MIL-M-15173B(SH)
9 July 1987
SUPERSEDING
MIL-P-15173A(SHIPS)
15 August 1962
(See 6.4)

MILITARY SPECIFICATION

MAGNESIUM SILICATE PIGMENT (TALC)

This specification is approved for use within the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers magnesium silicate pigment used as an ingredient in the manufacture of paint.

2. APPLICABLE DOCUMENTS

2.1 Government document. The following Government document forms a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

DEPARTMENT OF LABOR
Code of Federal Regulations, Title 29
Part 1910, Section 1001 - Occupational Safety and Asbestos Health Standards.

(Application for copies should be addressed to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

(Copies of documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

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 8010
DISTRIBUTION STATEMENT A Approved for public release; distribution unlimited

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted shall be those listed in the issue of t DoDISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS shall be the issue of the nongovernment documents which is current on the date of the solicitation.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 280 - Standard Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments. (DoD adopted)

D 281 - Standard Test Method for Oil Absorption of Pigments by Spatula Rub-Out. (DoD adopted)

D 605 - Standard Specification for Magnesium Silicate Pigment (Talc). (DoD adopted)

D 717 - Standard Methods of Analysis of Magnesium Silicate Pigment. (DoD adopted)

D 1208 - Standard Test Methods for Common Properties of Certain Pigments. (DoD adopted)

D 1210 - Standard Test Method for Fineness of Dispersion of Pigment-Vehicle Systems. (DoD adopted)

D 1366 - Standard Recommended Practice for Reporting Particle Size Characteristics of Pigments.

E 97 - Standard Test Method for Directional Reflectance Factor, 45-deg O-deg, of Opaque Specimens by Broad-Band Filter Reflectometry. (DoD adopted)

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

(Nongovernment standards and other publications are normally available from the organizations which prepare or which 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 specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Requirements are as specified in ASTM D 605 and as specified in table I.

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

TABLE I. Requirements.

Component or property	Requirement
Combined magnesium and calcium silicates (MgO plus SiO_2 plus CaO), minimum (percent mass)	88
Calcium oxide (CaO), maximum (percent mass)	10
Aluminum and iron oxides (R_2O_3), maximum (percent mass)	6
Asbestos 1/	none
Loss on ignition, maximum (percent mass)	7
Moisture and other volatile matter, maximum (percent mass)	1
Water-soluble matter, maximum (percent mass)	1
Dry brightness, minimum (percent reflectance)	2/ 84
Oil absorption, minimum/maximum (percent mass)	2/ 25 to 50
Coarse particles, maximum (percent mass)	2
Fineness of grind, minimum (Hegman units)	2/ 3
Mean particle size, minimum/maximum (micrometers)	2/ 2 to 5

1/ The asbestos fiber content shall be determined in accordance with current OSHA regulations and test methods, including OSHA Regulation 29 CFR 1910.1001.
2/ Requirements shall be as specified herein.

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.

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

4.1.1 Responsibility for compliance. All items must 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 assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.2 Provisions. Quality assurance provisions shall be in accordance with ASTM D 605 and as supplemented herein. Test methods to be used are as specified in table II, and in 4.2.1, 4.2.2 and 4.2.3.

TABLE II. Test methods.

Component or property	ASTM test method
Combined magnesium and calcium silicates (MgO plus SiO_2 plus CaO), minimum (percent mass)	D 717
Calcium oxide (CaO), maximum (percent mass)	D 717
Aluminum and iron oxides (R_2O_3), maximum (percent mass)	D 717
Asbestos 1/	---
Loss on ignition, maximum (percent mass)	D 1208
Moisture and other volatile matter, maximum (percent mass)	D 280
Water-soluble matter, maximum (percent mass)	D 1208
Dry brightness, minimum (percent reflectance)	E 97
Oil absorption, minimum/maximum (percent mass)	D 281
Coarse particles, maximum (percent mass)	D 717
Fineness of grind, minimum (Hegman units)	D 1210
Mean particle size, minimum/maximum (micrometers)	D 1366

1/ The asbestos fiber content shall be determined in accordance with current OSHA regulations and test methods, including OSHA Regulation 29 CFR 1910.1001.

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

4.2.1 Dry brightness. Compress a sample of the pigment in a dry powder press to a smooth surfaced cohesive disc and determine reflectance of the disc in accordance with ASTM E 97.

4.2.2 Fineness. Determine fineness in accordance with ASTM D 1210, 5.6, using the mixture of 5.5.

4.2.3 Mean particle size. Determine particle size distribution by a sedimentation method. Record and plot the data in accordance with ASTM D 1366. The diameter corresponding to the point on the curve which indicates that 50 percent of the pigment is of smaller size is the mean particle size.

4.3 Certification. When specified in the contract or order, a certification/data report shall be prepared (see 6.2.2).

4.4 Inspection of packaging. Sample packages and packs, and the inspection of the preservation-packaging, packing and marking for shipment and storage shall be in accordance with the requirements of section 5 and the documents specified therein.

5. PACKAGING

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

5.1 Packaging. The talc shall be packaged in accordance with contractor's standard commercial practice.

5.2 Marking. Package labels shall state that the material is "asbestos-free".

6. NOTES

6.1 Intended use. This specification is for a pigment to be used in the manufacture of Government specification coatings and is not intended for direct acquisition by the Government.

6.2 Ordering data.

6.2.1 Acquisition requirements. Aquisition documents should specify the following:

(a) Title, number, and date of this specification.

6.2.2 Data requirements. When this specification is used in an acquisition and data are required to be delivered, 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 Contract Data Requirements List (CDRL), incorporated into the contract. When the provisions of DoD FAR Supplement, Part 27, Sub-Part 27.410-6 (DD Form 1423) 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.

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

Paragraph no.	Data requirement title	Applicable DID no.	Option
4.3	Certification data/report	UDI-A-23264	----

(Data item descriptions related to this specification, and identified in section 6 will be approved and listed as such in DoD 5010.12-L., 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.)

6.2.3 The data requirements of 6.2 and any task in sections 3, 4, or 5 of this 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 Subject term (key word) listing.

Aluminum oxide
Calcium oxide
Iron oxide
Magnesium silicate
Pigment
Talc

6.4 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 8010-N277)

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

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
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ 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)*

DD FORM 82 MAR 1426 PREVIOUS EDITION IS OBSOLETE.

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.

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.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE NAVY

OMMANDER
AVAL SEA SYSTEMS COMMAND (SEA 55Z3)
EPARTMENT OF THE NAVY
ASHINGTON, DC 20362

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 12503 WASHINGTON D. C.
POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE NAVY

COMMANDER
NAVAL SEA SYSTEMS COMMAND (SEA 55Z3)
DEPARTMENT OF THE NAVY
WASHINGTON, DC 20362

Source: https://assist.dla.mil -- Downloaded: 2026-11-18T03:45Z
Check the source to verify that this is the current version before use.