

[INCH-POUND]

A-A-59316

3 February 1999

SUPERSEDING

MIL-A-21380B

15 July 1965

## COMMERCIAL ITEM DESCRIPTION

### ABRASIVE MATERIALS; FOR BLASTING

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers newly manufactured mineral type abrasive materials used with pressure blasting equipment. The abrasives are generally used for blast cleaning metal surfaces to remove scale, rust, paint, encrusted sand, dirt, and other foreign material, and to prepare surfaces for applied finishes such as paints, plasma spray, and metal platings.

2. **CLASSIFICATION.** The abrasive materials shall be of the following types and grades:

#### 2.1 Types.

Type I - Aluminum oxide, fused synthetic or naturally crystallized; for wet or dry blasting.

Type II - Novaculite (silicon dioxide); for wet blasting.

Type III - Silicon carbide; for wet or dry blasting.

Type IV - Garnet; for wet or dry blasting.

Type V - Emery; for wet or dry blasting.

Type VI - Diatomaceous silica, uncalcined; for wet blasting.

Type VII- Tripoli; for wet blasting.

#### 2.2 Grades.

Grade A - Coarse grit size (No. 36); for Types I, III, IV, and V.

Grade B - Medium grit size (No. 100); for all types.

Grade C - Fine grit size (No. 180); for all types.

Grade D - Extra fine grit size (No. 240); for Types II, VI, and VII.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data which may improve this document should be sent to: Commander, Naval Air Warfare Center Aircraft Division, Code 414100B120-3, Highway 547, Lakehurst, NJ 08733-5100.

FSC 5350

A-A-59316

### 3. SALIENT CHARACTERISTICS.

3.1 Material. The abrasive material shall be noncaking, free flowing, uniform in appearance, and free of foreign grit or other extraneous materials. It shall not contain free iron visible to the eye or easily separated by a magnet.

3.2 Grain Appearance. The abrasive material shall appear as specified in Table I.

TABLE I. Grain Appearance.

Type	Appearance and Grain Shape <u>1/</u>
I, III, IV, V	Angular and multi-sided; maximum of 2% of slivers or flats.
II	Rounded disks; partially agglomerated; maximum of 2% of slivers or flats.
VI	Distinct diatom structures, including disk-like, spicular, and cylindrical forms or fragments thereof.
VII	Fibrous structure, with no more than 0.5% having sharp edges or corners.

1/ Viewed at 100X magnification for Types I, II, III, IV, V, and VII; at 300X for Type VI.

3.3 Grit Size Grading. The abrasive material shall be graded in accordance with ANSI-B74.12 and shall conform to the grit size requirements of 2.2.

3.4 Hardness. The abrasive material shall be of sufficient hardness to scratch glass when tested by placing some of the abrasive material between two glass microscope slides and, while applying pressure, moving one slide over the other in a reciprocating motion. The glass slide shall be examined for scratches.

3.5 Chemical and Physical Properties. The abrasive material shall conform to the requirements in Table II when determined in accordance with ANSI-B74.14.

### 4. REGULATORY REQUIREMENTS.

4.1 Regulatory Requirements. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4.2 Metric Products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within the tolerances specified and all other requirements of this document are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in inch-pound units, a request should be made to the contracting officer to determine if the product is acceptable.

TABLE II. Chemical and Physical Properties.

Property	Requirements						
	Type I	Type II	Type III	Type IV	Type V	Type VI	Type VII
Aluminum Oxide Residue, percent	98.0 (min.)	—	—	—	—	—	—
Silicon Dioxide Content, percent	—	98.5 (min.)	—	35.0 to 40.0	20.0 to 30.0	85.0 (min.)	90.0 (min.)
Silicon Carbide Content, percent	—	—	98.5 (min.)	—	—	—	—
R <sub>2</sub> O <sub>3</sub> Residue, percent <u>1/</u>	—	—	—	55.0 (min.)	55.0 (min.)	—	—
Moisture Content, percent <u>2/</u>	0.5 (max.)	0.5 (max.)	—	0.5 (max.)	0.5 (max.)	6.0 (max.)	0.5 (max.)
Loss on Ignition, percent	0.2 (max.)	0.1 (max.)	—	—	—	6.0 (max.)	3.0 (max.)
Specific Gravity	3.60 (min.)	2.55 (min.)	3.20 (min.)	3.70 (min.)	3.50 (min.)	1.85 (min.)	2.15 to 2.60

1/ Occurring mainly as Fe<sub>2</sub>O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub>.

2/ The moisture content of the abrasive material delivered in bags or sacks shall not exceed the values listed in this table.

A-A-59316

## 5. QUALITY ASSURANCE PROVISIONS.

5.1 Product Conformance. The product provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Market Acceptability. The following market acceptability criteria are necessary to document the quality of the product to be provided under this CID.

5.2.1 The company producing the abrasive material must have been producing a product meeting the requirements of this CID for at least 6 months.

## 6. PACKAGING.

6.1 Preservation, Packing, and Marking. Preservation, packing, and marking shall be as specified in the contract or order.

## 7. NOTES.

### 7.1 Source of Documents.

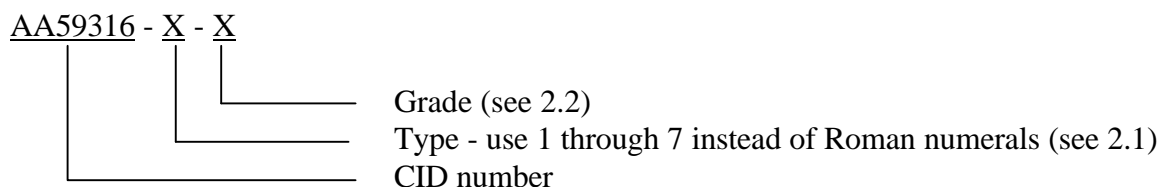
7.1.1 ANSI Standards are available from the American National Standards Institute, Inc., 11 West 42nd Street, New York, NY 10036.

7.1.2 The FAR may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.

7.2 Ordering Information. The purchaser should select the required options permitted herein and include the following information in procurement documents:

- a. Title, number, and date of this CID.
- b. Type and grade.
- c. Quantity.
- d. Preservation, packing, and marking.

7.3 Part Identification Number (PIN). Abrasive materials conforming to this CID shall be identified by a part number configuration consisting of the CID number, type, and grade. An example of the part number configuration is as follows:



**7.4 National Stock Numbers.** The following is a list of assigned NSNs that correspond to this CID. The list may not be indicative of all possible NSNs associated with the CID.

5350-00-184-5824	5350-00-255-0759
5350-00-184-5825	5350-00-255-0760
5350-00-184-6248	5350-00-466-5924
5350-00-814-6253	5350-00-881-4444
5350-00-184-6254	5350-01-088-5801
5350-00-184-6255	5350-01-144-0471
5350-00-222-0493	5350-01-236-0814
5350-00-223-4371	5350-01-261-9065
5350-00-230-3235	5350-01-295-9702
5350-00-230-3246	5350-01-295-9703
5350-00-255-0758	5350-01-360-6562

**MILITARY INTERESTS:**

## Custodian:

Army - MR  
Navy - AS  
Air Force - 99

### Review Activities:

Army - AR, CR  
Navy - MC, YD2

CIVIL AGENCY COORDINATING ACTIVITY:

GSA/FSS - 7FXE

### Preparing Activity:

Navy - AS

(Project 5350-0053)