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21 March 1983
 SUPERSEDING
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 4 June 1975
 (See 6.6)

PERFORMANCE SPECIFICATION

DECK COVERING UNDERLAY MATERIALS

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

1. SCOPE

1.1 Scope. This specification covers deck covering underlay materials to smooth the surfaces of steel decks before applying deck covering materials.

1.2 Classification. Deck covering underlay materials shall be of the following types, as specified (see 6.2.1):

Type I - For use under ceramic tile, terrazzo, and other mastic deck covering materials.

Class 1 - Latex base underlay materials for use under ceramic tile, latex or resin emulsion terrazzo or latex mastic deck covering materials.

Class 2 - Resin base underlay materials for use under resin terrazzo, or polymeric deck covering materials.

Type II - Latex base underlay for use under linoleum and plastic tile, deck tile, and other similar preformed deck covering materials.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, the following specifications and standards, of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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SPECIFICATIONS

FEDERAL

- UU-S-48 - Sacks, Shipping, Paper.
- PPP-B-35 - Bags, Textile, Shipping, Burlap, Cotton and Water-proof Laminated.
- PPP-B-636 - Boxes, Shipping, Fiberboard.
- PPP-B-1714 - Bags, Shipping: Woven Polypropylene.
- PPP-C-96 - Cans, Metal, 28 Gage and Lighter.
- PPP-P-704 - Pails, Metal: (Shipping, Steel, 1 through 12 Gallons).

MILITARY

- MIL-S-901 - Shock Tests, H.I. (High-Impact); Shipboard Machinery, Equipment and Systems, Requirements for.
- MIL-P-24441 - Paint, Epoxy-Polyamide, General Specification for.
- MIL-P-24441/1 - Paint, Epoxy-Polyamide, Green Primer, Formula 150, Type I.

STANDARDS

FEDERAL

- FED-STD-313 - Material Safety Data Sheets, Preparation and the Submission of.

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-147 - Palletized Unit Loads.
- MIL-STD-1623 - Fire Performance Requirements and Approved Specifications for Interior Finish Materials and Furnishings (Naval Shipboard Use).

(Copies of specifications and standards required by contractors in connection with specific acquisition functions should be obtained from the contracting 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. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- D 1391 - Measurement of Odor in Atmospheres (Dilution Method), Test Method for.

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

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NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT
National Motor Freight Classification

(Application for copies should be addressed to the National Motor Freight Traffic Association, Inc., ATA TRAFFIC Dept., 1616 "P" Street, NW, Washington, DC 20036.)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
Rules and Regulations - Rule 102

(Application for copies should be addressed to the South Coast Air Quality Management District, 9150 E. Flair Drive, El Monte, CA 91731.)

UNIFORM CLASSIFICATION COMMITTEE AGENT
Uniform Freight Classification Ratings, Rules, and Regulations

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

(Industry association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Qualification. Deck covering furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.3 and 6.4).

3.2 Material. The deck covering underlay materials shall be suitable for application with a trowel after mixing. Mixing instructions shall be supplied by the manufacturer. Formulations shall be certified to be free of asbestos (see 6.2.2).

3.2.1 Type I, class 1. The deck covering underlay material shall be compounded from a liquid latex, underlay powder, and aggregate. The underlay powder and aggregate may be combined and provided as a single component.

3.2.2 Type I, class 2. The deck covering underlay material shall be compounded from a liquid synthetic resin based material, accelerator, or curing agent and aggregate. When provided as a complete system, the system shall also include necessary primers. Formulation shall conform with the requirements of Rule 102 of the South Coast Air Quality Management District (see 6.2.1).

3.2.3 Type II. The deck covering underlay material shall be compounded from a liquid latex, underlay powder, and aggregate. The underlay powder and aggregate may be combined and provided as a single component.

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3.3 Application. The deck covering underlay materials shall adhere to the deck or structure on which applied without the use of clips or other devices welded to the deck, or other reinforcement not a part of the compound as mixed for application. It shall be applied to clean steel surfaces which have been primed with Formula 150 in accordance with MIL-P-24441 and MIL-P-24441/1 or other primer if provided as part of the underlay system. Type II underlay material, in particular, shall be trowelled to a smooth feathered finish.

3.4 Odor. The deck covering underlay materials shall be free from objectionable odors under ordinary service conditions (see 4.6.14).

3.5 Weight. The deck covering underlay material after drying shall be of minimum practical weight, but shall not exceed the following (see 4.6.2):

Type I - 2-1/2 pounds per square foot (lb/ft²) in a thickness of 1/4 inch.

Type II - 2-1/2 lb/ft² in a thickness of 1/4 inch.

3.6 Resistance to impact. When tested as specified in 4.6.3, the deck covering underlay materials shall not show visible signs of chipping, cracking, or detachment from the steel plate (see 3.3). There shall be not more than 1/8 inch of permanent indentation for type I and not more than 1/16 inch of permanent indentation for type II.

3.7 Indentation.

3.7.1 Initial indentation. When tested as specified in 4.6.4, the initial indentation of the deck covering underlay material shall be as follows:

	<u>Type I</u>		<u>Type II</u>	
	<u>Minimum percent</u>	<u>Maximum percent</u>	<u>Minimum percent</u>	<u>Maximum percent</u>
Material cured 24 hours	---	40	---	20
Material cured 96 hours	1	40	1	5

3.7.2 Residual indentation (96 hour specimens only). Residual indentation of the deck covering underlay material 2 hours after removal of the load shall be not more than 38 and 5 percent of the original thickness for types I and II, respectively, when tested as specified in 4.6.4.

3.8 Resistance to elevated temperatures. The deck covering underlay materials shall not flow or slip in any part more than 1/16 inch, nor soften, when tested as specified in 4.6.5.

3.9 Resistance to moisture and temperature changes. The deck covering underlay materials shall show no signs of cracking, separation from the steel plate, or corrosion of the steel beneath the underlayment other than as caused by the liquid latex during the setting period immediately after application, when tested as specified in 4.6.6.

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3.10 Moisture absorption. The deck covering underlay material shall not absorb more than 5 percent of moisture for latex materials or more than 2 percent of moisture for other resins; based on its weight at normal atmospheric conditions, when tested as specified in 4.6.7.

3.11 Resistance to corrosion. The deck covering underlay material shall not soften or become detached; and the surface of the steel beneath the deck covering underlay material shall show no signs of corrosion other than as caused by the liquid latex during the setting period immediately after application when tested as specified in 4.6.8.

3.12 Fire resistance. The deck covering shall conform to the fire resistance requirements in accordance with MIL-STD-1623 (see 4.6.9).

3.13 Resistance to oil. When tested as specified in 4.6.10, the deck covering underlay material shall show the following change in weight and volume:

	<u>Percent (maximum)</u>
Change in weight	6.5
Change in volume	2

3.14 Shock resistance. The deck covering underlay materials shall not show signs of chipping, cracking, or detachment from the steel backing plate, when tested as specified in 4.6.11.

3.15 Adhesive strength.

3.15.1 Initial. The initial adhesive strength of the deck covering underlay materials shall be not less than 150 pounds per square inch (lb/in²), when tested as specified in 4.6.12.

3.15.2 After aging. The adhesive strength of the deck covering underlay materials after aging shall be not less than 85 percent of the initial adhesive strength, when tested as specified in 4.6.12.

3.15.3 After exposure. The adhesive strength of the deck covering underlay materials after exposure to moisture and temperature shall be not less than 95 percent of the initial adhesive strength, when tested as specified in 4.6.12.

3.16 Serviceability. The deck covering underlay material shall satisfactorily perform its function when examined during and after the minimum service period specified in 4.6.13.

3.17 Workmanship. The components of the underlay material shall be the products of a single manufacturer which, when combined, shall produce a finished product for application conforming to the requirements of this specification.

3.18 Material safety data sheet. The contracting activity shall be provided a material safety data sheet (Form MSDS) at the time of contract award. The MSDS is form OSHA-20 and found as part of FED-STD-313. The MSDS form shall be included with each shipment of the material covered by this specification.

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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 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 the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

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

- (a) Qualification inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

4.3 Qualification inspection. Qualification inspection shall be conducted at a laboratory satisfactory to the Naval Sea Systems Command (NAVSEA). Qualification tests shall consist of the examination of 4.5 and the tests specified in 4.6. Application for qualification tests shall be made in accordance with "Provisions Governing Qualification SD-6" (see 6.4 and 6.4.1).

4.4 Quality conformance inspection.

4.4.1 Lot. All unmixed material of the same type, but not more than 5,000 pounds, offered for delivery at one time, shall be considered a lot for purposes of acceptance inspection.

4.4.2 Sampling for examination of filled containers. A random sample of filled containers shall be selected from each lot offered for examination in accordance with MIL-STD-105, at inspection level I, and acceptable quality level (AQL) = 2.5 percent defective, to verify compliance with all stipulations of this specification regarding fill, closure, marking, and other requirements not involving tests.

4.4.3 Sampling for tests. Two containers shall be selected from each lot of rubber latex or resin binder and from each lot of underlay powder. From each of the containers, enough material to provide for the application of 9 square feet area and 1/4-inch (approximate) thickness shall be taken.

4.4.4 Lot tests. Each sample selected in accordance with 4.4.3 shall be subjected to the following tests:

<u>Test</u>	<u>Paragraph</u>
Weight	4.6.2
Resistant to impact	4.6.3
Indentation	4.6.4
Moisture absorption	4.6.7
Adhesive strength (initial only)	4.6.12

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4.4.4.1 Fire test. The fire resistance test (see 4.6.9) shall be conducted as part of the lot acceptance tests once for every 50,000 pounds of unmixed material offered for delivery under one or more contracts or orders. Manufacturers' records shall be used to determine quantities of material delivered.

4.4.4.2 Rejection. If any sample representing a lot is found not to be in conformance with this specification, this shall be cause for rejection of the entire lot. If a sample fails the fire resistance test, this test shall be conducted on every subsequent lot. This additional testing shall be discontinued and lot tests returned to the normal basis of 4.4.4 when four successive lots have been accepted.

4.4.4.3 Small lots. The tests of 4.4.4 shall not be required on any delivery of less than 2,000 pounds of unmixed material. However, deliveries of small quantities which are not represented by tests shall be so identified in the manufacturer's records and when the cumulated total of such deliveries reaches 2,000 pounds, sample material shall be selected and subjected to the tests of 4.4.4.

4.5 Examination.

4.5.1 Examination of filled containers. Each of the sample filled containers selected in accordance with 4.4.2 shall be examined for defects of the container and closure, for evidence of leakage, and for unsatisfactory marking. Each sample filled container shall also be weighed to determine the amount of the contents. Any container in the sample, having one or more defects or under required fill, shall be rejected and if the number of defective containers in any sample exceeds the acceptance number for the appropriate sampling plan in accordance with MIL-STD-105, the lot represented by the sample shall be rejected.

4.6 Test methods.

4.6.1 Preparation of specimens. Specimens of the sizes as specified in the following tests shall be made by mixing the deck covering underlay material in accordance with the manufacturer's instructions (see 3.2). The deck covering underlay material shall be trowelled on 1/8-inch-thick clean steel plates which have been primed with Formula 150 in accordance with MIL-P-24441 and MIL-P-24441/1 or other primer provided as part of the underlay system to a thickness of approximately 1/4 inch in one coat by means of wooden templates. The specimens shall be allowed to cure for 96 hours at room temperature before conducting tests, except those specimens required for the indentation tests specified in 4.6.4. Unless otherwise specified, all tests are referred to atmospheric conditions at a temperature of 70 to 75 degrees Fahrenheit (°F) and a relative humidity of 50 ± 2 percent. For specimens intended for immersion tests where corrosion of the steel may occur, areas not covered by the deck covering underlay material may be protected by a suitable anti-corrosion coating.

4.6.2 Weight. The deck covering underlay material shall be applied to three 6-inch-square, 1/8-inch thick mild steel plates which have been previously measured and weighed. When the material has dried for 96 hours, the three test specimens, including the steel plates, shall each be weighed to the nearest 0.1 gram. The length and width shall be measured to the nearest 0.1 inch, and the thickness to the nearest 0.001 inch. From the difference between the weight of the covered steel plate and the uncovered steel plate, the weight of the material shall be computed in ounces per square foot for a thickness of 1/4 inch.

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The final weight shall be the average of the three specimens. The thickness shall be determined by measuring the steel plates, with and without the covering, at 16 equally distributed points on the specimen, by means of a dial thickness gage and a template. The difference in thickness of the steel plate and the covered steel plate shall be averaged to determine the thickness of the material.

4.6.3 Resistance to impact. Two specimens, prepared as specified in 4.6.1, 6 inches square shall be used. Each specimen shall be tested separately after being firmly held on a solid horizontal base. A 2-pound steel ball shall be dropped vertically from a height of 8 feet onto the underlayment, such that the impact will be at the center of the specimen. Each specimen shall be subjected to two impacts of the ball.

4.6.4 Indentation.

4.6.4.1 Specimens. Four specimens, 6 inches square, prepared as specified in 4.6.1, shall be used, except two of the specimens shall only be allowed to cure for 24 hours at room temperature before undergoing indentation.

4.6.4.2 Procedure.

4.6.4.2.1 Indentation. Three indentations shall be made on the deck covering underlay material of each specimen and the results averaged. The center of each indentation shall be not less than 1-1/2 inches from the edge of the specimen and not less than 2-1/2 inches from the center of the adjoining indentation. A load of 2,000 pounds shall be applied on the underlayment for 30 minutes by means of a flat faced circular indenter. The indenter's flat face shall have an area of 1 square inch and its perimeter shall be rounded to a radius of 1/64 inch.

4.6.4.2.2 Thickness. Thickness readings are taken before and immediately after indentation at the center of each indented area. For determination of residual indentation, the thickness is measured 2 hours after removal of the load. The percent indentation is calculated on the basis of the measured specimen thicknesses. The thickness measurements are made using a micrometer dial gage with a 4-ounce weight and a 1/4-inch-diameter flat foot.

4.6.4.2.3 Special precautions. Care shall be taken to ensure that the indented surface is maintained parallel to the plane of the specimen mounting plate and that it travels perpendicular to that plane. In addition, the specimen mounting plates selected for the indentation tests shall be checked for flatness before being used.

4.6.4.3 Initial indentation. The initial indentation shall be taken as the difference in percent between the thickness of the deck covering underlay material before indentation and immediately after the load has been removed.

4.6.4.4 Residual indentation. The residual indentation shall be taken as the difference in percent between the thickness of the deck covering underlay material before indentation and 2 hours after the load has been removed.

4.6.5 Resistance to elevated temperature. The resistance of the material to elevated temperature shall be determined as follows:

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4.6.5.1 Flow or slip. A specimen, prepared as specified in 4.6.1, 6 by 2 inches, shall be scribed with a line parallel to and approximately 1 inch from a 2-inch edge used as a reference. The distance between this line and the edge of the steel plate shall be measured to the nearest 0.01 inch. The specimen shall then be suspended vertically from the end opposite the reference end in an oven maintained at a constant temperature of $158 \pm 2^\circ\text{F}$ for 5 hours. When the specimen has cooled to room temperature, the distance between the reference edge and the line shall be measured again. The difference between the two measurements is called the flow or slip.

4.6.5.2 Softening. The deck covering underlay material shall be examined by touch immediately after the specimen has been removed from the oven, to determine whether the material has softened under the action of heat.

4.6.6 Resistance to moisture and temperature changes. Two specimens, 6 by 2 inches, prepared as specified in 4.6.1, shall be immersed in a solution of 4 percent sodium chloride in water, under a pressure of 8 lb/in², for 48 hours. Immediately after immersion, the specimen shall be subjected to two complete cycles of alternate exposure to a temperature of $0 \pm 5^\circ\text{F}$ for 24 hours, followed by a temperature of $120 \pm 5^\circ\text{F}$ for 24 hours. The deck covering underlay material shall then be examined for evidence of cracking or other failure. A portion of the underlayment shall be carefully removed from the plate to observe any signs of rusting or corrosion beneath the underlayment.

4.6.7 Moisture absorption. Three specimens, 2 inches square by 1/4 inch thick, shall be prepared by applying the deck covering underlays to oiled surfaces of steel plate, so that upon drying, the underlayment will not adhere to the plates. Each specimen without the steel backing plate shall be weighed dry, dipped into tap water at room temperature, lightly wiped on all surfaces with a paper towel, and again weighed to the nearest 0.1 gram. Immediately after weighing, the specimen shall be immersed in the above water for 24 hours, lightly wiped, again weighed. The percent gain in moisture shall be based on the weight of the dry specimen and the difference between the weight after 24 hours immersion and the weight after dipping and wiping.

4.6.8 Resistance to corrosion. Two specimens, prepared as specified in 4.6.1, 6 by 2 inches shall be used. The specimens shall be immersed in a 10 percent salt (NaCl) solution for 15 days, during which time a continuous stream of air shall be passed through the solution, in order to promote corrosion. The specimens shall then be examined to determine whether the material has softened or detached from the steel backing plates. A portion of the deck covering underlay material shall be removed carefully from the steel plates, to observe any signs of rusting or corrosion of the steel plate beneath the underlayment.

4.6.9 Fire resistance. The char length, combustion and ignition shall meet the requirements of MIL-STD-1623.

4.6.10 Resistance to oil. Three specimens, 2 inches square by 1/4 inch thick, shall be prepared as for the moisture absorption test. Each specimen without the steel backing plate shall be weighed dry, dipped into SAE 10W oil, and lightly wiped on all surfaces with a paper towel. The specimen shall then again be weighed in air, and also while totally immersed in tap water. Immediately after weighing, the specimen shall be immersed for 24 hours in the oil

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specified herein, lightly wiped, and again weighed in air and while totally immersed in tap water. The percent gain in weight shall be based on the weight of the dry specimen and the difference between the weight after 24 hours immersion and the weight after dipping and wiping. The percent change in volume shall be based on the weight of the specimen immersed in water, before and after 24 hours immersion in oil.

4.6.11 Shock resistance. Three specimens, 6 inches square, shall be prepared by applying underlay material centrally to three 8-inch-square by 1/8-inch-thick mild steel plates, by means of wooden templates such that a 1-inch wide portion of the steel plate is exposed along the periphery of the specimen. Each specimen shall be subjected to high impact (H.I.) shock in a testing machine conforming to MIL-S-901. Each specimen is centrally secured to the test plate of the testing machine by eight 1/4-inch-diameter machine screws, equally located along the periphery of the specimen plate, 1/2 inch away from the edge of the specimen steel plate. Each specimen shall then be subjected to a series of shocks consisting of consecutive blows of 100, 200, 400, 700, 1,000, 1,400, and 2,000 foot-pounds (ft/lb) to provide approximately uniform increase of striking velocity. The 2,000 ft/lb blow shall then be immediately followed by a second 2,000 ft/lb blow. The underlayment shall then be examined for chipping, cracking, or detachment from the steel backing plate.

4.6.12 Adhesive strength. Eighteen 2- by 6-inch specimens shall be prepared as specified in 4.6.1, except that the underlay material shall only cover 2 inches square on each specimen. By using a wooden template, the underlay shall be applied such that 1 inch of the steel plate is exposed at one end, and 3 inches exposed at the opposite end. Specimens shall be tested by measuring the load required to shear the 2-inch-square area of deck covering underlay from the steel backing plate by means of a shear test jig as shown on figure 1. Six specimens shall be tested to determine the initial adhesive strength. Six specimens shall be tested after aging in an oxygen bomb for 96 hours under a pressure of 300 lb/in² and temperature of 158°F. The remaining six specimens shall be tested after a moisture and temperature cycle as specified in 4.6.6. All specimens shall be tested by compression loading at a rate of 0.25 inch per minute. The load at failure shall be recorded and the average of six readings taken for computations of the adhesive strength in lb/in², for the respective conditions.

4.6.13 Serviceability. The deck covering underlay material shall be applied in wet places aboard ship and undergo a minimum 6 months' service test.

4.6.14 Odor test. The odor test shall be conducted on the cured underlay material in accordance with ASTM D 1391.

4.7 Inspection of packaging. Packaging, packing, and marking shall be examined to determine compliance with section 5 of this specification.

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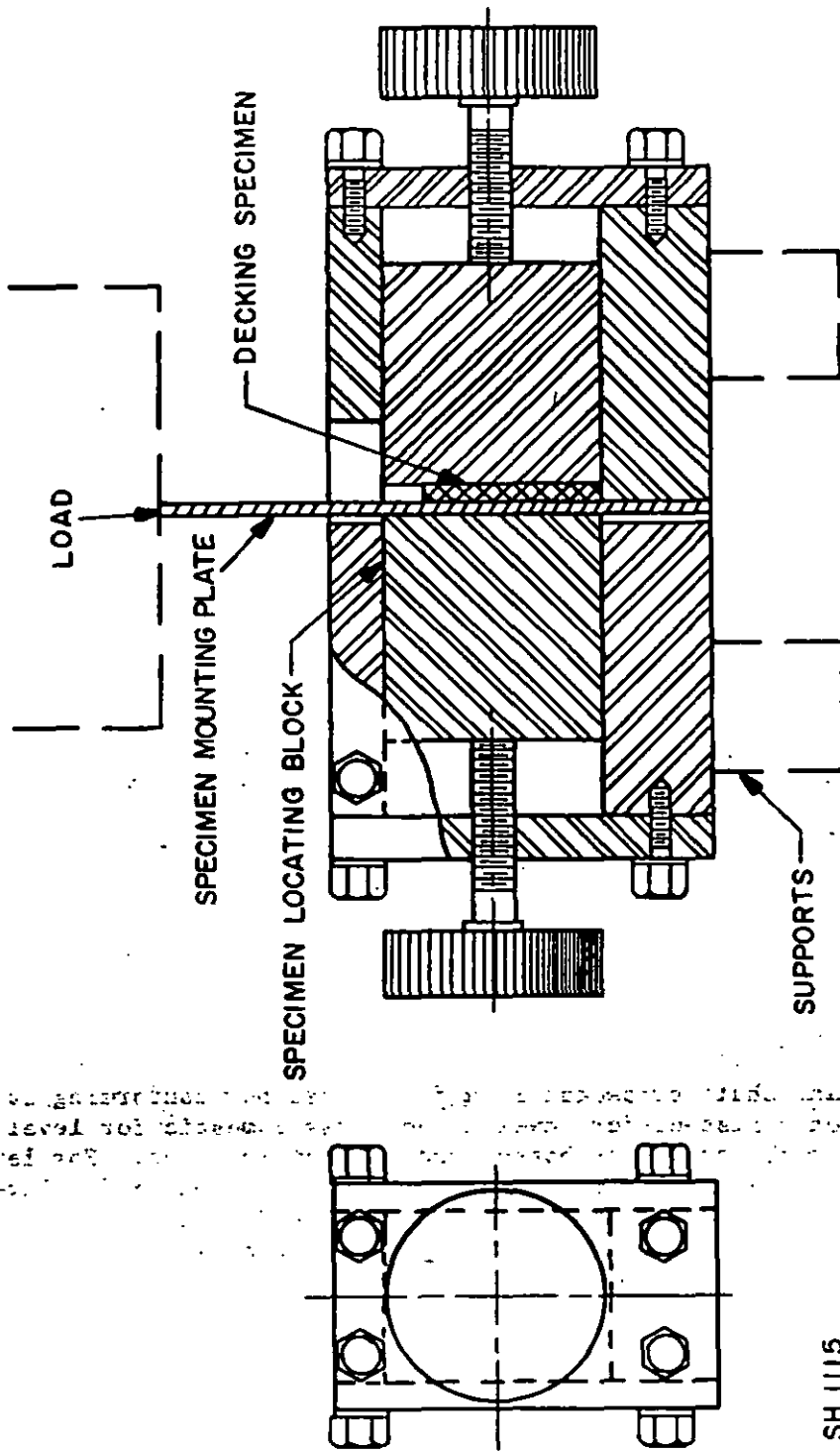


FIGURE 1. Shear test jig for hard-setting deck covering materials.

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5. PACKAGING

(The preparation for delivery requirements specified herein apply only for direct Government acquisitions. For the extent of applicability of the preparation for delivery requirements of referenced documents listed in section 2, see 6.5.)

5.1 Packaging. Packaging shall be level A or C, as specified (see 6.2.1).

5.1.1 Level A.

5.1.1.1 Underlay materials. The deck covering can be supplied as a kit, consisting of appropriate resin and dry ingredients. The quantity of each component in the kit shall be in the proper proportions such that when applied it shall meet the performance herein. The components shall be supplied in cans or pails of appropriate size to contain the required quantities of each material. The pail containing the dry ingredients shall be of sufficient size to contain the materials when mixed ready for application. Materials may also be supplied separately, resins in appropriate cans and pails and dry ingredients in sacks or bags.

5.1.1.1.1 Cans. Cans shall conform to type V, class 2, round of PPP-C-96. Exterior plan B coating and side seam striping is required. Cans shall be provided with wire handles and shall be galvanized or coated, to resist corrosion.

5.1.1.1.2 Pails. Pails for latex resin shall conform to type I, class 5 or type II, class 4 of PPP-P-704. Interior and exterior coatings are required. Pails for other resins shall conform to type II, classes 3, 5, or 11. Interior coating is not required. Wire handles or bails shall be treated to resist corrosion. Container selection shall be at the contractor's option.

5.1.2 Dry ingredients. The dry ingredients shall be furnished in quantities not exceeding 100 pounds net weight in paper or textile bags or sacks conforming to UU-S-48, PPP-B-35, or PPP-B-1714.

5.2 Packing. Packing shall be level A, B, or C as specified (see 6.2.1).

5.2.1 Levels A and B.

5.2.1.1 Cans. Cans shall be packed in a fiberboard box conforming to PPP-B-636, class weather resistant for level A and class domestic for level B. Fiberboard pads shall be placed on the bottom and tops of the cans. For level A, boxes shall be closed and waterproofed in accordance with method V; for level B, boxes shall be closed in accordance with method I as specified in the box specification. Reinforcing of level A boxes shall be accomplished by the use of nonmetallic banding or pressure sensitive reinforced tape at the contractor's option.

5.2.1.2 Pails and sacks. Pails and sacks shall require no additional packing. When specified (see 6.2.1), pails and sacks shall be palletized in accordance with MIL-STD-147.

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5.2.2 Level C. Deck covering, packaged as specified in 5.1, shall be packed in containers acceptable to the common carrier which will insure safe delivery at destination in a satisfactory condition at the lowest applicable rate. Container packing or method of shipment shall comply with Uniform Freight Classification Ratings, Rules, and Regulations or National Motor Freight Classification or other carrier rules, as applicable to the mode of transportation.

5.3 Marking. In addition to any special marking (see 6.2.1) and as required by the contract or order or herein, interior packages, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129.

5.3.1 Special marking. Each component container shall have the following additional information:

- (a) Type.
- (b) Manufacturer's name.
- (c) Manufacturer's lot number and date of manufacture.
- (d) Contract number.
- (e) Shelf-life marking.
- (f) For products indicating compliance with the air pollution requirement (see 3.2.2), the following additional marking is required:

"The volatile content of the material in this container is not photochemically reactive as defined by Rule 102 of the South Coast Air Quality Management District."

- (g) Asbestos free.

5.3.1.1 Where applicable, each component container shall be marked with the following:

"CAUTION

This is one component of a two component system which WILL NOT HARDEN unless both components are mixed together.

INSTRUCTIONS FOR USE

Refer to manufacturer's written mixing and application instructions prior to use."

5.3.1.1.1 Air pollution compliance. For those products which have been approved for use in areas with regulations controlling the emission of solvents into the atmosphere (see 3.2.2 and 6.3), containers shall include the following statement: "Complies with air pollution regulations".

5.3.1.2 Caution label. When applicable, each component container shall be marked with the following:

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"CAUTION: Avoid skin contact during application. Chemicals may cause irritation or skin sensitization. In case of contact, wash skin thoroughly with soap and water."

5.3.1.3 For shipping containers and palletized unit loads, a copy of the Material Safety Data Sheet (Form OSHA-20) shall be attached to the shipping document for each destination (see 3.18). The contractor shall furnish a copy of the OSHA-20 form to NAVSEA with application for product qualification.

6. NOTES

6.1 Intended use. The deck covering underlay material covered by this specification is intended for use in fairing of the decks prior to applying: polymeric deck covering materials specified in MIL-D-24613, latex mastic or terrazzo deck covering materials specified in MIL-D-3134, magnesium-oxychloride deck covering specified in MIL-D-16680, ceramic tile specified in American National Standards Institute (ANSI) A 137.1, plastic tile specified in: MIL-T-18830 and SS-T-312, and electrical grade sheet specified in MIL-M-15562.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Type required (see 1.2).
- (c) Compliance with air pollution regulations required (see 3.2.2).
- (d) Levels of packaging and packing required (see 5.1 and 5.2).
- (e) Type container and quantity required (see 5.1.1.1, 5.1.1.1.1, 5.1.2 and 5.2.1.1).
- (f) Whether palletization is required (see 5.2.1.2).
- (g) Special marking required (see 5.3).

6.2.2 Data requirements. When this specification is used in an acquisition which incorporates a DD Form 1423, Contract Data Requirements List (CDRL), the data requirements identified below shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved CDRL incorporated into the contract. When the provisions of DAR 7-104.9 (u)(2) are invoked and the DD Form 1423 is not used, the data specified below shall be delivered by the contractor in accordance with the contract or purchase order requirements. Deliverable data required by this specification is cited in the following paragraph.

<u>Paragraph no.</u>	<u>Data requirement title</u>	<u>Applicable DID no.</u>	<u>Option</u>
3.2	Certificate of compliance	DI-E-2121	—

(Data item descriptions related to this specification, and identified in section 6 will be approved and listed as such in DoD 5000.19L., Vol. II, AMSDL. Copies of data item descriptions required by the contractors in connection with specific acquisition functions should be obtained from the Naval Publications and Forms Center or as directed by the contracting officer.)

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6.2.2.1 The data requirements of 6.2.2 and any task in section 3, 4, or 5 of the specification required to be performed to meet a data requirement, may be waived by the contracting/acquisition activity upon certification by the offeror that identical data were submitted by the offeror and accepted by the Government under a previous contract for identical item acquired to this specification. This does not apply to specific data which may be required for each contract regardless of whether an identical item has been supplied previously (for example, test reports).

6.2.2.2 Material safety data sheet. In order to obtain the MSDS, which is found as a part of FED-STD-313, DAR clause 7-104.98 must be invoked in the contract.

6.3 Formulations which comply with air pollution regulations may be required for use in areas with regulations controlling the emission of solvents into the atmosphere.

6.4 With respect to products requiring qualification, awards will be made only for products which are at the time set for opening of bids, qualified for inclusion in the applicable Qualified Products List QPL-3135 whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. The activity responsible for the Qualified Products List is Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362, and information pertaining to qualification of products may be obtained from that activity. *Application for qualification tests shall be made in accordance with "Provisions Governing Qualification SD-6" (see 6.4.1).*

6.4.1 Copies of "Provisions Governing Qualification SD-6" may be obtained upon application to Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

6.5 Sub-contracted material and parts. The preparation for delivery requirements of referenced documents listed in section 2 do not apply when material and parts are acquired by the contractor for incorporation into the equipment and lose their separate identity when the equipment is shipped.

6.6 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Preparing activity:
Navy - SH
(Project 5610-0208)

Custodians:
Navy - SH
Air Force - 99

Review activities:
Navy - CG
Air Force - 99
DLA-CS

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1. DOCUMENT NUMBER
MIL-D-3135G

2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)
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 USER
 MANUFACTURER
 OTHER (Specify):

3b. ADDRESS (Street, City, State, ZIP Code)

5. PROBLEM AREAS
a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

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8. DATE OF SUBMISSION (YYMMDD)