

MIL-I-742F
18 March 1980
SUPERSEDING
MIL-I-00742E(SH)
28 August 1978
and MIL-I-742D
26 September 1975
(See 6.5)

MILITARY SPECIFICATION

INSULATION BOARD, THERMAL, FIBROUS GLASS

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

1. SCOPE

1.1 Scope. This specification covers a fire-resistive fibrous glass thermal insulation board.

1.2 Classification. Fibrous glass thermal insulation board shall be of the following types, as specified (see 6.2.1):

Type I - Fibrous glass cloth-faced board.
Type II - Unfaced board.

2. APPLICABLE DOCUMENTS

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

SPECIFICATIONS

FEDERAL

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

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 3112, 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.

FSC 5640

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- MIL-A-3316 - Adhesives, Fire-Resistant, Thermal Insulation.
- MIL-E-17970 - Enamel, Nonflaming (Dry), Chlorinated Alkyd Resin, Soft White, Semigloss, Formula 124/58.
- MIL-C-20079 - Cloth, Glass; Tape, Textile, Glass; and Thread, Glass.

STANDARDS

MILITARY

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

(Copies of specifications, standards, drawings, and publications 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. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- C 167 - Thickness and Density of Blanket-or Batt-Type Thermal Insulating Materials, Tests for.
- C 177 - Steady-State Thermal Transmission Properties by Means of the Guarded Hot Plate.
- C 518 - Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter.
- D 781 - Puncture and Stiffness of Paperboard, Corrugated and Solid Fiberboard, Test for.
- D 1448 - Micronaire Reading of Cotton Fibers, Test for.
- E 84 - Surface Burning Characteristics of Building Materials.

(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, N.W., Washington, DC 20036.)

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.)

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

3. REQUIREMENTS

3.1 First article. When specified (see 6.2.1), the contractor shall furnish sample unit(s) for first article inspection and approval (see 4.3 and 6.3).

3.2 Type I, fibrous glass cloth-faced board.

3.2.1 Materials. The board shall consist of a backing conforming to type II unfaced board, laminated with fibrous glass cloth impregnated with a suitable resin and secured with a cement. The glass cloth facing shall be free of wrinkles and other irregularities.

3.2.2 Cloth. Cloth for the board facing shall conform to the requirements of type I, class 2 of MIL-C-20079.

3.2.3 Tape. Fibrous glass tape covering the butted joints of the board shall conform to type II, class 1 of MIL-C-20079.

3.2.3.1 Adhesive bond strength (or tape). The bond strength requirement for securing fibrous glass tape to the glass cloth-faced board shall be as specified in MIL-A-3316 (see 4.8).

3.2.3.2 Adhesive. The adhesive cement used in the fabrication of laminated type I board shall conform to the fire resistance requirements of MIL-A-3316 only when the glass cloth facing (see 3.2.2) is acquired separately from type II board and subsequently laminated at the installation site. Otherwise, 3.2.8 applies for type I board when acquired as a laminate directly from vendors.

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3.2.4 Facing alinement. In case the facing material does not cover the entire surface of the board, the uncovered portion of the board shall not extend back farther than 1/8-inch from any edge. The facing shall not extend over the edge of the board more than 1/8-inch.

3.2.5 Cutability. When the board is cut or sawed, the threads of the cloth facing across which the cut is made shall not be separated from the face over a distance of more than 1/8-inch (see 4.7.10).

3.2.6 Puncture resistance. The puncture resistance of the faced board shall not be less than 800 ounce-inches per inch of tear (see 4.7.3).

3.2.7 Paintability. The faced board, as furnished, shall be compatible with and shall hold one coat of paint in accordance with MIL-E-17970 without requiring any coats of priming or sizing (see 4.7.4).

3.2.8 Fire resistance.

3.2.8.1 A type I, faced board, 1-inch in thickness, shall meet the fire test requirements specified in 4.7.8.1 and table III.

3.2.8.2 Type I, faced board (core only), shall pass the fire test specified in 4.7.8.2 and table III.

3.3 Type II, unfaced board.

3.3.1 Materials. The basic material shall be glass, processed from a molten state into fibrous form, bonded with a binder and compressed or otherwise formed into a board. The board shall be sufficiently smooth to present a satisfactory surface for facing into type I, fibrous glass cloth faced board. A thin resin coating may be applied to the surfaces of the board to improve handleability in relation to the board to be grooved and kerfed.

3.3.2 Alkalinity. The alkalinity of the board expressed as equivalent sodium oxide (NA₂O) shall not exceed 0.60 percent (see 4.7.6).

3.3.3 pH. The pH shall not exceed 12.0 (see 4.7.7).

3.3.4 Fire resistance. Type II, unfaced board, shall pass the fire test specified in 4.7.8.2 and table III.

3.4 Dimensions. Insulation board shall be furnished in the following dimensions, as specified (see 6.2.1).

	Inches
Thickness.....	3/4, 1, 2
Width.....	24
Length.....	36, 48

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3.4.1 Tolerances. A plus or minus tolerance of 1/4-inch in length and width and of 3/32-inch in thickness will be permitted.

3.5 Weight. The weight of the insulation board shall be as specified in table I.

TABLE I. Weight.

Nominal thickness	Nominal weight (ounces per square foot) ^{1/}	
	Type I	Type II
Inches		
3/4	4.5	2.8
1	5.4	3.7
2	^{2/} 9.1	^{2/} 7.4
2	^{3/} 10.3	^{3/} 7.8

^{1/}For type I, a tolerance of plus 10 or minus 20 percent and for type II, a tolerance of plus or minus 10 percent will be permitted for the average weight of a lot. For types I and II, a tolerance of plus or minus 20 percent will be permitted for the weight of any individual board.

^{2/}Board manufactured without lamination.

^{3/}Board may be manufactured by lamination.
Weight includes adhesive used in laminating.

3.6 Compression. The unit load required to compress the board to 40 percent of its original thickness shall average not less than 250 pounds per square foot (lb/in²) (see 4.7.5). Upon completion of the test, the board, after a 5-minute interval, shall return to within 90 percent of its original thickness.

3.7 Thermal conductivity. The thermal conductivity (k) of the insulation board shall not exceed 0.23 British thermal units (Btu) per square foot, hour, degree fahrenheit per inch at a mean temperature of 75°F (see 4.7.9).

3.8 Kerfing of board. The board shall be capable of being kerfed with 90 degree V-groove, producing smooth cut surfaces (see 4.7.10). The board shall be capable of being folded at the V-grooves and shall form neat square corners. The facing of type I board shall be capable of being bent readily at the fold and shall form neat square corners (see 4.7.10.2).

3.9 Fiber diameter. The average diameter shall not exceed 0.00030 inch (see 4.7.1).

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3.10 Recovered materials. Unless otherwise specified herein, all equipment, material, and articles incorporated in the products covered by this specification shall be new and shall be fabricated using materials produced from recovered materials to the maximum extent practicable 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. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification unless otherwise specifically specified.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, 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) First article inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).

4.3 First article inspection. First article inspection shall consist of the examination of and tests specified in 4.4 and 4.7, except for fire resistance (see 4.7.8) and thermal conductivity (see 4.7.9), for which certificates of compliance are acceptable.

4.3.1 First article inspection report. The contractor shall furnish a first article inspection report in accordance with the data ordering document included in the contract (see 6.2.2).

4.3.2 First article sample. The first article sample shall consist of one board from each type of insulation acquired at any one time.

4.4 Quality conformance inspection. Inspection shall be in accordance with the provisions of MIL-STD-105, except where otherwise indicated.

4.4.1 Inspection of end item.

4.4.1.1 Examination of end item. The lot size shall be the total number of boards (see 4.4.1.1.1) and the number of cartons in which the entire lot is shipped (see 4.4.1.1.2).

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4.4.1.1.1 Examination of end item for defects in appearance and dimensions. The sample unit for the examination of table II shall be one insulation board. The inspection level for determining the sample size shall be level I, with an acceptable quality level (AQL) of 6.5 percent defective. Not more than five boards shall be selected from a single carton.

TABLE II. Examination for visual and dimensional defects.

Examination	Defect
Appearance (Type I)	Facing wrinkles or facing not adhered over entire surface of backing. Excessive surface waviness or delamination of fiber layers which result in increase of thickness of 1/4-inch or greater. Facing not aligned as specified.
Appearance (Type II)	Surface not sufficiently smooth to permit facing per type I.
Paintability (Type I only)	Not as specified in 3.2.7.
Classification	Type not as specified (see 1.2).
Dimensions	Not within limits or tolerances specified in 3.4 or by contract requirements.
Weight	Not as specified in 3.5 and table I.

* 4.4.1.1.2 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-105. The inspection level shall be S-2 with an AQL of 4.0 expressed in terms of percent defective.

4.4.2 Testing of the end item.

4.4.2.1 Lot. A lot shall consist of all boards of the same type, size, and thickness produced under similar conditions and ready for inspection or shipment at one time. Unless otherwise specified (see 6.2.1), the lot size shall be expressed in the number of boards.

4.4.2.2 Sampling. The sample unit shall be one board. The sample size shall be in accordance with inspection level S-1 of MIL-STD-105. The AQL for the test shall be 4.0.

4.4.3 Weight verification. The sample unit shall be one board. One board shall be selected at random, from each of the sample filled cartons (see 4.4.1.1.2). The total weight of these boards shall be used to compute an average weight for comparison with and the average weight found in 4.4.1.1.2.

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4.5 The end item shall be tested for the applicable characteristics as shown in table III.

TABLE III. Instructions for testing of the end item.

Characteristic	Requirement	Test paragraph	No. of determinations per test sample	Results reported to the nearest
<u>Type I, fibrous glass cloth faced board.</u>				
Tape bond strength	3.2.3.1	4.8	5	1/8 in; 0.5 lb.
Cutability	3.2.5	4.7.10	1	1/32 in.
Puncture	3.2.6	4.7.3	4	10 oz-in/in. of tear
Paintability	3.2.7	4.7.4	1	-----
Fire resistance	3.2.8.1	4.7.8.1	3	Flame spread...25 Smoke developed.....15
Core only	3.2.8.2	4.7.8.2		Pass
<u>Type II, unfaced board</u>				
Alkalinity	3.3.2	4.7.6	3	0.5 percent
pH	3.3.3	4.7.7	3	0.1 pH
Fire resistance	3.3.4	4.7.8.2	5	Pass
<u>General, types I and II</u>				
Weight	3.5	4.7.2	1	0.1 oz/sq.ft.
Thickness	3.4	4.7.2	1	1/16 in.
Compression	3.6	4.7.5	3	1 lb/sq.ft.
Thermal conductivity	3.7	4.7.9	1	0.01 Btu-in/hr. ft. sq. ft.
Kerfing	3.8	4.7.10	1	-----
Fiber diameter	3.9	4.7.1	1	-----

4.6 Certificate of compliance. The contractor shall prepare a certificate of compliance in accordance with the data ordering document included in the contract (see 6.2.2). Except for fiber diameter, thickness, and weight, the certificate of compliance shall be acceptable proof that the product being offered meets the requirements of table III of this specification provided the vendor furnishes actual test results indicating that tests have been performed to substantiate the certification. The certification shall state that the tests described in table III have been performed on products manufactured from the same basic ingredients and manufacturing process as the items being offered and that any changes in basic ingredients or process shall be promptly reported to both the contracting activity and

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Commander, Naval Sea Systems Command, (Materials Engineering), Department of the Navy, Washington, DC 20362. In this event, the Government at its sole discretion reserves the right to require that tests for conformance to table III be conducted on all lots before shipment is made.

4.7 Test procedures.

4.7.1 Fiber diameter. The diameter of the fiber shall be determined by either of the following methods:^{1/}

- (a) Microscopic. Diameter of fibers shall be determined microscopically on the basis of measuring 50 fibers from the samples selected in accordance with 4.4.2.2. The average diameter for purposes of determining conformance shall be the average of all measurements.
- (b) Air flow. The air flow method as measured by the micronaire instrument in accordance with ASTM D 1448 with the addition that the micronaire unit must be calibrated for the purpose of testing fibrous glass.

4.7.2 Thickness and weight. Thickness and weight shall be determined in accordance with the method specified in ASTM C 167.

4.7.3 Puncture resistance (type I only). Puncture resistance shall be determined in accordance with the method specified in ASTM D 781, except as follows: The test specimen, 24 by 18 inches, shall be placed, with the cloth faced down, between the clamping plates. The loose sleeve shall be placed against the base of the puncture point and the pointer shall be set about one inch above the expected reading. The pendulum shall be raised to the horizontal position. The pendulum shall be released by pushing the latch handle to the left. The reading on the proper scale shall be noted after the pendulum has completed its swing. Two determinations shall be made in the warp direction and two in the filling direction of the cloth on each specimen.

4.7.4 Paintability (type I only). When one coat of fire-retardant paint conforming to MIL-E-17970 is applied to the cloth-faced insulation board, the paint shall dry to a uniform smooth coat which shall have a flat to semi-gloss appearance when viewed under ordinary conditions of illumination. There shall be no shiners or flashes. Tinted colors shall dry to a uniform even color.

^{1/}In case of dispute, the microscopic method shall be used.

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4.7.5 Compression. A test specimen, 12 by 12 inches, shall be cut from a full-sized board. It shall be placed between the pressure plates of a compression testing machine, accurate to plus or minus one percent of the scale. A dial micrometer graduated to 0.001 inch shall be rigidly attached to the machine so as to measure the separation between the plates. The specimen shall be slowly compressed to 40 percent of its original thickness. The specimen shall then be compressed further by adding a load equal to twice that required to compress the specimen to 40 percent of its thickness and then released. The specimen shall be compressed again to 40 percent of its original thickness. The load at this point shall be recorded. Then the load shall be removed and after 5 minutes, the thickness of the specimen shall be determined and compared with the original thickness.

4.7.6 Alkalinity. The alkalinity test shall be performed as follows: Weigh a $5 \pm .01$ gram (g) representative sample of an insulation board without facing, and place into a 500 milliliter (mL) pyrex Erlenmeyer flask or equal. Wet with 5 mL of 95 percent ethyl alcohol and add 400 mL of distilled water. Reflux for 4 hours \pm 5 minutes. At the end of this period, disconnect the condenser and filter at once through a No. 41 Whatman paper, or equal, supported in a Buechner funnel or equal and connected to a suction source. Wash the flask and residual material three times with 25 mL portions of hot distilled water. Titrate the combined filtrate and wash solution immediately with a 0.02N H_2SO_4 using 6 to 8 drops of a one percent solution of phenol-red indicator, to the disappearance of the pink color. Run a blank determination on the total amount of distilled water and alcohol and substitute the titration value in the formula below:

$$\text{Percent alkalinity as } Na_2O = \frac{(A-B)N \times 0.031 \times 100}{W}$$

Where:

- A = mL H_2SO_4 required to titrate sample.
- B = mL H_2SO_4 required to titrate the blank.
- N = Normality of the H_2SO_4 .
- W = Weight of sample in g.

4.7.7 pH. The pH test shall be performed as follows: A 25 g sample shall be taken by means of a cork borer^{2/A}. A representative 1-g specimen weighed to the nearest 0.001 g shall be placed in a 500 mL pyrex Erlenmeyer flask or equal and 100 mL of distilled water added. This water shall be made by the Rohm & Haas Amberlite Ion Exchange Resin HB-1. Macerate the glass insulation with the flattened end of a polyethylene stirring rod until the specimen is thoroughly wetted. Affix a 9 millimeter (mm) by 200 centimeter (cm) pyrex glass air condenser and set the flask on a hot plate. The hot plate shall

^{2/A} A representative sample is conveniently prepared by taking borings with a large cork borer through the cross section of the insulation.

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be adjusted so that it will maintain the contents of the flask at 203°F to 212°F without boiling the water. The flask and contents shall be heated for one hour after which time the flask is cooled to 68°F to 86°F. Transfer 50 mL of the extract to a 100 mL pyrex glass beaker and measure the pH meter with glass electrode and a saturated KCl-calomel electrode half cell capable of precision to within 0.1 pH.

4.7.8 Fire resistance.

4.7.8.1 The type I faced aboard shall be tested in accordance with ASTM E 84 (see 3.2.8.1 and table III).

4.7.8.2 Type I faced board, (core only) and type II unfaced board shall be tested in accordance with MIL-STD-1623 (see 3.2.8.2, 3.3.4, and table III).

4.7.9 Thermal conductivity. Thermal conductivity shall be determined in accordance with ASTM C 177 or ASTM C 518. In case of dispute, ASTM C 177 shall be the referee test method.

4.7.10 Kerfing of board.

4.7.10.1 The two kerf-cutting knives shall be positioned so that they form an angle of 90 degrees with each other and so that the tip of one knife is approximately 1/4-inch in advance of the tip of the other knife. The knives shall be kept sharp. If type I board is to be tested, the knives are to be adjusted to reach just below the facing; if type II board is to be tested, the knives shall be adjusted to reach to about 1/4-inch below the surface of the board.

4.7.10.2 Ninety degree V-grooves shall be kerfed in the sample board. The grooves shall be examined for smoothness of surfaces. Then the board shall be folded and examined, and in the case of type I board, the facing shall also be examined to determine if the corners are neat and square (see 3.8).

4.8 Adhesive bond strength of tape (type I only). Adhesive bond strength shall be determined in accordance with MIL-A-3316, using cement conforming to class 1 of MIL-A-3316, and fibrous glass tape conforming to type II, class 1 of MIL-C-20079. The tape shall be applied to the faced surface.

* 4.9 Inspection of packaging. Sample packs and the inspection of the packing and marking shall be in accordance with the requirements of section 5 and the documents specified therein.

5. PACKAGING

(The preparation for delivery requirements specified herein apply only for direct Government acquisitions.)

5.1 Packing. Packing shall be Level A, B, or C as specified (see 6.2.1).

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5.1.1 Level A. Insulation board shall be packed in fiber-board boxes conforming to class weather resistant of PPP-B-636, except that limitations on inside dimensions of box shall not apply. Box closure, waterproofing, and reinforcing shall be as specified for method V in accordance with the appendix to the box specification.

5.1.2 Level B. Insulation board shall be packed in fiber-board boxes conforming to class domestic of PPP-B-636, except that limitations on inside dimensions of the box shall not apply. Method I closure shall apply as specified in the appendix to the box specification.

5.1.3 Level C. Insulation board shall be packed in containers, at the lowest rates, in a manner which will insure acceptance by common carrier and will afford protection against physical damage during direct shipment from the supply source to the first receiving activity for immediate use. This level in general shall conform to the Uniform Freight Classification Ratings, Rules, and Regulations or National Motor Freight Traffic Association Classes and Rules.

5.2 Marking. In addition to any special marking required by the contract (see 6.2.1), shipping containers shall be marked for shipment in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. Material covered by this specification is intended for use as hull, compartment, and ventilation duct insulation.

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) When a first article sample is required (see 3.1).
- (d) Dimensions, as required (see 3.4).
- (e) Lot size, if other than specified (see 4.4.2.1).
- (f) Levels of packing required (see 5.1).
- (g) Special marking, if required (see 5.2).

6.2.2 Data requirements. When this specification is used in a contract which invokes the provision of the "Requirements for Data" of the Defense Acquisition Regulation (DAR), the data identified below, which are required to be developed by the contractor, as specified on an approved Data Item Description (DD Form 1664), and which are required to be delivered to the Government, should be selected and specified on the approved Contract Data Requirement List (DD Form 1423) and incorporated in the contract. When the provisions of the "Requirements for

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Data of the DAR are not invoked in a contract, the data required to be developed by the contractor and required to be delivered to the Government should be selected from the list below and specified in the contract.

<u>Paragraph</u>	<u>Data requirements</u>	<u>Applicable DID</u>	<u>Option</u>
4.3.1	First article inspection report	DI-T-4902	
4.6	Certificate of compliance	DI-E-2121	

(Copies of data item descriptions required by the contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.)

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).

* 6.3 First article. The first article should be a standard production item from the contractor's current inventory. The first article should consist of 1 board of each type.

6.4 First article inspection. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection as to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

6.5 Changes from previous issue. The margins of this specification are marked with an asterisk (*) to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - ME
Navy - SH
Air Force - 99

Preparing activity:

Navy - SH
(Project 5640-0330)

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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DEPARTMENT OF THE NAVY

COMMANDER
NAVAL SEA SYSTEMS COMMAND (SEA 5523)
DEPARTMENT OF THE NAVY
WASHINGTON, DC 20362-5101



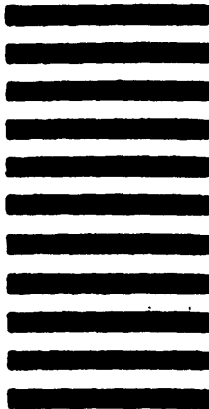
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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER

2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

 VENDOR USER MANUFACTURER OTHER (Specify) _____

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

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER (Last, First, MI) - Optional

b. WORK TELEPHONE NUMBER (Include Area Code) - Optional

c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional

8. DATE OF SUBMISSION (YYMMDD)

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)