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SUPERCEDING
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COMMERCIAL ITEM DESCRIPTION

WOOL, METALLIC (COPPER AND ALUMINUM)

The General Services Administration has authorized the use of this commercial item description.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This commercial item description covers copper and aluminum metallic wool used as as abrasive for cleaning and polishing. This commercial item description may involve hazardous materials and procedures and does not purport to address the safety or environmental problems associated with it's use. It is the responsibility of the user of this description to consult and establish appropriate safety, health, and chemical disposal practices in accordance with all applicable state, local, and Federal regulations.

1.2 Classification. The metallic wool shall be of the following types, classes, and forms.

Type I - Copper and copper alloy.
Type II - Aluminum.

Class 1 - Medium.
Class 2 - Coarse.
Class 3 - Fine.

Form A - Rolls.
Form B - Pads.

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

2.1 The documents referenced in this commercial item description shall be the issues in effect on the date of the invitation for bids or request for proposal unless otherwise specified. These documents form a part of this commercial item description to the extent specified. In the event that there is a conflict between this commercial item description and a document referenced herein, this commercial item description shall take precedence.

Federal Standard:

FED-STD-376 - Preferred Metric Units For General Use By The Federal Government.

Copies of Federal specifications and standards are available from the General Services Administration Business Service Centers in Boston, MA; New York, NY; Philadelphia, PA; Washington, DC; Atlanta, GA; Chicago, IL; Kansas City, MO; Fort Worth, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.

Military Standard:

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes

Copies of military specifications and standards may be obtained from Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

ASTM standard:

E 29 - Standard Practice For Using Digits In Test Data To Determine Conformance With Specifications.

Application for copies of ASTM standards should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103.

3. SALIENT CHARACTERISTICS

3.1 Dimensions.

3.1.1 Form A. Rolls shall be 14 to 16 inches in length.

3.1.2 Form B. Pads shall be formed ribbon which is a minimum of 3-3/4 inches in width.

3.1.3 Fiber thickness. Thickness of individual fibers shall be in accordance with Table I and Table II (see 4.8).

Table I, Type I

Class	Thickness (inches)	Tolerance (inches, plus or minus)
1 - Medium	0.005	0.001
2 - Coarse	0.007	0.001
3 - Fine	0.003	0.001

Table II, Type II

Class	Maximum Thickness (inches)	Minimum Thickness (inches)	Average Range (inches)
1 - Medium	0.010	0.005	0.009 - 0.006
2 - Coarse	0.018	0.007	0.016 - 0.009
3 - Fine	0.008	0.002	0.007 - 0.003

3.2 Fiber properties. Individual fibers shall have uniform cutting edges which are sharp and smooth. The length of fibers used in the wool shall be such that the wool clings together in handling without unraveling.

3.3 Performance.

3.3.1 Type I.

3.3.1.1 Ductility. Individual fibers shall be capable of being bent completely around wire mandrels of the sizes in table III (see 4.10).

Table III, Type I

Class	Diameter of mandrel
1	0.036 inch
2	0.045 inch
3	0.028 inch

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3.3.1.2 Corrosion resistance. Copper wool shall not exhibit any evidence of corrosion attack when tested in accordance with 4.11.

3.3.1.3 Elasticity. Copper wool shall spring back to within 85 percent of the original measured height when tested in accordance with 4.12.

3.3.2 Type II.

3.3.2.1 Contour of strands. Contour of the strands shall be substantially uniform and free from raggedness, spirals and whorls when examined in accordance with 4.14.

3.3.2.2 Brittleness. Aluminum wool shall not show a weight loss greater than 15 percent when tested in accordance with 4.13.

3.4 Workmanship. Metal wool shall be of uniform quality. The pads and rolls shall be clean and free from foreign material, chips, and defects which render the wool unsuitable for use. Metal wool shall be free from short ends, and shall not wad or mat easily in use.

3.5 Regulatory requirements. In accordance with section 23.403 of the Federal Acquisition Regulations, the Government's policy is to acquire items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this commercial item description unless otherwise specified.

3.6 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 using conversion tables contained in the latest revision of Federal Standard No. 376, and all other requirements of this commercial item description are met.

If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable.

The contracting officer has the option of accepting or rejecting the product.

3.7 Commercial item. The use of the term "commercial item description" in this document does not imply that any item or items offered are not required to conform with all requirements 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 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 that supplies and services conform to prescribed requirements.

4.2 Sampling. The sample size levels of inspection shall be in accordance with MIL-STD-105.

4.3 Lot formation. All metallic wool of the same type, class, and form offered for delivery at one time shall be considered a lot for purposes of visual and dimensional and preparation for delivery examination. For test purposes, lot formation may be as stated above or may be the manufacturer's production lot providing there exists adequate recorded traceability of the material offered to the production lot.

4.4 Sampling for visual and dimensional examination. A random sample of wool pads or rolls, as applicable shall be selected from each lot in accordance with special inspection level S-4, AQL 2.5 expressed in terms of percent defective (PD). The sample unit shall be one wool pad or roll.

4.5 Sampling for tests. A random sample of wool pads or rolls, as applicable shall be selected from each lot in accordance with special inspection level S-1, AQL 6.5 expressed in terms of percent defective (PD). The sample unit shall be one wool pad or roll.

4.6 Visual and dimensional examination. The sample wool pads or rolls, as applicable shall be visually and dimensionally examined to verify compliance with this description. Tolerance limits specified are absolute limits as defined in ASTM E 29.

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4.7 Testing.

4.8 Thickness, types I & II. Measure 25 fibers for maximum lateral dimension under a 50X or greater magnification using a microscope with a reticle suitable for measuring the fiber width in thousandths of an inch (see 3.1.3).

4.9 Edge, types I & II. Examine fiber edges under 30X or greater magnification (see 3.2 and 4.6).

4.10 Ductility, type I. Wrap a single fiber taken from each sample unit tightly around a taut wire of the appropriate diameter (see 3.3.1.1). In case of failure, repeat the process using two additional fibers taken from the same sample unit. Failure of either of the additional fibers shall constitute failure of the sample unit.

4.11 Corrosion, type I. Prepare a specimen of the material, approximately 1 inch square. Using a medicine dropper, place 2 drops of 6.5 percent phosphoric acid on the specimen. Examine for evidence of corrosion attack (see 1.1 and 3.3.1.2).

4.12 Elasticity, type I. Measure the height of a tuft 3/4 to 1 inch high taken from each sample unit. Compress the tuft to 50 percent of the original height, and then allow the tuft to spring back toward it's original shape and measure the new height (see 3.3.1.3).

4.13 Brittleness, type II. Select a specimen of approximately 10 grams from each sample unit. Weigh the specimen accurately and record the weight. Roll the specimen into a ball approximately 2-1/2 inches in diameter, using the palms of the hands (gloves may be worn for protection). The duration of the rolling action shall be between 40 and 50 seconds. At the end of this time, the ball shall be pulled into an oval shape and all loose particles shall be shaken from the pad. The oval shape shall be repeatedly exercised, inverted and reshaken until no further loose particles are observed. The pad shall then be reweighed to determine the percentage of loss (see 3.3.2.2).

4.14 Contour, type II. The contour of the strands shall be examined at a magnification of 10 to 35 times, using reflected light (see 3.3.2.1). The presence of any of these defects in more than 10 percent of the wool shall be cause for rejection of the lot.

5.1 Preservation, packaging, packing, labeling, and marking. The preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

6.1 Ordering data. Purchasers 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, and form of metallic wool required.
- c. The preservation, packaging, packing, labeling, and marking desired.

6.2 Part Numbering. Metallic wool conforming with this commercial item description shall be identified by a part number configuration consisting of identification of a portion of the specification number, type, class, and form. An example of the part number configuration is shown below. This part numbering system is intended for identification and cross-indexing of the item within the Federal cataloging system. Part numbers are not required to be placed on the product or container.

☐ Form A or B.
☐ Class 1, 2, or 3.
☐ A=Type I, B=Type II.
 General specification number.

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MILITARY INTERESTS:

NONE: DOD has determined that
no military activity has an
official interest in this
Federal specification.

PREPARING ACTIVITY:

GSA - PSS