

MIL-P-3107F
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SUPERSEDING
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MILITARY SPECIFICATION

PIPE, STEEL: WATER-WELL, WITH COUPLING

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

1. SCOPE

1.1 Scope. This specification covers water-well reamed and drifted pipe and driven well pipe with couplings.

1.2 Classification. Pipe shall be the following types and sizes, as specified (see 6.2):

Type II - Water-well reamed and drifted pipe.

Nominal size

4-inch
6-inch
8-inch
10-inch
12-inch

Type III - Driven-well pipe.

Nominal size

2-inch

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.

FSC 4710

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Standards. Unless otherwise specified, the following standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

STANDARDS

MILITARY

MIL-STD-105	- Sampling Procedures and Tables for Inspection by Attributes.
MIL-STD-163	- Steel Mill Products Preparation for Shipment and Storage.

(Copies of 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 Other publications. The following document forms a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI/ASTM A 589 - Seamless and Welded Carbon Steel Water-Well Pipe.

(Application for copies should be addressed to the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.)

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

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Description. Each length of pipe shall be threaded at both ends and shall be furnished with a coupling at one end and a ring-thread protector at the other end.

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3.2 Materials. Materials shall be as specified herein. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification (see 6.3).

3.3 Pipe. The pipe shall be welded or seamless. The pipe shall be cut at right angles to the longitudinal axis of the pipe and shall not leak when under the applicable hydrostatic test pressure listed in ANSI/ASTM A 589.

3.4 Identification marking. Each length of pipe shall be identified in accordance with ANSI/ASTM A 589 except that when each length of pipe is not marked the required information shall be applied to a tag securely attached to each length of pipe.

3.5 Type II, water-well reamed and drifted pipe. The type II pipe, couplings, and pipe threads shall conform to ANSI/ASTM A 589, type II.

3.5.1 Length. The pipe shall be in 16- to 22-foot lengths, as specified (see 6.2).

3.5.2 Size. Pipe size and wall thickness shall be as specified in table I.

TABLE I. Pipe sizes.

Pipe size nominal (inches)	Pipe wall thickness nominal (inches)
4	0.237
6	0.280
8	0.322
10	0.365
12	0.375

3.6 Type III, driven-well pipe. The type III pipe, couplings, and pipe threads shall conform to ANSI/ASTM A 589, type III.

3.6.1 Length. The pipe shall be in uniform lengths of 5 feet, measurement to include the coupling.

3.6.2 Size. The pipe shall be 2-inch nominal size with a nominal wall thickness of 0.154 inch.

3.7 Workmanship. Welded pipe shall be free from injurious defects such as defective welds, pits, blisters, slivers, and laminations. Seamless pipe shall be free from defects that might affect its serviceability. The pipe ends shall not be rounded out by hammering to secure conformance to threading requirements.

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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 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 assure supplies and services conform to prescribed requirements.

4.1.1 Component and material inspection. The contractor is responsible for insuring that components and materials used 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 4.3).
- b. Inspection of packaging (see 4.5).

4.3 Quality conformance inspection.

4.3.1 Sampling. Sampling for examination and test shall be in accordance with MIL-STD-105.

4.3.2 Examination. Samples selected in accordance with 4.3.1 shall be tested as specified in 4.4.1. AQL shall be 4.0 percent defective.

4.3.3 Tests. Samples selected in accordance with 4.3.1 shall be tested as specified in 4.4.2. AQL shall be 4.0 percent defective.

4.4 Inspection procedure.

4.4.1 Examination. The pipe shall be examined as specified herein for the following major defects:

101. Coupling missing.
102. Thread protector missing.
103. Identification marking missing, incomplete, or illegible.
104. Dimensions not as specified.
105. Workmanship not as specified.

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4.4.2 Test. The pipe shall be tested in accordance with the hydrostatic test listed in ANSI/ASTM A 589 and as specified herein. The hydrostatic test shall be applied on pipes in either single or multiple lengths. Pipes may be tested with plain ends (before threading), with threads only, or with threads and couplings. Welded pipe shall be struck a blow with a 2-pound hammer at one end of the pipe while under the applicable hydrostatic pressure. The hydrostatic pressure for seamless and electric resistance welded pipe shall be held at the applicable minimum for not less than 5 seconds. Any leakage of the pipe shall constitute failure of this test. Hydrostatic pressure tests shall be performed at an isolated or guarded area to prevent potential injury to personnel in the event of material or weld failure. All impact tests will be done remotely.

4.5 Inspection of packaging. The preservation, packing, and marking of the pipe shall be examined to determine compliance with the requirements specified herein.

5. PACKAGING

5.1 Preservation, packing and marking. The pipe with coupling attached shall be preserved, packed, and marked in accordance with MIL-STD-163. The degree of preservation and packing shall be level A or commercial as specified (see 6.2).

6. NOTES

6.1 Intended use. The pipe is intended for use with percussion water-well drilling equipment as follows:

6.1.1 Type II, water-well reamed and drifted pipe. Type II pipe is made especially for use in water wells and it may be driven. This pipe is reamed on the ends, drifted to insure clearance.

6.1.2 Type III, driven-well pipe. Type III pipe is used for driving water wells with short rigs or by hand sledging where long lengths of pipe cannot be handled.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type and size required (see 1.2).
- c. Length of pipe required (see 3.5.1).
- d. Degree of preservation and packing required (see section 5).

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6.3 Recycled material. It is encouraged that recycled material be used, when practical, as long as it meets the requirements of this specification (see 3.2).

6.4 Classification change. Type I pipe has been discontinued since it is no longer required.

6.5 Materiel deterioration prevention and control (MADPAC). The contracting officer should consider for inclusion in all applicable invitations for bid, requests for proposal, and contracts the following statement:

"The technical proposal shall provide assurance that all system/item parts shall be fabricated from compatible materials, suitably finished, to provide protection from corrosion and other forms of materiel deterioration. The assurance shall be in the form of a finish plan, utilizing state-of-art- technology, which clearly identifies the specific finish or treatment to be used on the various components and assemblies, to provide protection against the various forms of materiel deterioration.

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Review activity:
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