it aside for examination after drying. If the sample tears or wrinkles excessively during the washing cycle, terminate the test and repeat. A strip of 1/8-inch (3.2 mm) brass or stainless steel 2-1/2 by 17 inches (63.5 by 431.8 mm) placed on the edge of the sample aids in avoiding wrinkling and tearing. The use of a semi-hard rubber mat, an accessory to the abrasion boat WG-2000E which fits the Gardner Washability Machine, may also be used to help minimize wrinkling. After drying, the sample shall show no evidence of appreciable damage to the printed or base surface. Areas of localized wear clearly related to wrinkles may be ignored.

4.4.3 Scrubability. Cut a sample of wall covering 6-1/2 by 17 inches (165.1 by 431.8 mm) with the longer dimension in the cross direction. Choose an area with as many different printed colors as possible. If the wall covering is a type that cannot be washed the requisite number of rubs without wrinkling or

CCC-W-408D

tearing, the sample should be hung or mounted on a smooth finish board and allowed to dry 24 hours at room temperature with good air circulation prior to testing.

4.4.3.2 Scrubability test procedure. Place the sample in a Gardner Washability Machine, Model M-105-A, or equal, equipped with a WG-2000NMA brush, nylon bristle, or equal (0.012-inch (0.305 mm) bristle tufts wired in a staggered 5/4 pattern). If the brush is new, level off the bristles according to ASTM D 2486. Test equipment should also include a rubber mat and holder (weight 1 lb (0.453 kg)). Soak the brush in the detergent solution defined in 4.4.2.1 for at least 15 minutes before the start of the test and store in a pan of the same detergent solution between tests. Immediately prior to performing a scrubability test, remove the brush from the pan of detergent and shake off the excess solution. Holding the brush with bristles pointing upward, distribute 1 tablespoon (14.79 milliliters) of the detergent solution over the face of the brush and immediately position the brush in the machine for the scrubability test. Stir the detergent solution before each use. Set the cycle counter at zero and start the machine. At the end of the requisite number of cycles, stop the machine. Remove the sample, rinse it under running water and set it aside for examination after drying. If the sample tears or wrinkles excessively during the washing cycle, terminate the test and repeat. A strip of 1/8-inch (3.2 mm) brass or stainless steel 2-1/2 by 17 inches (63.5 by 431.8 mm) placed on the edge of the sample aids in avoiding wrinkling and tearing. The use of a semi-hard rubber mat, an accessory to the abrasion boat WG-2000E which fits the Gardner Washability Machine, may also be used to help minimize wrinkling. After drying, the sample shall show no evidence of appreciable damage to the printed or base surface. Areas of localized wear clearly related to wrinkles may be ignored.

4.4.4 Abrasion resistance. Cut a sample of wall covering 2 by 8 inches (50.8 by 203.2 mm) with the shorter dimension in the cross direction. Take the specimen no nearer the selvage than one-tenth the width of the wall covering.

4.4.4.1 Abrasion resistance test procedure. Secure the 9-1/2 by 12 inch (241.3 by 304.8 mm) 220 grit silicon carbide coated abrasive sheet to the oscillating drum of a Wyzenbeek Precision Wear Test Meter, or equal. Take care that the abrasive sheet is neither wrinkled nor slack. The clamping mechanism should allow the least possible loosening of the abrasive sheet while in use. Fasten wall covering specimen in the sample clamps in such a manner that their length is closely parallel to the direction of the drum movement and set the tension so that it is equal across each specimen. The specimen should be centered laterally under the pressure pad. Lower the sample clamp arm into position, set the tension at 6 pound force (lbf) (8.13 newton meter) and set the pressure at 2 lbf (2.71 newton meter). Level the tension scale bar and pressure scale bar by means of their adjusting screws while holding the spirit level on top of them. Raise and lower the clamp arm after leveling, and recheck and repeat the adjustment as often as necessary to avoid inaccuracy caused by friction in the pressure pad, sample, abrasive assembly. Also check and level the base of the instrument. In the determination of finish wear resistance, change the abrasive at intervals of 10,000 cycles. To pass, the wallcoverings shall have no visual evidence of fiber show-through or damage to the supporting substrate.

CCC-W-408D

4.4.5 Stain resistance. Cut samples of wall covering 6-1/2 by 17 inches (165.1 by 431.8 mm) with the longer dimension in the cross direction. Choose an area with as many different printed colors as possible. The following reagents will be used in the stain resistance test.

Reagents.

- (1) Distilled water, cold (75 +/-5 degrees Fahrenheit (oF))(23.9 +/- 2.8o Celsius (C)).
- (2) Distilled water, hot (120 +/-5oF)(48.9 +/-2.8oC).
- (3) Ethyl alcohol (50 percent by volume).
- (4) Vinegar (3 percent acetic acid).
- (5) Alkali solution (1 percent sodium hydroxide).
- (6) Acid solution (5 percent acetic or hydrochloric acid).
- (7) Soap solution.
- (8) Detergent solution.
- (9) Pure orange juice.
- (10) Butter.
- (11) Catsup.
- (12) Tea.

4.4.5.1 Stain resistance test procedure. Lay the samples horizontally with the decorative surface upward. Pipet onto the wall covering surface 1 mL of each of the reagents. Type I wall covering - reagents 1 through 9. Type II and III wall coverings - reagents 1 through 12. Immediately cover each puddle of reagent with a watch glass and allow to stand for a period of 24 hours. After 24 hours remove the watch glass and clean the reagent from the sample using hot or cold distilled water, 50 percent ethyl alcohol, or with the detergent solution specified in 4.4.2.1. After drying, the sample shall show no evidence of appreciable change to the decorative surface.

4.4.6 Cold crack resistance. Condition a sample 2 inches by 8 inches (50.8 by 207.2 mm) from each direction of the wall covering and a 1/2-inch (12.7 mm) mandrel at + 20 +/-4oF (-6.7 +/-2.2oC) for a minimum of 30 minutes before testing. Maintaining the conditioning temperature quickly bend the sample 180o around the 1/2-inch (12.7 mm) mandrel with the uncoated side of the wall covering contacting the mandrel. The sample shall meet at not more than 1/4-inch (6.4 mm) behind the mandrel. Remove the specimen and perform a visual examination to detect cracks. To pass, the wall covering must not have cracked during testing.

4.4.7 Shrinkage. Three specimens 10 by 10 inches (254 by 254 mm) shall be soaked for 30 minutes in distilled water at standard conditions in accordance with ASTM D 685, then withdrawn from the water and dried in a circulating air oven at 200oF (93.3oC) for 30 minutes. The specimens shall then be conditioned at standard conditions for a period of 8 hours and remeasured. Determine the percent shrinkage as follows:

$$\text{Percent shrinkage} = \frac{A-B}{A} \times 100$$

A - measurement before test; B - measurement after test.

CCC-W-408D

To pass, the wall covering must not shrink more than 2 percent in the machine direction for types I, II, and III. In the cross machine direction, the wall covering must not shrink more than 1 percent for types I and II, or more than 1.5 percent for type III.

4.4.8 Mildew resistance. Test mildew resistance in accordance with ASTM G 21. A rating of 0 or 1 must be achieved in order for the wall covering to pass.

4.5 Preparation for delivery inspection. The preservation, packaging, packing, and marking of the item shall be inspected to verify conformance to the requirements of section 5.

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, packing, and marking. Unless otherwise specified, vinyl wall coverings shall be preserved, packaged, packed, and marked in accordance with the supplier's standard practice in a manner to prevent deterioration and damage during shipment. When specified (see 6.2), vinyl wall coverings shall be preserved, packaged, packed and marked in accordance with PPP-P-1136 with the levels of preservation, packaging, and level of packing as specified (see 6.2).

6. NOTES

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

6.1 Intended use.

- a. Type I wall covering is intended for ceilings and as a covering for areas not subjected to abrasion.
- b. Type II covering is for general use in areas of average traffic and scuffing.
- c. Type III wall covering is for use primarily as wainscot or lower protection for areas exposed to heavy traffic by movable equipment or rough abrasion such as exist in hospitals.

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

- a. Title, number, and date of this specification
- b. Type required (see 1.2)
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2)
- d. If first article is required for inspection and approval (see 3.1, 4.2.1, and 6.3)
- e. When mildew resistance is required (see 3.6)
- f. Flame spread and smoke development rating required (see 3.7)
- g. Surface texture, pattern, color, and grain required (see 3.8)
- h. Length and width required (see 3.9 and 6.6)
- i. When waiver of first article test is not acceptable (see 4.2.1.2)
- j. Level of preservation, packaging, packing, and marking required (see 5.1)

CCC-W-408D

6.3 First article. When a first article inspection is required, the item will be tested and should be a first production item consisting of one complete roll of vinyl-coated wall covering or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.4 Sampling procedures.

6.4.1 Sampling for examination. Recommend Inspection Level is S-3 and Acceptable Quality Level is 2.5 percent for major defects, 4.0 for minor defects (see 4.2.2.2).

6.4.2 Sampling for tests. Recommend Inspection Level is S-1 and Acceptable Quality Level is 2.5 (see 4.2.2.3).

6.5 Application. Vinyl wall covering should be applied with adhesive recommended by the wall covering manufacturer's instructions. Adhesives not attacked by fungus should be used for installations of wall coverings in areas where fungal degradation is a problem.

6.6 Available sizes. Vinyl wall coverings vary in width and length. Some of the available widths are 28, 36, 48, 54, 66 and 72 inches (711.2, 914.4, 1219.2, 1371.6, 1676.4, and 1828.8 mm). Length varies from manufacturer to manufacturer. Purchasers should consult manufacturers for specific dimensions.

6.7 Definitions. Terms used in this specification are defined in 6.7.1 through 6.7.14.

6.7.1 Abrasion resistance. Ability to withstand mechanical action such as rubbing, scraping, or scrubbing that may progressively tend to remove material from the surface of a wall covering.

6.7.2 Blocking resistance. Ability to resist adhesion or sticking between two surfaces of a wall covering that touch under uniform loading and temperature conditions for a specified time.

6.7.3 Breaking strength. Ability of a wall covering to withstand a pulling force.

6.7.4 Coating adhesion. A measure of the strength of the bond between the surface coating and the backing or substrate of a wall covering.

6.7.5 Cold cracking resistance. Ability to resist cracking of the coating or decorative surface when a wall covering is folded during exposure to low temperatures.

6.7.6 Colorfastness. Ability to resist change or loss of color resulting from exposure to light.

6.7.7 Crocking resistance. Ability to resist transfer of color from a wall covering surface when rubbed.

CCC-W-408D

6.7.8 Heat aging resistance. Ability to resist deterioration of the coating or decorative surface when a wall covering is exposed to elevated temperatures over an extended period.

6.7.9 Mildew resistant. A wall covering which has been treated to deter the growth of (fungal) mildew on the decorative surface.

6.7.10 Scrubability. Ability of a wall covering to withstand scrubbing with a brush and a prescribed detergent solution.

6.7.11 Stain resistance. Ability of a wall covering to show no appreciable change in appearance after application and removal of specified reagents.

6.7.12 Tear resistance. Ability of a wall covering to resist the propagation of an existing tear.

6.7.13 Wallcovering. A flexible product designed to cover walls and ceilings for decorative or functional purposes, or both.

6.7.14 Washability. Ability of a wall covering to withstand occasional sponging with a prescribed detergent solution.

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITY:

Custodian

GSA - FSS (7FXEE)

Navy - YD1

PREPARING ACTIVITY:

Review Activities

Navy - YD1

Army - ME

Project 5640-0582

Navy - SH