

[INCH-POUND]  
A-A-1045B  
December 19, 1996  
SUPERSEDING  
A-A-001045A  
June 13, 1989

## COMMERCIAL ITEM DESCRIPTION

### GRAIN, ABRASIVE (MINERAL)

The General Services Administration has authorized the use of this commercial item description (CID) by all federal agencies.

#### 1. SCOPE.

1.1. Scope. This commercial item description covers mineral type abrasive used with pressure blasting equipment to descale, clean and finish metallic parts (including the surface of engine and aircraft components for plasma spray plating, and painting operations).

#### 2. CLASSIFICATION.

2.1 Classification. The abrasive grain shall be furnished in the following types, grades, classes and grit sizes as specified.

Type I - Aluminum oxide, for wet or dry blasting.  
Type II - Novaculite (silicon dioxide) (natural oilstone), for wet blasting.  
Type III - Silicon Carbide, for wet or dry blasting.

Class 1 - Special application (Newly manufactured grain)  
Class 2 - General application (Reprocessed grain only)

Grit sizes - 16, 20, 24, 30, 36 40, 46, 54, 60, 80, 90, 120, 150, 180, 220, 240, 320.

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Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: General Services Administration, Engineering Group (7FXEE), 819 Taylor Street, Fort Worth, TX 76102.

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## 3. GENERAL REQUIREMENTS

3.1. Grading. Grading of abrasive grain grit sizes 36 through 240 shall be in accordance with ANSI B74.12. Grit size 320 shall be graded in accordance with ANSI B74.10.

3.2. Physical characteristics. The abrasive grain shall have physical characteristics as shown in Table I below:

Table I

Type	Class	Composition (min.)	Specific gravity (min.)	Moisture content (max.)	Loss on ignition (% max.)
I	1	98.5% aluminum oxide	3.60	0.5%	0.2
I	2	94.0% aluminum oxide	N/A	0.5%	0.1
II		92.5% silicon dioxide	2.55	0.5%	0.1
III		98.0% silicon carbide	3.20	0.5%	N/A

NOTE: Requirements shall be determined in accordance with ANSI B74.14.

3.3. Grain appearance. When viewed under 100X magnification, Types I and III grain shall appear angular and multi-sided with a maximum of 2 percent slivers or flats. Type II grain shall appear as rounded disks, partially agglomerated with a maximum of 2 percent of slivers or flats.

3.4. Hardness. The abrasive grain shall be of sufficient hardness to scratch glass.

3.5. Friability (Type I, Class 1). Friability of Type I, Class 1 abrasive grain shall conform with ANSI B74.8.

3.6. Moisture content (Type I, Class 1). The moisture content of Type I, Class 1 material shall not exceed 0.5%.

3.7. Acid Soluble metallic contamination (Type I, Class 1). Type I, Class 1 abrasive grain shall contain a maximum of the following elements as specified in accordance with ANSI B74.14:

IRON	CHROMIUM	NICKEL	LEAD	CADMIUM	TOTAL	OTHER.
mg/L	2000	100	300	50	50	5000

3.8. Bulk density (Type I, Class 1). Type I, Class 1 abrasive material shall have a bulk density as shown in Table II below. Bulk density shall be determined in accordance with ANSI B74.4.

Table II

<u>Grain size</u>	<u>Bulk density grams per cc</u>
60	1.64 to 1.79
150	1.51 to 1.77
180	1.50 to 1.72
220	1.50 to 1.70
240	1.49 to 1.68

3.9. Workmanship. The abrasive grain shall be uniform in appearance, noncaking, free flowing and shall be suitable for cleaning metal surfaces by blasting without deforming, marring, or scratching the surfaces being cleaned. The abrasive material shall not contain foreign grit or other extraneous materials that will affect serviceability. The material shall perform in a mostly dust free manner. Used (reprocessed) abrasive materials shall not be furnished when Class 1 grain is specified.

#### 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.

#### 5. QUALITY ASSURANCE PROVISIONS

5.1 Product Conformance. The products 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.

#### 6. PACKAGING

6.1 Packaging. The preservation packing, and marking shall be as specified in the contract or order.

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## 7. NOTES

7.1 Part Identification Number (PIN). Abrasive grain conforming with this commercial item description shall be identified by a part number configuration consisting of identification of a portion of the specification number, the grit size, type and class. An example of the part number configuration is shown below.

AA1045-240-XXXX

			____ Last four digits of stock number)
			____ Grit size (e.g. 60, 180, 240, etc.)
			____ General specification number.

<u>PART NUMBER</u>	<u>NSN</u>
AA1045-220-6460	5350-00-174-6460
AA1045-180-5824	5350-00-184-5824
AA1045-60-5825	5350-00-184-5825
AA1045-40-6240	5350-00-184-6240
AA1045-120-3251	5350-00-230-3251
AA1045-16-0759	5350-00-255-0759
AA1045-30-5979	5350-00-271-5979
AA1045-46-5980	5350-00-271-5980
AA1045-80-6123	5350-00-276-6123
AA1045-60-5924	5350-00-466-5924
AA1045-36-8973	5350-00-619-8973
AA1045-220-4444	5350-00-881-4444
AA1045-180-6041	5350-00-903-6041
AA1045-320-7810	5350-01-019-7810
AA1045-54-3546	5350-01-120-3546
AA1045-240-7099	5350-01-135-7099
AA1045-90-5429	5350-01-151-5429
AA1045-20-6245	5350-01-173-6245

7.2 Ordering data. Purchaser's should select the preferred options permitted herein and include the following information in procurement documents (if applicable).

- a. Title, number, and date of this commercial item description.
- b. Type, class, grit size
- c. The preservation, packing and marking desired.

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

7.4 ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA., 19428-2959.

Military Coordinating  
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