

INCH-POUND  
MIL-I-16411F  
14 November 1988  
SUPERSEDING  
MIL-I-16411E  
21 October 1975  
(See 6.9)

## MILITARY SPECIFICATION

### INSULATION FELT, THERMAL, GLASS FIBER

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

#### 1. SCOPE

1.1 Scope. This document establishes requirements for glass fiber insulation felt for thermal insulation of machinery and equipment.

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards 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).

#### SPECIFICATIONS

##### FEDERAL

PPP-F-320 - Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.

##### MILITARY

MIL-L-19140 - Lumber and Plywood, Fire-Retardant Treated.

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 55Z3, Department of the Navy, Washington, DC 20362-5101 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 5640

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

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## STANDARDS

## FEDERAL

- FED-STD-191 - Federal Standard for Textile Test Methods.
- FED-STD-313 - Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities.

## MILITARY

- MIL-STD-1623 - Fire Performance Requirements and Approved Specifications for Interior Finish Materials and Furnishings (Naval Shipboard Use).
- MIL-STD-2073-1 - DoD Materiel Procedures for Development and Application of Packaging Requirements.

(Unless otherwise indicated, copies of federal and Military specifications and standards are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099).

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- C 167 - Standard Test Methods for Thickness and Density of Blanket or Batt Thermal Insulations.
- C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus. (DoD adopted)
- D 578 - Standard Specification for Glass Fiber Yarns.
- D 3773 - Standard Test Methods for Length of Woven Fabric.
- D 3774 - Standard Test Methods for Width of Woven Fabric.
- D 3951 - Standard Practice for Commercial Packaging. (DoD adopted)

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

(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.

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## 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.4) in accordance with 4.3.

3.2 Material. The material shall consist of 100 percent glass fibers in accordance with ASTM D 578 and shall be composed of mechanically bonded laminates without the use of additional binders. No organic fiber or shot shall be included in the material used in the manufacture of the insulation. Insulation shall be furnished in the laminated and felted form (see 6.3).

3.3 Fiber diameter. The average diameter of the individual fibers shall not exceed 0.00036 inch. At least ninety percent of the fibers shall be less than 0.00040 inch diameter (see 4.5.1).

3.3.1 Length of fiber. Fibers less than 1 inch in length shall not be used for processing the fiber into felt (see 4.5.1.1).

3.4 Dimensions and weight.

3.4.1 Length. Unless otherwise specified (see 6.2), insulation shall be furnished in roll lengths of 75 feet for 1/2-inch thick material and 45 feet for 3/4-inch thick and 1-inch thick material. The tolerances shall be plus 1.0, minus 0.5 feet (see 4.6.2).

3.4.2 Width. Unless otherwise specified (see 6.2), roll width shall be 60 inches, with a tolerance of plus 1.0, minus 0.5 inch (see 4.5.2).

3.4.3 Thickness and weights. Insulation shall be furnished in the thicknesses shown in table I, as specified (see 6.2), and shall not vary more than plus or minus 10 percent from the weight specified for the ordered thickness (see 4.5.3 and 4.5.4).

TABLE I. Thickness and weight.

Nominal thickness (inch)	Thickness tolerance $\pm$ (inch)	Nominal weight per square foot (ft <sup>2</sup> ) (ounces)
1/2	1/8	6.0
3/4	1/8	12.25
1	1/8	15.0

3.5 Alkalinity. The alkalinity of the finished material expressed as sodium oxide (Na<sub>2</sub>O) shall not exceed 0.20 percent (see 4.5.5).

3.6 Fusing temperature. The fusing temperature of the fibers shall be not less than 1300 degrees Fahrenheit (°F) (see 4.5.6).

3.7 Thermal conductivity. Thermal conductivity (k) in British thermal unit (Btu) per square foot per hour of insulation for 1°F gradient per inch thickness shall not exceed the values at the mean temperatures shown in table II (see 4.5.7).

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TABLE II. Thermal conductivity.

Mean temperature	Thermal conductivity (k)
75	0.29
300	0.40
500	0.50
700	0.65

3.8 Tensile strength. The tensile strength before and after heating to 1200°F shall be not less than 5.0 pounds per square inch (lb/in<sup>2</sup>) (see 4.5.8).

3.9 Fire resistance. The flammability requirements shall conform to the requirements set forth in MIL-STD-1623 (see 4.5.9).

3.10 Material safety data sheet (MSDS). The contracting activity shall be provided a material safety data sheet at the time of contract award. The MSDS shall be provided in accordance with the requirements of FED-STD-313. The MSDS shall be included with each shipment of the material covered by this specification (see 6.7).

3.11 Workmanship. The material shall be free from defects which may impair its use (see 4.4).

#### 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 the 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 the 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 4.3).
- (b) Quality conformance inspection (see 4.4).

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4.2.1 Inspection conditions. Unless otherwise specified (see 6.2), all inspections shall be performed in accordance with the test conditions specified herein.

4.3 First article inspection. First article inspection shall consist of the examinations specified in table III (see 6.3). If more than one thickness of insulation felt is acquired at any one time, one roll of each thickness shall constitute the first article sample, unless otherwise indicated by the contracting activity.

TABLE III. First article and quality conformance inspection.

Inspection	Requirement	Test
Fiber diameter	3.3	4.5.1
Length of fiber	3.3.1	4.5.1.1
Length	3.4.1	4.5.2
Width	3.4.2	4.5.2
Thickness	3.4.3	4.5.3
Weight	3.4.3	4.5.4
Alkalinity	3.5	4.5.5
Fusing temperature	3.6	4.5.6
Thermal conductivity	3.7	4.5.7
Tensile strength	3.8	4.5.8
Fire resistance	3.9	4.5.9

4.4 Quality conformance inspection. Quality conformance inspection shall be in accordance with table III (see 6.3). Defects shall be classified in accordance with table IV.

TABLE IV. Classification of defects.

Category	Defects
Major:	
101	Type of insulation not as specified.
102	Material less than minimum requirements; evidence of unauthorized materials and processes used; insulation not composed of specified materials.
103	Insulation construction nonconforming or not as specified; laminates not bonded as specified; evidence of use of binders, or presence of shot.
104	Insulation not furnished in rolls (when applicable).
105	Length, width and thickness of insulation not as specified.

4.5 Test procedures.

4.5.1 Fiber diameter. The diameter of the fiber shall be determined by any one of the following methods (see 3.3). Checks for fiber diameter may be made on the raw fiber before processing into felt.

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- (a) Microscopic. Diameter of fibers shall be determined microscopically on the basis of measuring 50 random fibers. The average diameter for purposes of determining conformance shall be the average of all measurements.
- (b) ASTM D 578.

4.5.1.1 Length of fibers. A minimum of seven checks for fiber length shall be made on each of the samples. Two checks for fiber length are required for the raw fiber before processing and after processing into felt. A standard tape measure or ruler calibrated in 1/16-inch increments shall be used (see 3.3.1).

4.5.2 Length and width. Length and width shall be determined by the method specified in ASTM D 3773 and ASTM D 3774 respectively (see 3.4.1 and 3.4.2).

4.5.3 Thickness. Thickness shall be determined by the method cited in ASTM C 167, except that the test specimen shall be ruled off into approximately 20 square and equal areas, and the thickness measurement taken at the center of ten areas, no two of which shall have a common side. In determining the thickness, the test specimen shall be placed on a hard, flat surface, and the penetrating pin of the depth gauge shall be forced downward through the specimen, perpendicular to the flat surface as shown on figure 1. If necessary to prevent compression of the specimen by the depth gauge pin, the specimen shall first be pierced. When the point of the pin touches the flat surface, the sliding disk shall be lowered to the point of contact with the top surface of the specimen. The gauge shall be withdrawn, and the distance from the point of the pin to the sliding disk shall be measured to the nearest 1/32-inch. The average of the 10 thickness measurements shall be taken as the thickness of the test specimen (see 3.4.3).

4.5.4 Weight. Each sample shall be weighed in accordance with ASTM C 167 (see 3.4.3).

4.5.5 Alkalinity. A  $5 \pm 0.01$  gram representative sample of the felt, shall be weighed and placed in a 500 milliliter (mL) pyrex Erlenmeyer flask. The sample shall be wetted with 5 mL of 95 percent ethyl alcohol and 400 mL of distilled water, and refluxed for 4 hours plus or minus 5 minutes. At the end of this period, the condenser shall be disconnected and the sample filtered at once through a number 41 Whatman paper, or equal, supported in a Buechner funnel and connected to a suction source. The flask and residual material shall be washed three times with 25-mL portions of hot distilled water. Next, the combined filtrate and wash solution shall be titrated immediately with 0.02N  $H_2SO_4$  using 6 to 8 drops of a 1 percent solution of phenol-red indicator, to the disappearance of the pink color. A blank determination shall be run on the total amount of distilled water and alcohol and the titration value shall be substituted in the formula below (see 3.5):

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Percent alkalinity expressed as  $\text{Na}_2\text{O} = \frac{(A-B)N \times 0.031 \times 100}{W}$

Where:

- A - mL  $\text{H}_2\text{SO}_4$  required to titrate sample.
- B - mL  $\text{H}_2\text{SO}_4$  required to titrate the blank.
- N - Normality of the  $\text{H}_2\text{SO}_4$ .
- W - Weight of sample in grams.

4.5.6 Fusing temperature. A 1-gram sample of glass fiber shall be weighed and placed into a crucible which shall be placed in a muffle furnace at room temperature. Heating elements shall be turned on at the start of the test and adjusted so that the specified temperature of  $1300^\circ\text{F}$  is reached within  $45 \pm 10$  minutes. When this temperature is reached, the crucible shall be removed from the furnace immediately, allowed to cool, and examined visually for fusion. Fusion shall be considered to have taken place if any part of the sample has melted and formed a homogenous mass (see 3.6).

4.5.7 Thermal conductivity. Thermal conductivity shall be determined in accordance with ASTM C 177 (see 3.7 and 6.3).

4.5.8 Tensile strength. Tensile strength shall be determined by the grab method described in method 5100 of FED-STD-191 with the following modifications: Test specimens shall be 12 by 14 inches in size. The specimens shall be clamped at the top and bottom sections by 1/2-inch pipe covered with 1/4-inch thick sponge rubber to prevent cutting and slipping of the specimens. The clamped specimens, having a test area of  $1 \text{ ft}^2$  shall be attached to the grips of the testing machine which shall separate at a rate of  $2 \pm 0.2$  inches per minute until rupture occurs. Tensile strength determinations shall be made on specimens before and after being subjected to soaking heat to  $1200^\circ\text{F}$  for 6 hours. The tensile strength shall be expressed in  $\text{lb/in}^2$  of cross-sectional area (see 3.8).

4.5.9 Fire resistance. Felt shall be tested in accordance with the requirements of MIL-STD-1623 (see 3.9 and 6.3).

4.6 Inspection of packaging. An inspection shall be made to determine that the preservation, packing, and marking comply with the packaging requirements of section 5. Examination of packaging shall be as follows. When examining the interior packaging, the sample unit shall be one shipping container fully prepared for delivery and selected at random just prior to the closing operations. These containers shall be examined for the defects of closure listed in table V.



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TABLE V. Examination of packaging.

Examination	Defects
Preservation	Not the level specified; not in accordance with contract requirements.  Not preserved as specified.  Mixed size in the same container; containing less than indicated of specified quantity.
Packing	Not the level specified; not in accordance with the contract requirements.  Packing material not as specified; closures not accomplished by specified methods or materials.  Gross weight of shipping container exceeds specified limit.  Any unconforming components, components missing, damaged, or otherwise defective affecting serviceability.
Marking	Interior and exterior marking omitted, illegible, incorrect, incomplete, not in accordance with contract requirements.

## 5. PACKAGING

(The packaging requirements specified herein apply only for direct Government acquisition.)

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

5.1.1 Level A. Rolls shall be individually covered with 7-1/2 ounce (weight) burlap or minimum 4 mil black plastic tubing drawn together at each end and securely fastened with plastic coated or metal ties.

5.1.2 Commercial. Preservation shall be in accordance with ASTM D 3951.

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

5.2.1 General requirements for levels A, B, and C.

5.2.1.1 Containers. Containers selected (see 5.2.2) shall be uniform size, minimum weight, and cube consistent with the required protection.



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5.2.1.2 Navy shipboard stowage fire-retardant requirements. Unless otherwise specified (see 6.2), all lumber and plywood including laminated veneer material used in shipping container and pallet construction, members, blocking, bracing, and reinforcing shall be fire-retardant treated material conforming to MIL-L-19140 as follows:

- Level A and B - Type II - weather resistant.  
Category 1 - general use.
- Level C - Type I - non-weather resistant.  
Category 1 - general use.

5.2.1.2.1 Fiberboard. Fiberboard used in the construction of class-domestic, non-weather resistant fiberboard, and cleated fiberboard boxes shall meet the flammability and smoke requirements of PPP-F-320 and amendments thereto.

5.2.2 Levels A, B, and C. Insulation preserved as specified in 5.1 shall be packed in exterior shipping containers in accordance with MIL-STD-2073-1, table VII of appendix C, for the level of packaging specified and herein (see 6.2).

5.2.2.1 Container, closure, and gross weight.

5.2.2.1.1 Closure. Container closure, reinforcing, or banding shall be in accordance with the applicable container specification or appendix thereto except that weather-resistant fiberboard boxes shall be closed in accordance with method V and reinforced with non-metallic or tape banding. Domestic fiberboard boxes shall be closed in accordance with method I using pressure sensitive tape.

5.2.2.1.2 Weight. Wood, plywood, and cleated type containers exceeding 200 pounds gross weight shall be modified by the addition of skids in accordance with MIL-STD-2073-1, appendix F, and the applicable container specification or appendix thereto.

5.2.3 Commercial. Insulation preserved as specified (see 5.1) shall be packed for shipment in accordance with ASTM D 3951 and herein.

5.2.3.1 Container modification. Shipping containers exceeding 200 pounds gross weight shall be provided with a minimum of two, 3- by 4-inch nominal wood skids laid flat, or a skid- or sill-type base which will support the material and facilitate handling by mechanical handling equipment during shipment, storage, and stowage.

5.3 Palletized unit loads. When specified (see 6.2), shipping containers shall be palletized in accordance with MIL-STD-2073-1, appendix F.

5.4 Marking.

5.4.1 Levels A, B, and C. In addition to any special marking required (see 6.2 and herein), unit packs (rolls), shipping containers, and palletized loads shall be marked, including bar coding, in accordance with MIL-STD-2073-1, appendix F.

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5.4.2 Commercial. In addition to any special marking required (see 6.2 and herein), unit packs (rolls), shipping containers, and palletized loads shall be marked in accordance with ASTM D 3951. Bar coding shall be applied in accordance with the marking requirements of MIL-STD-2073-1, appendix F.

5.4.3 Special marking. Each unit pack (roll) and shipping container shall be marked "Free of Asbestos and Ceramic (Refractory) Fibers."

## 6. NOTES

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

6.1 Intended use. This material is intended for use as thermal insulation of machinery and equipment, such as steam turbines, boilers, boiler feed pumps, and as a component of removeable pads for valves and flanges at temperatures up to 1200°F.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- (a) Title, number, and date of this specification.
- (b) 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).
- (c) When a first article sample is required (see 3.1).
- (d) Length, width, and thickness required (see 3.4).
- (e) Inspection conditions, if other than specified (see 4.2.1).
- (f) Level of preservation and level of packing required (see 5.1 and 5.2).
- (g) Fire-retardant packing requirements, when not required (see 5.2.1.2).
- (h) Container selection, if other than contractor's option (see 5.2.2).
- (i) Palletization, when required (see 5.3).
- (j) Special marking (see 5.4.1 and 5.4.2).
- (k) Lot size, if other than specified (see 6.4.1).
- (l) Fire resistance and thermal conductivity tests, when required (see 6.4.1).

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DIDs) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DIDs are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DoD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

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<u>Reference paragraph</u>	<u>DID number</u>	<u>DID title</u>	<u>Suggested tailoring</u>
3.2, 4.5.7, 4.5.9	DI-E-2121	Certificate of compliance	----
4.3	DI-T-4901	First article inspection procedure	----
4.3	DI-T-4902	First article inspection report	----
4.4	DI-T-5329	Inspection and test reports	----

The above DIDs were those cleared as of the date of this specification. The current issue of DoD 5010.12-L, Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DIDs are cited on the DD Form 1423.

6.4 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a preproduction sample, a first article sample, a first production item, a sample selected from the first \_\_\_\_\_ production items, a standard production item from the contractor's current inventory (see 3.1), and the number of items to be tested as specified in 4.3. The contracting officer should also include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection 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. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.4.1 Sampling for quality conformance inspection. The testing specified in 4.5 should be in accordance with level S-1 of MIL-STD-105. Unless otherwise specified (see 6.2), the lot size should be expressed in rolls and the sample size in the number of rolls. The acceptable quality level (AQL) for these characteristics is 6.6. The unit of product for test purposes should be 1 linear yard of felt. All tests specified in 4.5 must be conducted except that fire resistance and thermal conductivity should be conducted only if specified by the contracting activity (see 6.2) or at least once per year whichever is more frequent.

6.4.2 Noncompliance. If a sample fails to pass the inspection of table III, the contractor should notify the cognizant inspection activity of such failure and take corrective action on the materials or processes, or both, as warranted, and on all units of product which can be corrected and which are manufactured under essentially the same materials and processes, and which are considered subject to the same failure. Acceptance and shipment of the product should be discontinued until corrective action has been taken, and inspections

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have been repeated on additional sample units (all tests and examinations, or the test which the original sample failed at the option of the contracting activity). Final acceptance and shipment will be withheld until inspections have shown that the corrective action was successful.

6.4.3 Examination. Each of the sample rolls selected in accordance with MIL-STD-105 (AQL 2.5 major and 4.0 minor) must be surface examined and measured to determine conformance to the requirements of this specification which do not require tests. Examinations should be conducted as specified in table IV and at least 15 feet in length of each roll must be examined. Any roll in the sample containing one or more visual or dimensional defects should not be offered for delivery, and if the number of defective rolls in any sample exceeds the acceptance number for that sample, this will be cause for rejection of the lot represented by the sample.

6.5 Fire testing. Contractors are advised to review USCG 164.009 fire test requirements to determine whether their glass fiber insulation felt product (manufactured in accordance with this specification) automatically meets the criteria for incombustibility without conducting prior fire tests, in which case only certification is required.

6.6 Type I. Type I insulation material has been deleted from this specification since there is presently no known Naval shipboard requirements for this type of insulation material. Type II insulation material has been retained but without reference to type.

6.7 Material safety data sheet (MSDS). Contracting officers shall identify those activities requiring copies of MSDSs. Additional required Government information is contained in FED-STD-313. In order to obtain the MSDS, FAR clause 52.223-3 must be in the contract.

6.8 Subject term (key word) listing.

Alkaline  
Laminated  
Felted form  
Mechanical bond

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

Custodians:

Army - ME  
Navy - SH

Preparing activity:

Navy - SH  
(Project 5640-0450)

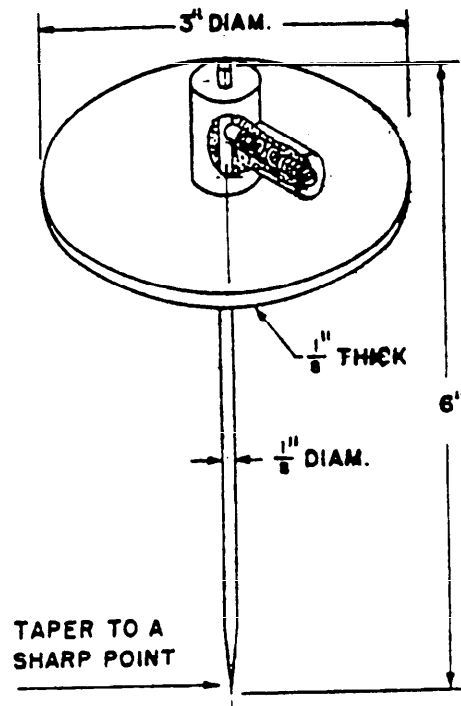
Review activity:

Army - AT

User activities:

Navy - YD, OS, MC

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SH 2541

FIGURE 1. Depth gauge for thickness measurements.

## STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-I-16411F		2. DOCUMENT TITLE INSULATION FELT, THERMAL, GLASS FIBER	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one)	
b. ADDRESS (Street, City, State, ZIP Code)		<input type="checkbox"/> VENDOR	
		<input type="checkbox"/> USER	
		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify): _____	
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.)

**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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