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15 July 1965
SUPERSEDING
MIL-G-21380A
19 April 1961

MILITARY SPECIFICATION

ABRASIVE MATERIALS, FOR BLASTING

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

1. SCOPE

1.1 Scope - This specification covers mineral type abrasives used with pressure blasting equipment to descale, clean, and finish metallic parts.

* 1.2.1 Classification -

1.2 Types - Abrasives shall be furnished in the following types, as specified (see 6.2):

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

1.2.2 Grades -

1.2.2.1 Types I, III, IV and V abrasives shall be furnished in the following grades, as specified (see 6.2):

Grade A - Coarse (Grit No. 36)

Grade B - Medium (Grit No. 100)

Grade C - Fine (Grit No. 180)

1.2.2.2 Types II. VI and VII abrasives shall be furnished in the following grades, as specified (see 6.2):

Grade B - Medium (Grit No. 100)

Grade C - Fine (Grit No. 180)

Grade D - Extra fine (Grit No. 240)

Note - Grit No's. are in accordance with Table II of U. S. Department of Commerce publication Commercial Standard CS271-65 dated 12 April 1965.

* 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 the specification to the extent specified herein.

SPECIFICATIONS

Federal

RR-S-366	Sieves, Standard for Testing Purposes.
UU-S-48	Sacks, Shipping, Paper.
PPP-C-96	Cans, Metal, 28 Gage and Lighter.
PPP-D-723	Drums, Fiber

STANDARDS

Military

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-147	Palletized Unit Loads (40" x 48" 4-Way Partial and 4-Way Pallets).

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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:

DEPARTMENT OF COMMERCE
Commercial Standard CS271-65

(Application for copies should be addressed to the Office of Technical Service, Commodities Standards Division, Department of Commerce, Washington 25, D. C.)

3. REQUIREMENTS

* 3.1 Material - The abrasive material shall be uniform in appearance, noncaking, free flowing, and shall not contain foreign grit or any other extraneous materials. The abrasive material shall contain no free iron visible to the eye or easily separated by a magnet.

* 3.2 Grain appearance - When viewed under magnification, as specified in 4.6.1, the abrasive material shall appear as follows:

Types I, III, IV and V - Angular and multi-sided; maximum of 2 percent of slivers or flats.

Type II, - Rounded -disks; partially agglomerated; maximum of 2 percent of slivers or flats.

Type VI- Distinct diatom structures, including disk-like, spicular, and cylindrical forms or fragments thereof.

Type VII- Fibrous structure, with no more than 0.5 percent having sharp edges or corners.

* 3.3 Sieve analysis - The abrasive material shall conform to the particle size requirements specified in Table I, when subjected to the sieve analysis as specified in 4.6.2.

* 3.4 Chemical and physical properties - The abrasive material shall conform to the requirements specified in Table II, when tested as specified in Section 4.

* 3.5 Workmanship - The abrasive material shall be prepared in accordance with the best commercial practice for this material to meet the requirements of this specification.

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.

*TABLE I

PARTICLE SIZE REQUIREMENTS [1]

Type	Grade	Grit No.	Sieve Through Which 100% Must Pass	Control Sieve		Maximum of Oversize on Control Sieve	Minimum Through Control Sieve and Retained		Cumulative Minimum Through Control Sieve and Retained		Maximum of 5% Through Sieve No.
				No	Opening Inch	Percent	Percent	On Sieve No	Percent	On Sieve No.	
I, III, IV, V	A	36	18	25	0232	15	50	35	80	35 and 40	50
ALL	B	100	60	100	0059	25	30	120	55	120 and 140	230
ALL	C	180	80	170	.0035	20	30	200 and 230	60	200, 230 and 270	
II, VI VII	D	240	120	200	.0029	10	5	230 and 270	30	230, 270 and 325	

1 Adopted from U.S. Department of Commerce publication Commercial Standard CS 271-65 dated 12 April 1965

* TABLE II

CHEMICAL AND PHYSICAL PROPERTIES

Property	Requirements							Test Paragraph
	Type I Aluminum Oxide	Type II Novaculite (Silicon Dioxide)	Type III Silicon Carbide	Type IV Garnet	Type V Emery	Type VI Diatomaceous Silica	Type VII Tripoli	
Aluminum Oxide Residue(%)	98.0(min)	———	———	———	———	———	———	4.6.3
Silicon Dioxide Content(%)	———	98.5(min)	———	35.0–40.0	20.0–30.0	85.0 (min.)	90.0 (min.)	4.6.4
Silicon Carbide Content(%)	———	———	98.5(min.)	———	———	———	———	4.6.5
R_2O_3 Residue (%) (1)	———	———	———	55.0(min.)	55.0(min.)	———	———	4.6.6
Moisture Content (%) (2)	0.5(max.)	0.5(max.)	———	0.5(max.)	0.5(max.)	6.0(max.)	0.5(max.)	4.6.7
Loss on Ignition (%)	0.2(max.)	0.1(max.)	———	———	———	6.0(max.)	3.0(max.)	4.6.8
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	4.6.9
Hardness	Shall scratch glass	Shall scratch glass	Shall scratch glass	Shall scratch glass	Shall scratch glass	Shall scratch glass	Shall scratch glass	4.6.10

Notes:

(1) Occuring mainly as Fe_2O_3 and Al_2O_3

(2) The moisture content of the abrasive material delivered in bags or sacks shall not exceed the values listed in this table. There is no moisture limitation on material purchased in bulk (see 6.3)

* 4.2 Classification of tests -

4.2.1 Quality conformance tests - Quality conformance tests for acceptance shall consist of those tests specified in Section 3.

* 4.3 Inspection lot - An inspection lot shall consist of one type and grade of abrasive manufactured at the same time, and offered for delivery at one time.

* 4.4 Sampling -

4.4.1 Sampling for tests - Two containers from each inspection lot shall be selected at random. From each of the two containers, a specimen of sufficient amount for test purposes shall be taken and placed in a clean, dry metal container. Each specimen shall be subjected to all the tests of this specification. If either of the two specimens fail one or more of these tests, the inspection lot shall be rejected.

* 4.4.1.1 Data to accompany test samples - The test samples shall be accompanied by a certified test report stating that the abrasive material meets the following requirements of this specification.

a. Material (3.1)

b. Grain appearance (3.2)

c. Workmanship (3.5)

4.4.2 Sampling of fill of containers - A random sample of filled containers shall be selected from each inspection lot in accordance with Standard MIL-STD-105 at Inspection level I and Acceptable Quality Level (AQL) 2.5 percent defective to verify conformance to delivery requirements.

4.5 Test conditions - Unless otherwise specified, tests shall be conducted at a temperature of 75° ± 5° F (24° ± 3° C) with a relative humidity of 50 ± 5 percent.

4.6 Test methods -

* 4.6.1 Grain appearance - Some of the abrasive grains shall be spread on a glass microscope slide and examined under a microscope for appearance and grain shape. The amount of slivers or flats for types I, II, III, IV, and V and the sharp edges or corners for type VII shall be determined. Magnification shall be approximately as follows:

Type	Magnification
I, II, III, IV, V and VII	100X
VI	300X

* 4.6.2 Sieve analysis -

4.6.2.1 Type I, II, III, IV, and V abrasives -

4.6.2.1.1 Apparatus - The shaker to be employed in conducting particle size shall operate with a single eccentric circular motion at 285 ± 10 revolutions per minute and with a tapping action of 156 ± 5 strokes per minute. The shaker shall accommodate six 8-inch diameter sieves with one pan and cover. Screen sizes used for particle size analysis shall conform to U. S. standard screen sizes as outlined in Specification RR-S-366.

4.6.2.1.2 Procedure - The applicable sieves shall be nested in order of decreasing sizes with the largest size sieve on top and a pan at the bottom. A representative sample shall be taken by an approved sampling method. This shall then be reduced to 100 ± 0.1 gram by quartering or splitting and placed on the top sieve of the nest. The sieves shall be covered, placed in the testing machine, and vibrated for 5 minutes ± 5 seconds. The abrasive remaining on each sieve shall be weighed and the percentage passed through each sieve calculated.

4.6.2.2 Types VI and VII abrasives -

4.6.2.2.1 Apparatus and procedure - Wet sieve analysis shall be conducted as follows: A sink shall be fitted with an overflow plug so that a level of 1-1/2 inches of water is maintained therein when the water faucet is open. Approximately 25 grams of the abrasive shall be weighed out on a triple beam balance into an 8-inch standard No. 120 sieve. The sieve shall be lowered into the water, rotated and lifted repeatedly until all material capable of so doing has passed through the sieve. During the sieving action, no water shall be allowed to run onto the sieve. The sieving action in the water shall be stopped only when the water surrounding the sieve and the water running from the sieve are clear. The sieve shall then be placed in an oven at 105° C (221° F) for one hour, the retained material brushed out and weighed. The test shall also be conducted using standard No. 200, 230, 270, and 325 sieves.

4.6.3 Aluminum oxide residue (type I) - A representative portion of the sample shall be thoroughly dried at 105° C to 110° C (221° F to 230° F). Two grams shall be weighed out to the nearest milligram and placed into a polyethylene

beaker.. Twenty milliliters (ml) of 1 to 15 sulfuric acid, 20 ml of 1 to 4 nitric acid, and 10 ml of hydrofluoric acid shall be added. The solution shall be swirled around to mix and wet the sample. The agitation shall be repeated from time to time during the digestion period of 20 minutes. After the digesting period, the solution shall be filtered through a No. 42 Whatman paper, or equivalent, on a polyethylene funnel. The sample shall be washed from the plastic beaker onto the filter with warm 2 to 5 percent hydrochloric acid and finally with warm 1 to 15 sulfuric acid solution. The residue and paper shall be placed into a tared platinum crucible which shall then be put into a muffle furnace to char and burn the papers without flame. After the carbon has burned off, the temperature shall be raised to approximately 1000° C (1832° F) and maintained for 30 minutes. The crucible and contents shall be removed from the furnace, placed in a desiccator, cooled, and weighed. The percentage shall be calculated as follows:

$$\text{Percent residue as aluminum oxide} = \frac{\text{Weight of residue}}{\text{Weight of sample}} \times 100$$

* 4.6.4 Silicon dioxide content -

4.6.4.1 Types II, VI and VII- A representative portion of the sample shall be thoroughly dried at 105° C to 110° C (221° F to 230° F). Approximately 1 gram of the material shall be weighed to the nearest milligram in a 150-ml beaker.. The sample shall be thoroughly washed with hot distilled water and filtered. The paper and residue shall be placed in a tared platinum crucible and the paper carefully charred and burned off without flame. The temperature shall be raised to approximately 1000° C (1832° F) and maintained for approximately 30 minutes. The crucible shall then be cooled in a desiccator and reweighed. After weighing, the contents shall be moistened with distilled water. Two drops of sulfuric acid (1:1) and 20 ml of hydrofluoric acid shall be added and the contents evaporated to dryness. The excess sulfuric acid shall be fumed off and the residue ignited at approximately 1000° C (1832° F). After cooling, the sample shall be moistened with water, two drops of sulfuric acid and 5 ml of hydrofluoric acid added, and evaporation, fuming and ignition repeated. The sample shall then be cooled and weighed. The percentage silica shall then be calculated as follows:

$$\text{Percentage silicon dioxide} = \frac{B - C}{A} \times 100$$

Where A = Weight of original dried sample.
B = Weight of washed and ignited sample.
C = Final weight of residue after fuming.

4.6.4.2 Types IV and V - Approximately 0.5 grams of the dried material shall be placed in a tared platinum crucible and weighed to the nearest 0.1 milligram.

A mixture consisting of 4 grams of potassium carbonate, 4 grams of sodium carbonate and 0.5 grams of potassium nitrate shall be added. The contents of the respective crucibles shall be thoroughly mixed.

The fusion shall be started over a small flame and the heat gradually increased until the entire contents of the crucible are in a molten state. Heating shall be continued for an additional 20 minutes. A well fitting platinum cover shall be kept over the crucible during the fusion.

After the fusion is completed, the crucible shall be carefully swirled so that the melt solidifies evenly on the sides and bottom of the crucible. Cooling shall be completed by partially immersing the crucible in cold water, taking care that no water enters the crucible.

The crucible and its contents shall then be placed in a 600 ml porcelain casserole containing 100 ml of distilled water. The casserole shall be covered with a watch glass and heated to a gentle boil until the melt is completely disintegrated.

The crucible and lid shall be removed and carefully scrubbed and rinsed to remove adhering particles of melt. The contents of the casserole shall be carefully acidified with concentrated hydrochloric acid, introducing the acid in small portions under a watch glass in order to avoid loss by spattering. 30 ml concentrated hydrochloric acid shall be added in excess. The solution shall be evaporated to dryness on a steam bath and any crust formed shall be broken up. When the material appears completely dry and no odor of hydrochloric can be detected, the casserole shall be removed and allowed to cool. The sides of the casserole shall be washed down with 20 ml concentrated hydrochloric acid and then with water. Evaporation shall be repeated, as above, on the steam bath and then the dried residue shall be baked one hour at 105° C (221° F) in an oven, cooled, drenched with 20 ml of concentrated hydrochloric acid, 175 ml of water added and the solution warmed with stirring until all soluble salts are dissolved. Silica shall be filtered off using No. 41H Whatman paper and washed, first with 5 percent hydrochloric acid 5 times, and then 5 times with hot water. The filtrate shall be returned to casserole to make a second dehydration of silica in the manner previously described for the first dehydration. (Save filtrate for R_2O_3 determination, paragraph 4.6.6). The filter paper containing the washed silica shall be

transferred from both the first and second dehydrations to a clean platinum crucible, ignited, at first gently, until the filter paper is completely carbonized and then at 1000°C (1832°F) for 30 minutes. The crucible shall be cooled, weighed, moistened with water and one ml (1:1) sulfuric acid and 15 ml hydrofluoric acid added. The contents shall be evaporated to dryness on a steam bath. The crucible shall be transferred to a sand bath and heated gently until the sulfuric acid is expelled, then ignited at 1000°C (1832°F) for 15 minutes, cooled and weighed. The loss in weight represents silica. The percentage of silica shall be calculated as follows:

$$\text{Percentage silicon dioxide} = \frac{B - C}{A} \times 100$$

Where A = weight of original dried sample
B = weight of ignited sample before fuming
C = final weight of residue after fuming

* 4.6.5 Silicon carbide content -

4.6.5.1 Total Carbon - Transfer an accurately weighed sample of approximately 0.25 g of dry silicon carbide to a small, glass stoppered, cylindrical weighing bottle. Add 2 g of an accelerator, such as Pb_3O_4 (C and CO_2 free) or powdered metallic copper, and thoroughly mix by gentle shaking. Fill a combustion boat (approximately 5 inches by 3/4 inch) with RR Alundum (90 mesh) or Alfrax 15A (80 to 150 mesh) and by means of a 3/8-inch glass rod or other suitable tool, groove or furrow the bedding. Line thinly the groove with 0.5 g of the accelerator. Place the mixed sample, thinly and evenly in the boat thus prepared, rinse the weighing bottle with a few small portions of Alundum or Alfrax and cover the entire charge with a thin layer of the same. Place the boat and contents in a combustion furnace at 1,050 to 1,100°C, preheat for 1 minute, admit oxygen as in the determination of carbon in steel and burn for 45 minutes. Absorb the carbon dioxide in Ascarite, cool and weigh. Correct the result thus found by blank determinations for the furnace, oxygen, boat, bedding material, and accelerator. Calculate the percentage of carbon by use of the factor 0.2729.

4.6.5.2 Free Carbon - Transfer 4 g of dried silicon carbide to an empty combusion boat, ignite in oxygen at a temperature of 900 to 915° C for 15 minutes and absorb the carbon dioxide in Ascarite. Cool and weigh. Correct the result thus found by blank determinations for the furnace, oxygen, and boat, and calculate the percentage of carbon by use of the factor 0.2729

4.6.5.3 Silicon Carbide - Deduct the value obtained for free carbon from the value found for total carbon. Calculate the remainder to silicon carbide, using the factor 3.3364.

NOTE: Method taken from National Bureau of Standards Certificate of Analyses of Standard Sample 112, Silicon Carbide, dated 26 May 1937.

4.6.6 R_2O_3 residue (types IV and V) - After removal of silica by dehydration (see 4.6.4), 5 grams ammonium chloride shall be added to every 200 ml of filtrate. A few drops of methyl red indicator shall be added and the solution then heated just to boiling. Dilute ammonium hydroxide (1:1) shall be added drop by drop until the solution changes to a distinct yellow.The solution shall be boiled for a few minutes. More ammonium hydroxide shall be added if the color of the solution changes to orange or red. A small amount of macerated filter paper shall be added to assist filtering through No. 41H Whatman paper or equivalent. The residue shall be washed thoroughly with a hot 2 percent solution of ammonium chloride. The paper and residue shall be placed in a tared porcelain crucible. The paper shall be carefully charred and burned off without flame. The crucible and contents shall be ignited at 1000°C (1832°F) for approximately 30 minutes. The sample shall then be cooled and weighed. The percentage of R_2O_3 shall be calculated as follows:

$$\text{Percentage } R_2O_3 = \frac{B}{A} \times 100$$

Where A = Weight of original dried sample.
B = Final weight of ignited precipitate.

* 4.6.7 Moisture content (all types) - Approximately 5 grams of the sample shall be weighed on an analytical balance in a tared crucible and dried at 105°C to 110°C (221°F to 230°F) for 3 hours, cooled in a desiccator and reweighed. The sample shall be returned to the oven until successive weighings after each additional one hour heating show a weight change of not more than 0.1 percent. The percentage of moisture shall be calculates as follows:

$$\text{Percentage moisture} = \frac{\text{Original weight} - \text{Final weight}}{\text{Original Weight}} \times 100$$

* 4.6.8 Loss on ignition (types I, II, VI and VII) - The crucible, with cover and contents used in 4.6.7, shall be transferred to a muffle furnace and heated cautiously with the crucible at first partially covered. The temperature shall be gradually raised to approximately 1000° C (1832° F) after which the crucible shall be covered and the heating continued for 30 minutes. The crucible and contents shall then be cooled in a desiccator and reweighed. The percentage ignition loss shall then be calculated as follows:

$$\text{Percentage loss on ignition} = \frac{A-B}{\text{Original weight}} \times 100$$

Where A = Weight after moisture removal (4.6.7)
B = Final weight

* 4.6.9 Specific gravity (all types) - A 60-gram sample of the material, previously dried, shall be placed in a 100-ml graduated cylinder containing 50 ml of distilled water. The total volume, -50, will give the volume of the abrasive. The specific gravity shall be computed as follows:

$$\text{Specific gravity} = \frac{\text{Weight of sample (grams)}}{\text{Water level (ml) after addition of sample - 50(ml)}}$$

* 4.6.10 Hardness (all types) - Some of the abrasive grains shall be spread on a glass microscope slide. Another glass slide shall be superimposed and while applying pressure, one slide shall be moved slowly over the other with reciprocating motion for 10 seconds. The glass surface shall be examined for scratching.

* 4.7 Packaging, packing and marking - Preparation for delivery shall be examined for conformance with Section 5.

* 5. PREPARATION FOR DELIVERY

5.1 Packaging and packing -

5.1.1 Level A - Abrasive material, in the quantity specified, shall be shipped in multiwall paper sacks conforming to Federal Specification UU-S-48, Type II or III, Grade X with "dipped ends", or metal cans conforming to Federal Specification PPP-C-96, or fiber drums conforming to Federal Specification PPP-D-723. Unless otherwise specified, the above containers shall be pallitized

in accordance with Standard MIL-STD-147. Bonding shall be made with glue stripes on the unstrapped sacks, arranged flat in interlocking courses. A four inch long cross stripe shall be applied at the approximate center at each end of the sack. Caps shall be utilized. The glue bonding shall be a water resistant adhesive compound of such nature that it will bond units to the pallet and to each other to prevent lateral movement; but which will permit their vertical removal at point of use without damage to the container or its contents. Containers conforming to Federal Specification PPP-C-96 shall be overpacked in accordance with the appendix to the specification as indicated for oversea shipment.

5.1.2 Level B - Abrasive material, in the quantity specified, shall be shipped in multiwall paper sacks conforming to Federal Specification UU-S-48, Type II or III, Grade L/W, or fiber drums conforming to Federal Specification PPP-D-723. Caps shall be utilized. Unless otherwise specified, palletization and bonding shall be as indicated above (5.1.1). Containers conforming to Federal Specification PPP-C-96, when used, shall be overpacked in accordance with the appendix to the specifications as indicated for domestic shipment.

5.1.3 Level C - Abrasive grit, in the quantity specified, shall be shipped in accordance with the supplier's commercial practice in a manner to afford protection against damage during direct shipment from the supply source to the first domestic receiving activity for immediate use. Shipping containers shall comply with the Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

5.2 Marking for shipment - In addition to any special marking indicated in the contract or purchase order, all containers shall be marked in accordance with Standard MIL-STD-129. Shipping sacks shall also include the following marking:

For Level A shipments:

"FOR OCEAN SHIPMENT - KEEP DRY AS POSSIBLE"

For Level B shipments:

"NOT FOR OCEAN SHIPMENT - KEEP DRY"

* 6. NOTES

6.1 Intended use - The abrasives covered by this specification are for use in blast cleaning of metal surfaces to remove scale, rust, paint, encrusted sand, dirt, and other undesirable material, and to prepare surfaces for applied

finishes, such as paints and metal platings.

6.1.1 Types I, III, IV and V abrasives have fast cutting action with slow breakdown rate, and are used either wet or dry in pressure blasting machines.

6.1.2 Types II, VI and VII abrasives have good cutting qualities, and are generally used in wet impact blasting.

6.2 Ordering data - Procurement documents should specify the following:

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

(b) Type and grade (see 1.2).

(c) Quantity desired.

(d) Capacity in pounds of the containers and type of container in which abrasive material is to be furnished (see 5.1).

(e) Levels of packaging and packing required (see 5.1).

6.3 Correction of gross weight of bulk shipments for moisture content - When abrasives are procured by net weight in bulk, it is necessary that the moisture content of the material be accurately determined at the time of weighing and the new weight calculated by subtracting the amount of moisture present from the gross weight, as follows:

$$\text{Net weight (pounds)} = \text{Gross weight (pounds)} - \text{Gross weight (pounds)} \times \text{Percent moisture}$$

* 6.4 Changes from previous issue - The outside margins of this document have been marked "*" to indicate where changes (deletions, additions, etc.) from the previous issue have been made. This has been done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content as written irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army - MR
Navy - WP
Air Force - 69

Preparing Activity:

Navy-WP
(Project No. 5350-0025)

Review activities:

Army - MR, MO
Navy - WP
Air Force - 69

User activities:

Army - MI, WC, EL
Navy - YD, SH, MC

Review/user information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current Federal Supply Classification Listing of DOD Standardization Documents.

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

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