

WW-P-401F

NOT MEASUREMENT
SENSITIVE

13 July 1989
SUPERSEDING
WW-P-401E
24 October 1974

FEDERAL SPECIFICATION

PIPE AND PIPE FITTINGS, CAST-IRON, SOIL

This specification was approved by the Assistant Administrator, Office of Federal Supply and Services, General Services Administration, for the use of all Federal Agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers cast-iron soil pipe and fittings.

1.2 Classification. The cast-iron soil pipe and pipe fittings covered by this specification shall be of the following types, classes, patterns, and sizes, as specified (see 6.2):

Type I - Single hub (applies to pipe only).
Type II - Double hub (applies to pipe only).
Type III - Hubless cast-iron sanitary system.

Class XH - Extra Heavy.
Class SV - Service.

Patterns - Various; to be selected from ASTM A 74 or CISPI 301 (applies to fittings only).

Sizes - Various; to be selected from ASTM A 74 or CISPI 301.

2. APPLICABLE DOCUMENTS.

2.1 Government documents.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: USA Belvoir Research, Development, and Engineering Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 4710

DISTRIBUTION STATEMENT A. Approved for public release, distribution is unlimited.

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2.1.1 Specifications and standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

Federal Specifications:

- QQ-S-781 - Strapping, Steel, and Seals.
- PPP-B-587 - Boxes, Wood, Wirebound Pallet Type.

Federal Standard:

- FED-STD-123 - Marking for Shipment (Civil Agencies).

(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, 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 Auburn, 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 specifications and standards required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

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American Society for Testing and Materials (ASTM)

ASTM A 74 - Cast Iron Soil Pipe and Fittings, Specification For.

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

Cast Iron Soil Pipe Institute (CISPI)

CISPI 301 - Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications.

(Application for copies should be addressed to the Cast Iron Soil Pipe Institute, 5959 Shallowford Rd, Suite 419, Chattanooga, TN 37421).

National Motor Freight Traffic Association, Inc., Agent

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., ATTN: Tariff Order Section, 2200 Mill Road, Alexandria, VA 22314.)

Uniform Classification Committee, Agent

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, ATTN: Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

(Non-Government standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

3. REQUIREMENTS

3.1 Description. The cast-iron soil pipe and pipe fittings shall be in accordance with ASTM A 74 or CISPI 301, and as specified herein.

3.2 Materials. Materials shall be as specified in ASTM A 74 or CISPI 301.

3.3 Coating. Unless otherwise specified (see 6.2), the pipe and pipe fittings shall be coated in accordance with ASTM A 74 or CISPI 301.

3.4 Identification marking. The pipe and pipe fittings shall be identified in accordance with ASTM A 74 or CISPI 301.

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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 (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase 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 ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Component and material inspection. The contractor is responsible for insuring that components and materials are manufactured, examined, and tested in accordance with referenced specifications and standards, as applicable.

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

- a. Quality conformance inspection (see 4.4).
- b. Inspection of preparation for delivery (see 4.6).

4.3 Inspection lot.

4.3.1 Lot. For the purpose of inspection, a lot shall consist of all pipes and pipe fittings of the same type, class, pattern, and size offered for delivery at one time.

4.4 Quality conformance inspection.

4.4.1 Sampling. Sampling for examination and tests shall be in accordance with MIL-STD-105, level II for examination and level S-2 for tests.

4.4.2 Examination. Samples selected in accordance with 4.4.1 shall be examined as specified in 4.5.1.

4.4.3 Tests. Samples selected in accordance with 4.4.1 shall be tested as specified in 4.5.2.

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4.5 Inspection procedure.

4.5.1 Examination. Pipe and pipe fittings shall be examined as specified herein for the following defects:

Major

101. Type not as specified (pipe only) (see 1.2).
102. Class not as specified (pipe only) (see 1.2).
103. Pattern not as specified (fittings only) (see 1.2).
104. Size not as specified (see 1.2).
105. Pipe and pipe fittings not as specified (see 3.1).
106. Materials not as specified (see 3.2).
107. Coating not as specified (see 3.3).
108. Identification marking not as specified (see 3.4).

4.5.2 Tests. Pipe and pipe fittings shall be tested as specified in ASTM A 74 or CISPI 301, as applicable. Nonconformance to any requirement of ASTM A 74 or CISPI 301 as applicable, shall constitute failure of this test.

4.5.2.1 Thickness. Measure thickness of metal at or near the ends of pipe and pipe fittings by one of the following methods:

- a. Ultrasonic resonant frequency test unit. Calibrate the unit prior to use by measuring the thickness of a coated specimen of known metal thickness.
- b. Transfer-type caliper. Remove coating in way of measurement. When thickness determinations are complete, recoat the areas of measurement.

Thickness not falling within the tolerances specified in ASTM A 74 or CISPI 301, as applicable, shall constitute failure of this test.

4.6 Inspection of preparation for delivery.

4.6.1 Quality conformance inspection pack.

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

4.6.1.2 Lot. A lot shall consist of all completed packs of any one level offered for examination at one time.

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

4.6.1.4 Examination. Samples selected in accordance with 4.6.1.3 shall be examined for the following defects:

109. Pipe fittings not packed as specified for level A, when specified.
110. Pipe not packed as specified for level A, when specified.

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111. Strapping not zinc coated for level A, when specified.
112. Marking illegible, incorrect, or incomplete.

5. PREPARATION FOR DELIVERY

5.1 Packing. Packing shall be level A or C, as specified (see 6.2).

5.1.1 Level A.

5.1.1.1 Pipe fittings. The pipe fittings shall be packed in a box conforming to PPP-B-587, type I, class 1.

5.1.1.2 Pipe. The pipe shall be blocked, braced, and packed in accordance with figures 1, 2, and 3. Strapping shall be zinc coated and shall conform to QQ-S-781.

5.1.2 Level C. The pipe and pipe fittings shall be packed or prepared for shipment in a manner which will be acceptable to the carrier at lowest rates. Containers and packaging shall be in compliance with Uniform Freight Classification Rules or National Motor Freight Classification Rules.

5.2 Marking. Marking shall be in accordance with 5.2.1 or 5.2.2, as specified (see 6.2).

5.2.1 Civil agencies. In addition to any special markings required by the contract or order, all containers shall be marked in accordance with FED-STD-123.

5.2.2 Military agencies. In addition to any special markings required by the contract or order, all containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The cast-iron pipe fittings covered by this specification are primarily intended for use in soil pipelines, sanitary and storm drain, waste and vent piping applications.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents shall specify the following:

- a. Title, number, and date of this specification.
- b. Type, class, pattern, and size of pipe and pipe fittings required (see 1.2).
- c. Coating required if other than as specified (see 3.3).
- d. Level of packing required (see 5.1).
- e. Whether civil agency or military marking is required (see 5.2).

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6.3 Subject term (key word) listing.

Fittings, cast-iron soil pipe
Fittings, pipe
Fittings, soil pipe
Pipe, cast-iron
Pipe, soil
Pipe, Sanitary

6.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

6.5 Changes from previous issue. Asterisks or vertical lines are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

MILITARY INTERESTS:

Custodians:

Army - ME
Navy - YD
Air Force - 99

CIVIL AGENCY COORDINATING ACTIVITIES:

SA - FSS
HEW - FEC
INTERIOR - BLM
NASA - JFK
USDA - AFS

Review activity:

Air Force - 82

PREPARING ACTIVITY:

Army - ME

User activities:

Army - CE
Navy - MC

Project 4710-0862

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein.