

MIL-F-81265(WP)  
17 May 1965

## MILITARY SPECIFICATION FIBER, ASBESTOS

This specification has been approved by the Bureau of Naval Weapons, Department of the Navy.

### 1 SCOPE

1.1 Scope. This specification covers the requirements of one type of Chrysotile asbestos.

### 2. APPLICABLE DOCUMENTS

2.1 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

RR-S-366

Sieves, Standard, For Testing Purposes

##### Military

MIL-P-116

Preservation, Methods of

#### STANDARDS

##### Military

MIL-STD-129

Marking for Shipment and Storage

(When requesting any of the above documents, give the title and complete designation of the item shown above. Copies of this specification and other unclassified specifications, standards and publications required by contractors in connection with specific procurement functions may be obtained from the Commanding Officer, Navy Supply Depot (CDS), 5801 Tabor Avenue, Philadelphia, Pennsylvania, 19120.)

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.

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## PUBLICATIONS

### American Society for Testing and Materials

ASTM D 153-54	Methods of Tests For Specific Gravity of Pigments
ASTM D 299-60	Standard Specifications and Methods of Test For Asbestos Yarn

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

### Quebec Asbestos Mining Association

#### Quebec Standard Classification System

(Application for copies should be addressed to Quebec Asbestos Mining Association, Quebec, Canada.)

## 3 REQUIREMENTS

3.1 Preproduction samples. Unless otherwise specified in the contract or order, preproduction samples of the asbestos fiber shall be manufactured using the methods and procedures proposed for the production. The sample shall be tested as specified in Section 4 herein and is for the purpose of determining that, prior to starting production, the contractor's production methods are capable of yielding items that comply with the technical requirements of the contract. After satisfactorily passing all the preproduction tests specified herein, no changes in raw materials and processing of materials for production shall be made without prior written approval of the procuring activity.

3.2 Data requirements No data is required by this specification or by applicable documents referenced in Section 2 unless specified in the contract or order (see 6.2).

3.3 Material. The material shall be a Chrysotile asbestos conforming to group 7, grade 7TF1, in accordance with Quebec Standard Classification System for Chrysotile Asbestos, Quebec Asbestos Mining Association.

3.4 Physical and chemical properties. The physical and chemical properties shall be as specified in Table I.

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Table I. Physical and Chemical Properties

Property	Weight Percent	
	Minimum	Maximum
Surface Moisture	--	3.0
Asbestos Content	80	--
Apparent Density	2.10	2.80
Grit Content	--	5.0
Particle Size, through		
U.S. No. 20 Sieve	99	--
U.S. No. 100 Sieve	16	--

3.5 Workmanship. The material shall be uniform in quality and shall be free from impurities and other defects that could adversely affect its use.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections. Inspection of the Chrysotile asbestos shall be classified as follows:

- a. Preproduction inspection (see 4.4)
- b. Quality conformance inspection (see 4.5)

#### 4.3 Sampling

4.3.1 Preproduction sample. A preproduction sample of sufficient quantity of the Chrysotile asbestos manufactured in accordance with 3.1 shall be subjected to three each of the preproduction tests detailed in 4.4 at an activity designated by the procuring activity. Further production of

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the Chrysotile asbestos by the supplier, prior to the approval of the preproduction sample, shall be at the supplier's risk.

4.3.2 Quality conformance inspection sampling. Unless otherwise specified, sufficient material shall be taken from each lot to perform the tests as specified in 4.5.

4.3.3 Inspection lot. An inspection lot of Chrysotile asbestos shall be all the material offered for acceptance at one time, produced in a single manufacturing run under homogeneous conditions of manufacture.

4.4 Preproduction inspection. The preproduction sample shall satisfactorily pass the quality conformance inspections detailed in 4.5.

#### 4.5 Quality conformance inspection

4.5.1 Visual examination. Each container in a lot shall be examined to determine conformance to 3.5 and Section 5.

4.5.2 Surface moisture test. Heat a clean 25 milliliter (ml) porcelain crucible with lid at  $800 \pm 50$  degrees Centigrade (C) for 1 hour and allow to cool to room temperature in a desiccator. Weigh the crucible plus lid to the nearest 0.1 milligram (mg) and record the weight (C). Add about 5 grams of the composite sample to the crucible, reweigh to the nearest 0.1 mg and record the weight (A). Place the crucible containing the sample in a drying oven, remove the crucible lid, and heat for at least 3 hours at  $105 \pm 5$  degrees C. Replace the crucible lid, allow the crucible and contents to cool to room temperature in a desiccator, reweigh to the nearest 0.1 mg and record the weight (B). Calculate the surface moisture as follows:

$$\text{Percent surface water} = \frac{A - B}{A - C} \times 100$$

where:

A = Weight of crucible plus sample before heating, grams

B = Weight of crucible plus dried sample, grams

C = Weight of empty crucible, grams

Save this sample for further use in paragraph 4.5.3.

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4.5.3 Asbestos content test. The crucible containing the dried sample from 4.5.2 shall be used in this determination. The asbestos content shall be determined and calculated as specified in ASTM D 299-60, except that the crucible shall be heated for a minimum of 1 hour at  $800 \pm 50$  degrees C.

4.5.4 Apparent density test. The apparent density of the composite sample shall be determined in accordance with method A, ASTM D 153-54, with the following exceptions:

- (a) A 25 ml pycnometer shall be used for the determination.
- (b) The immersion liquid shall be distilled water with 0.01 percent by weight of sodium dioctyl sulfosuccinate, technical grade. The pycnometer shall be calibrated with this immersion liquid. Kerosene shall not be used in this determination.
- (c) The desiccator shall be evacuated to a pressure of less than 30 millimeters (mm) of mercury to remove occluded air from the material.

4.5.5 Grit content test. The grit content of the composite sample shall be determined as follows:

Procedure

Weigh about 100 grams of the composite sample on a torsion balance to the nearest 0.1 gram, and record the weight (B). Place this weighed sample in a 1000-ml beaker. Fill the beaker to within 2 inches from its rim with tap water. Thoroughly hand-stir this slurry, ensuring that any lumps are entirely broken up, then allow the slurry to settle for about 5 minutes. Regulate a flow of tap water to a rate of flow of  $600 \pm 100$  milliliters per minute using a 1000-ml graduated cylinder and a stop watch. Place the slurry beneath this regulated water flow, ensuring that the beaker is level and that the water overflows uniformly over the entire rim surface. Stir the slurry gently and intermittently until all of the asbestos has been washed away. Stop the water flow, and allow any remaining grit particles to settle out. Decant as much of the clear supernatant water as possible from the beaker. Place the beaker containing the residue and remaining water in a drying oven at  $105 \pm 5$  degrees C

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until the beaker and residue are thoroughly dried. Brush the residue from the beaker into a tared weighing dish. Weigh the residue to the nearest 0.01 gram using an analytical balance and record this weight (A). Calculate the weight percent of grit in the sample as follows:

$$\text{Weight percent of grit} = \frac{A}{B} \times 100$$

where:

A = Weight of grit, grams

B = Original weight of sample, grams

4.5.6 Particle size test. The particle size of the composite sample shall be determined as follows:

#### Procedure

Divide not less than 500 grams of the composite sample in a Riffle sampler. Discard the material in the left-hand pan. Again sample, discarding the material in the right-hand pan. From the left-hand pan, weigh 100 grams of the sample to the nearest 0.1 gram on a torsion balance and record this weight (B). Nest a U.S. No. 20 sieve above a U.S. No. 100 sieve in a sieve shaker using sieves in accordance with RR-S-366. Place the weighed sample in the No. 20 sieve, and cover this sieve with a cover plate. Allow the sieve shaker to vibrate for  $13 \pm 1$  minutes. Transfer the contents of each sieve to tared weighing dishes, weigh to the nearest 0.1 gram on a torsion balance, and record the weights (A). Calculate the amount of material per sieve as follows:

$$\text{Weight percent of sample retained by the sieve} = \frac{A}{B} \times 100$$

where:

A = Weight of material retained by sieve, grams

B = Original weight of sample, grams

#### 4.6 Acceptance criteria

4.6.1 Preproduction. Failure of any sample to conform to any requirement of this specification shall be cause for rejection of the sample.

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4.6.2 Quality conformance Failure of any sample to meet any requirement of this specification shall be cause for rejection of the lot.

## 5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging and packing. Unless otherwise specified by the procuring activity, the preservation, packaging and packing shall be in accordance with MIL-P-116, method III.

5.2 Marking. Each container shall be marked in accordance with MIL-STD-129. Marking shall include, but not be limited to, the following information:

- a. Manufacturer's name and location
- b. Material trade name
- c. Net weight or volume
- d. Lot number, batch number and date of manufacture
- e. Shelf life or storage limitations
- f. Number and revision letter of this specification

## 6. NOTES

6.1 Intended use. The material purchased in accordance with this specification is intended to be used as an ingredient in rocket motors.

6.2 Ordering data. Procurement documents should specify, but not be limited to, the following information:

- a. Title, number and revision letter of this specification
- b. Minimum lot size, if applicable
- c. Whether preproduction sample is required
- d. Place of delivery
- e. Size of container
- f. Request for test data

## SPECIFICATION ANALYSIS SHEET

Form Approved  
Budget Bureau No 110-R004

## INSTRUCTIONS

This sheet is to be filled out by personnel either Government or contractor involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity (as indicated on reverse hereof).

## SPECIFICATION

MII-F-81 (A) (I) (II) (III), ABBECCOS

ORGANIZATION (of suba step)

CITY AND STATE

CONTRACT NO

QUANTITY OF ITEMS PROCURED

DOLLAR AMOUNT

\$

MATERIAL PROCURED UNDER A

DIRECT GOVERNMENT CONTRACT

SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?  
A. GIVE PARAGRAPH NUMBER AND WORDING

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

YES

NO IF "YES", IN WHAT WAY?

4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)

SUBMITTED BY (Printed or typed name and activity)

DATE



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**DEPARTMENT OF THE NAVY**  
Bureau of Naval Weapons  
Washington, D. C. 20360

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INCH-POUND

NOTICE OF INACTIVATION  
FOR NEW DESIGN

MIL-F-81265 (OS)  
AMENDMENT 1  
7 February 1990

MILITARY SPECIFICATION

PACKING, ASBESTOS

This amendment forms a part of Military Specification MIL-F-81265, dated 17 May 1965, and is approved for use by the Naval Ordnance Station, Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

PAGE 1

Add immediately following the preamble: "MIL-F-81265 inactive for new design and should no longer be used except for replacement purposes".

2.1 Add the following to Section II: STANDARDS.

FEDERAL

FED-STD-313 - Material Safety Data Sheets, preparation and the submission of

2.1.2 Other Government documents, drawings and publications. The following other Government documents, drawings and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

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AMENDMENT 1

40 - Code of Federal Regulation - Part 763

Asbestos: Proposed mining and import restrictions and proposed manufacturing and processing prohibitions.

(Copies of the federal regulation are available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402).

PAGE 2

2.2 Add the following to ASTM:

ASTM C 930 - Classification for identifying and categorizing potential health and safety hazards of thermal insulation materials.

PAGE 3

Add the following paragraph to Section III:

3.6 Material Safety Data Sheets. Material safety data sheets stating preparation and delivery requirements shall be submitted for all items manufactured according to this specification (see 6.4.2).

PAGE 8

Add the following paragraphs in Section VI:

6.3 Asbestos usage guidelines.

6.3.1 Restrictions and prohibitions. 40 CFR Part 763 "Asbestos: Proposed Mining and Import Restrictions and Proposed Manufacturing, Importation and Processing Prohibitions": under section 6 of the Toxic Substances Control Act (TSCA) to prohibit the manufacture, importation and processing of asbestos in certain products and to phase out the use of asbestos in all other products.

6.3.2 Material Safety Data Sheets. Contracting officers will identify those activities requiring copies of completed Material Safety Data Sheets prepared in accordance with FED-STD-313. The pertinent Government mailing addresses for submission of data are listed in FED-STD-313.

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AMENDMENT 1

6.3.3 Environmental pollution preventive measures. American Society of Testing and Materials C930. "Identifying and Categorizing Potential Health and Safety Hazards of Thermal Insulation Materials and Accessories During Installation". Table I, "Asbestos-containing materials: Overexposure to excessive quantities of airborne fibers may result in serious pulmonary problems and possible gastrointestinal disease".

Custodian:  
Navy - OS

Preparing activity:  
Navy - OS

Review activity:  
DLA - IS

Agent:  
DLA - IS  
(Project 5330-N115)