

MIL-D-3156C  
22 August 1979  
SUPERSEDING  
MIL-D-3156B  
17 April 1967

## MILITARY SPECIFICATION

### DRAIN, FLOOR: CAST-IRON

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

#### 1. SCOPE

1.1 Scope. This specification covers a flush-type cast-iron floor drain with slotted style open grate employed in temporary building construction.

1.2 Classification. The drain shall be of the following sizes, as specified (see 6.2):

- 6 inches square with 2-inch outlet.
- 9 inches square with 4-inch outlet.

#### 2. APPLICABLE DOCUMENTS

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

#### SPECIFICATIONS

##### FEDERAL

- |          |  |
|----------|--|
| FF-S-92  | - Screw, Machine: Slotted, Cross-Recessed or hexagon Head. |
| FF-S-111 | - Screw, Wood.   |
| QQ-S-781 | - Strapping, Steel, and Seals.                             |

FSC 4510

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Mobility Equipment Research and Development Command, ATTN: DRDME-DS, Fort Belvoir, VA 22060 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
- PPP-B-636 - Box, Shipping, Fiberboard.

MILITARY

- MIL-P-116 - Preservation-Packaging, Methods of.

STANDARDS

FEDERAL

- FED-STD-H28/7 - Screw-Thread Standards for Federal Services. Section 7; American Standard Pipe Threads (Except Dryseal and Hose Coupling Types).

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-130 - Identification Marking of US Military Property.
- MIL-STD-1188 - Commercial Packaging of Supplies and Equipment.

(Copies of 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 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.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A 48 - Gray Iron Castings.

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

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(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

### 3. REQUIREMENTS

3.1 Description. The drain shall consist of two square matching cast-iron parts, the open slotted grate, and the body. The drain shall be fabricated as shown in Figure 1, and as specified herein.

3.2 First article (first produced drain). The contractor shall furnish one or more drains as specified (see 6.2) for examination and testing within the time frame specified (see 6.2) to prove that his production methods and choice of design detail will produce drains that comply with the requirements of this specification. Examination and tests shall be as specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.3).

3.3 Material. Material shall be as specified herein (see 6.4).

3.3.1 Iron castings. Iron castings shall conform to ASTM A 48, Classes 20, 25, or 30.

3.4 Threads. Threads shall be in accordance with FED-STD-H28/7.

3.5 Countersunk holes. Holes for securing the grate to body shall be countersunk in the grate. Holes for securing the body to a wood structure shall be countersunk in the body. Countersinking shall be of a depth so that the tops of the screw heads are flush with the top of the grate and the top of the body.

3.6 Screws. Four wood screws conforming to FF-S-111, Type I, Style 2s and four machine screws conforming to FF-S-92, Type I, Style 3s shall be furnished with each drain. All screws shall be brass.

3.7 Performance characteristics. The drain shall withstand an external, concentrated load of 2,000 pounds without breaking, cracking, or deforming.

3.8 Identification marking. The drain shall be identified in accordance with MIL-STD-130.

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### 3.9 Workmanship.

3.9.1 Castings. All castings shall be free of extraneous material such as sand, dirt, pits, sprues, scale, and flux. Fins resulting from line-of-parting of sand molds shall be ground or machined flush with adjacent material. Imperfections in castings may be corrected by welding provided no degradation in strength or performance will result.

## 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 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 supplies and services conform to prescribed requirements.

4.1.1 Material inspection. The contractor is responsible for insuring that materials used are manufactured, examined, and tested in accordance with referenced specifications and standards, as applicable.

4.2 Classification of inspections. Inspection requirements specified herein are classified as follows:

- (a) First article inspection (see 4.3).
- (b) Quality conformance inspection (see 4.4).
- (c) Inspection of packaging (see 4.6).

### 4.3 First article inspection.

4.3.1 Examination. The drain shall be examined as specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.3.2 Test. The drain shall be tested as specified in 4.5.2. Failure of the test shall be cause for rejection.

### 4.4 Quality conformance inspection.

4.4.1 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

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4.4.2 Examination. Samples selected in accordance with 4.4.1 shall be examined as specified in 4.5.1. AQL shall be 2.5 percent defective.

4.5 Inspection procedure.

4.5.1 Examination. The drain shall be examined for the following defects:

101. Size not as specified.
102. Dimensions not as specified.
103. Material not as specified.
104. Threads not as specified.
105. Screw holes, including alinement of grate and body holes, not as specified.
106. Identification marking missing, incomplete, or illegible.

4.5.2 Test. Subject the drain to a load of 2000 pounds perpendicular to the grate and distributed uniformly over an area not to exceed half the total area of the grate around the vertical axis of the drain. Remove the load and examine the drain. Nonconformance to 3.7 shall constitute failure of this test.

4.6 Inspection of packaging.

4.6.1 Quality conformance inspection of pack.

4.6.1.1 Unit of product. For the purpose of inspection, a completed pack prepared for shipment shall be considered a unit of product.

4.6.1.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.6.1.3 Examination. Samples selected in accordance with 4.6.1.2 shall be examined for the following defects. AQL shall be 2.5 percent defective.

107. Materials, methods, or containers not as specified for Level A or Level B. Each incorrect material, method, or container shall be considered one defect.
108. Screws not preserved with the drains as specified.
109. Gross weight of packed container exceeds 200 pounds for Level A.

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- 110. Strapping not as specified.
- 111. Gross weight exceeds the limitation of the box specification for Level B.
- 112. Marking illegible, incorrect, incomplete, or missing.

## 5. PACKAGING

5.1 Preservation. Preservation shall be Level A or Commercial as specified (see 6.2).

5.1.1 Level A. The number of screws required for each drain shall be preserved together in a cotton, plastic, or paper bag and the bag sealed and each drain shall be coated with type P-1 or P-19 preservative in accordance with MIL-P-116. Each drain and the bag containing the screws shall then be preserved together in accordance with MIL-P-116, Method III, using a box conforming to PPP-B-636, W5c or W6c, as the container.

5.1.2 Commercial. Each drain and the required screws shall be preserved in accordance with MIL-STD-1188.

5.2 Packing. Packing shall be Level A, Level B, or Commercial as specified (see 6.2).

5.2.1 Level A. Drains of like description, preserved as specified in 5.1, shall be packed together in close-fitting boxes conforming to PPP-B-621, Class 2, style optional, or PPP-B-601, Overseas Type, style optional. The gross weight of each box shall not exceed 200 pounds. Strapping shall conform to QQ-S-781, Class 1, Type I or IV, size as applicable. Unless otherwise specified (see 6.2) strapping shall be Finish B. When specified (see 6.2) strapping shall be Finish A.

5.2.2 Level B. Drains of like description, preserved as specified in 5.1, shall be packed as specified in 5.2.1, except that boxes shall be Domestic Type or Class, or packed in close-fitting boxes conforming to PPP-B-636, V3c or V3s, style optional. The fiberboard boxes shall be reinforced with bands of reinforced filament tape applied in accordance with the appendix to the box specification. Strapping for wood boxes shall be Finish A.

5.2.3 Commercial. Drains, preserved as specified in 5.1, shall be packed in accordance with MIL-STD-1188.

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### 5.3 Marking.

5.3.1 Military packaging. Marking shall be in accordance with MIL-STD-129.

5.3.2 Commercial packaging. Marking shall be in accordance with MIL-STD-1188.

## 6. NOTES

6.1 Intended use. The drains are intended for use in temporary buildings constructed in overseas theaters of operation.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Size required (see 1.2).
- (c) Time frame required for submission of the first article sample and the number of samples required (see 3.2).
- (d) Degree of preservation and degree of packing required (see 5.1 and 5.2).
- (e) When strapping shall be Finish A (see 5.2.1).

6.3 First produced drain. Any changes or deviations of production drains from the approved first produced drain during production will be subject to the approval of the contracting officer. Approval of the first produced drain will not relieve the contractor of his obligation to furnish drains conforming to this specification.

6.4 Recycled material. It is encouraged that recycled material be used, when practical, as long as it meets the requirements of this specification (see 3.3).

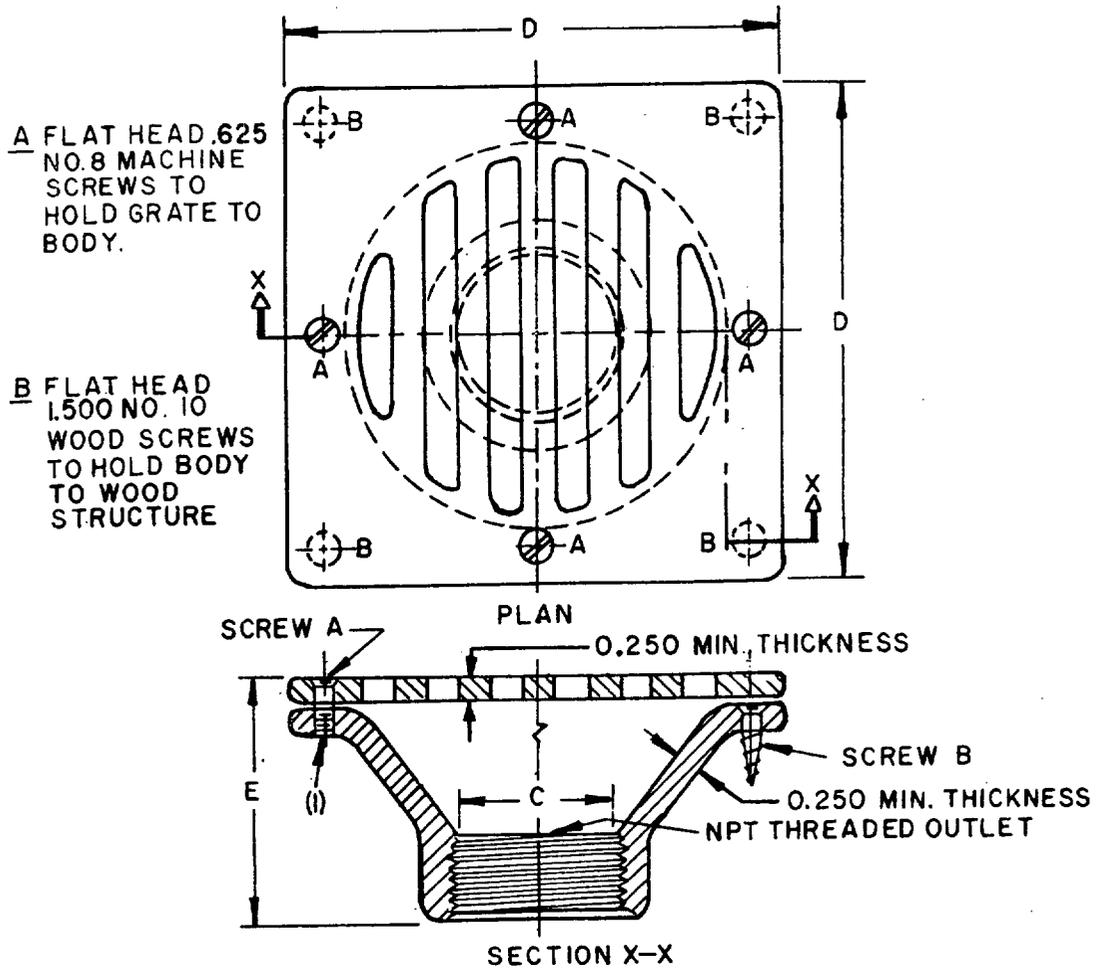
Custodians:  
Army - ME  
Air Force - 99

Preparing activity:  
Army - ME

Review activity:  
DLA - CS

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C DRAIN OUTLET NOM. PIPE SIZE	D GRATE DIMENSIONS	E	
		MAX.	MIN.
2 INCH	6 ± 0.125	3	2
4 INCH	9 ± 0.125	5	4

(1) TAPPED TO MATE WITH NO. 8 MACHINE SCREW THREADS

NOTE:  
DIMENSIONS ARE IN INCHES.

FIGURE I. Cast iron floor drain.

X-894A

