

NN-H-81C  
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SUPERSEDING  
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## FEDERAL SPECIFICATION

### HANDLES, ASH

This specification is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

#### 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers ash handles for use in post hole diggers, forks, hoes, rakes, and shovels as described in the current Federal Specifications GGG-D-326, GGG-F-626, GGG-H-496, GGG-R-96, and GGG-S-326.

1.1.1 Federal specification coverage. Federal specifications do not cover all varieties of the commodity indicated by the title of the specification, or which are commercially available, but are intended to cover only those generally used by the Federal Government.

1.2 Classification. The handles shall be of the types, classes, styles, and lengths as specified to fit the tools referenced in the appropriate Federal specifications.

1.3 Grades. The handles shall be of the following grades, as specified (see 6.1):

- |          |                                    |
|----------|------------------------------------|
| Grade A  | - For forks, hoes, and rakes       |
| Grade SA | - For shovels                      |
| Grade B  | - For forks, hoes, and rakes       |
| Grade SB | - For shovels and posthole diggers |

#### 2. APPLICABLE DOCUMENTS

2.1 Government documents. The following documents, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

##### Federal Specifications:

- |           |   |
|-----------|---|
| GGG-D-326 | - Digger, Posthole, Hinged                                    |
| GGG-F-626 | - Fork, Stone, Hand, D-Handle                                 |
| GGG-H-496 | - Hoe, Garden, Mortar, and Mortar Mixing                      |
| GGG-R-96  | - Rake, Hand (Garden and Lawn)                                |
| GGG-S-326 | - Shovels, Scoops, Spades, Snow Pushers, and Telegraph Spoons |

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(Activities outside the Federal Government may obtain copies of Federal specifications, standards, and Commercial Item Descriptions as outlined under General Information in the Index of Federal Specifications, Standards and Commercial Item Descriptions. The Index, which includes cumulative bimonthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

(Single copies of this specification, and other Federal specifications and Commercial Item Descriptions required by activities outside the Federal Government for bidding purposes are available without charge from 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; Houston, TX; Denver, CO; San Francisco, CA; Los Angeles, CA; and Seattle, WA.)

(Federal Government activities may obtain copies of Federal standardization documents and the Index of Federal Specifications, Standards and Commercial Item Descriptions from established distribution points in their agencies.)

#### Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage

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

2.2 Non-Government publications. The following documents form a part of this specification to the extent specified herein. Unless a specific issue is identified, the issue in effect on date of invitation for bids or request for proposal shall apply.

#### American Society for Testing and Materials (ASTM):

- ASTM D 3953 - Flat Steel Strapping/Connectors (For Closing/Reinforcing/Bundling Articles)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

### 3. REQUIREMENTS

3.1 Material. The handles shall be ash which includes wood cut from white ash (*Fraxinus Americana*), green ash (*Fraxinus Pennsylvanica*) and blue ash (*Fraxinus quadrangulata*) and shall comply with the requirements of table I.

TABLE I. Material

The quality requirements given herein conform to Simplified Practice Recommendation R76-40, Ash Handles, for grades A, SA, B, and SB except that weight limitations are based on a moisture content not exceeding 12 percent instead of 8 percent. Long handles and stems for forks, rakes, hoes, and kindred farm and garden tools are described by grades A and B; long handles and stems for shovels, spades, and scoops, by grades SA and SB. A stem is a short handle used to make D handles. The grading of stems conforms substantially to that specified for the lower two-thirds of corresponding long handles.

Grade	Color	Number of annual ranges per inch of radius		Weight in pounds per cubic foot <sup>1</sup>	Maximum permissible cross grain <sup>2</sup>		Admissible blemishes	
		Min.	Max.		For stems	For long handles	Kind	Number
A	White, light red, and light brown; dark red and brown in 10 inches at both ends <sup>3</sup>	5	17	Over 44 (heavy)	1/2 diameter in full length	1/2 diameter in bottom 2/3, 1/2 diameter in top 1/3, 2/3 diameter in top 7 inches	Slight dip grain (not more than 1 per handle), pin twig marks, small streaks, and slight butterfly marks <sup>4</sup>	One for each 24 inches of handle length of fraction thereof, at least 12 inches apart
SA	White, light red, and light brown; dark red and brown in 10 inches at tool end	5	15	Over 44 (heavy)	1/2 diameter in full length	1/2 diameter in bottom 2/3, 1/2 diameter in top 1/3, 2/3 diameter in top 7 inches	Slight dip grain (not more than 1 per handle), pin twig marks, small streaks, and slight butterfly marks <sup>4</sup>	One for each 24 inches of handle length of fraction thereof, at least 12 inches apart
B	White, red, brown, and mildly variegated (calico); dark red and dark brown in 10 inches at both ends <sup>3</sup>	3	21	Over 38 to 44 (medium)	1 in 12 anywhere in the full length	1 in 12, 1 in 6 in 12 inches at one end	Small knots, if located at the ends, and slight dip grain (not more than two of each per handle), pin twig marks, medium streaks, medium butterfly marks, and wavy grain <sup>4,5</sup>	Two for each 18 inches of handle length or fraction thereof, at least 6 inches apart

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TABLE I. Material (Cont'd)

Grade	Color	Number of annual ranges per inch of radius		Weight in pounds per cubic foot <sup>1</sup>	Maximum permissible cross grain <sup>2</sup>		Admissible blemishes	
		Min.	Max.		For stems	For long handles	Kind	Number
B	White, red, and brown, dark brown in 10 inches at tool end	4	18	Over 38 to 44 (medium)	Full diameter in any 30 inches of length	Full diameter in any 30 inches of bottom 2/3, 3/4 diameter in top 1/3, 3/4 diameter in top 7 inches	Slight dip grain pin twig marks, medium streaks, medium butterfly marks, and wavy grain <sup>4</sup>	Two for each 18 inches of handle length or fraction thereof, at least 6 inches apart

1 Based on a moisture content not exceeding 12 percent.

2 Deviation of the fiber from a line parallel with the axis of the handle; i.e., 1/2 diameter in bottom 2/3 means that the grain may cross 1/2 the diameter of the handle is not less than 2/3 the length, measured from the bottom.

3 Dark red and dark brown permitted on stems at tool end only.

4 Blemishes are defined and classified as follows: Butterfly mark - Discoloration resembling somewhat the trail left by a snail; Medium butterfly mark - In contrast with the color of the wood; Slight butterfly mark - Matching the general color of the wood; Pin twig mark - Mark made by a very small twig; Streak - Thread-like discoloration; Medium streak - 1 to 4 inches in length; Small streak - Not more than 1 inch in length; Dip grain (knurl) - Grain dipping into and out of the handle indicated by a fairly oval contour of grain on the surface; Slight dip grain - Not less than 3 inches long, nor deeper than 1/8 the minimum diameter of the handle at the point where the dip occurs; Small knot - Average diameter not more than 1/8 inch. Admissible blemishes shall not be such as to impair the strength or serviceability of the handle.

5 Knots will be permitted in stems at tool end only.

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3.2 Moisture content. The moisture content of the handles shall not exceed 12 percent of the oven-dry weight.

3.3 Size and form. The handles shall be formed and shaped to properly fit the tools referenced in the invitation for bids and described in the appropriate Federal Specification and shall be of the diameters and lengths given therein, as specified.

3.4 Rivets. When replacement handles which are customarily fastened to the tools with rivets are ordered, two suitable oval-head rivets shall be supplied with each handle. The rivets shall be fastened to the handle in a manner to preclude their being lost during shipment.

3.5 Marking. Handles shall be marked in a plain and permanent manner with the manufacturer's name or with the trademark of such known character that the source of manufacture may be readily determined.

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 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 the inch-pound units, a request should be made to the specification preparing activity for change to this document.

3.7 Workmanship. The handles shall be smoothly finished and shall be of good commercial workmanship.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection and testing 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 for acceptance inspection.

4.2.1 Inspection lot. All handles of the same type, class, style, grade, and length offered for delivery at one time shall be a lot for the purposes of sampling for examinations and tests. The sample unit shall be one handle.

4.2.2 Sampling for examination. A random sample of handles shall be selected from each lot offered for Government inspection in accordance with MIL-STD-105. For lots up to and including 40, the inspection level shall be II, and the AQL shall be 1.5 percent defective. For lots of 41 to 300 the inspection level shall be II and the AQL shall be 1.5 percent defective. For lots over 300, the inspection level shall be I and the AQL shall be 1.5 percent defective.

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4.2.3 Sampling for testing. A random sample of handles shall be selected from each lot offered for Government acceptance in accordance with MIL-STD-105. The inspection level shall be S-2 with an AQL of 2.5 percent defective.

4.3 Examinations. Each sample selected in accordance with 4.2.2 shall be examined visually and dimensionally to determine compliance with material, size and form, marking, and workmanship requirements. Any sample which fails to comply with the requirements shall be rejected, and if the number of rejected samples exceeds the acceptance number for the lot size, the lot represented by the sample shall be rejected.

4.4 Testing. Each sample selected in accordance with 4.2.3 shall be tested in accordance with 4.5.1 and 4.5.2. Any sample which fails to comply with the requirements shall be rejected, and if the number of rejected samples exceeds the acceptance number for the lot size, the lot represented by the sample shall be rejected.

#### 4.5 Test Procedures.

4.5.1 Moisture content test method. Each sample shall be tested to determine conformance with the moisture content requirements of paragraph 3.2 using the following test method.

Electrical moisture meter method. The moisture content shall be determined in accordance with the instructions furnished by the manufacturer of the electrical moisture meter. Electrical moisture meters shall not be used on handles that are surface-wet or that have been color stained. Any sample which fails to comply with the requirements of paragraph 3.2 shall be rejected.

4.5.2 Weight per cubic foot test method. A sample section with a volume of 1 cubic inch  $\pm$  0.01 cubic inch shall be cut from the sample handle. After conditioning the section to a 12 percent maximum moisture content, the section shall be weighed to an accuracy of 0.5 percent. That weight in pounds shall then be multiplied by 1728 pounds to give the weight per cubic foot. As an alternative to cutting a sample section, the contractor may determine the average density by measuring the displacement (volume) and weight of the entire handle (to the same tolerances specified above) which has been conditioned to a 12 percent maximum moisture content. In the alternative method, the weight divided by the volume in cubic inches shall be multiplied by 1728 to determine the weight per cubic foot. Any sample which fails to comply with the requirements in table I shall be rejected.

### 5. PREPARATION FOR DELIVERY

#### 5.1 Packing and marking (see 6.1).

##### 5.1.1 Level A and Level B.

5.1.1.1 D handles. D handles shall be packed in bundles of 12 arranged in two layers of six each. The bundles shall be formed by placing six handles on edge nesting into one another with the "D" grips in alignment at one end. The second layer shall be formed in the same manner on top of the first layer but reversed end-for-end. Four wood cleats, approximately 8-1/4 inches long, 2 inches wide, and 3/4 inch thick, shall be applied to the bundle; two cleats on top and two on the bottom, each cleat approximately 10 inches from each end of the bundle. Each bundle shall be bound with 3/4 x

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0.020 inch steel straps conforming to ASTM D 3953. One strap shall be applied over each pair of cleats.

5.1.1.2 Straight and bend long handles. Handles of this description shall be packed in bundles of 24 arranged in four layers of six each. The grips of the handles in the first two layers shall be one end and the handles in the third and fourth layers shall be reversed end-for-end. Each bundle shall be bound with two 3/4 x 0.020 inch steel straps conforming to ASTM D 3953. One strap shall be applied approximately 10 inches from each end.

5.1.1.3 Marking. In addition to any special marking required by the contract or order, packages shall be marked in accordance with MIL-STD-129.

5.1.2 Level C. The handles shall be shipped in accordance with standard commercial practice, so as to insure acceptance by carriers for transportation at the lowest rate to the point of delivery and to give reasonable protection against normal hazards of transportation.

5.1.2.1 Marking. Unless otherwise specified in the contract or order, each package shall bear a label or tag giving the type, class, style, and grade of handles, the number of the contract or order, and the name of the contractor.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful but is not mandatory.)

6.1 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Type, class, and style, if applicable, of item required (see 1.2).
- c. Length of handles (see 1.2).
- d. Grade of handles (see 1.3).
- e. Level of packing and marking required (see 5.1).

NO DOD INTEREST

PREPARING ACTIVITY

GSA - FSS