

MIL-A-17204D  
16 April 1982  
SUPERSEDING  
MIL-A-17204C  
23 December 1976

## MILITARY SPECIFICATION

### ADAPTERS, STRAIGHT OR REDUCING, PIPE THREAD TO HOSE THREAD

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

#### 1. SCOPE

1.1 Scope. This specification covers either straight or reducing adapters, to connect hose-threaded ends to pipe-threaded ends.

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks 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.

#### SPECIFICATIONS

##### FEDERAL

QQ-P-416 - Plating, Cadmium (Electrodeposited).

##### MILITARY

MIL-V-3 - Valve, Fittings, and Flanges (Except for System Indicated Herein) Packaging of.

MIL-A-8625 - Anodic Coatings, for Aluminum and Aluminum Alloys.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043, 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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## STANDARDS

## FEDERAL

FED STD H28 - Screw-Thread Standards for Federal Services.

## MILITARY

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

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers 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(s) form 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 SOCIETY FOR TESTING AND MATERIALS (ASTM)

- A47 - Malleable Iron Castings.
- B16 - Free-Cutting Brass Rod, Bar, and Shapes for use in Screw Machines.
- B26 - Aluminum Alloy Sand Castings.
- B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
- B124 - Copper and Copper-Alloy Forging Rod, Bar, and Shapes.
- B211 - Aluminum Alloy Bar, Rod, and Wire.
- B221 - Aluminum Alloy Extruded Bar, Rod, Wire, Shape, and Tube.
- B584 - Copper Alloy Sand Castings for General Applications.

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

## NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

No. 1963 - Screw Threads and Gaskets for Fire Hose Connections.

(Application for copies should be addressed to the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.)

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.

(Industry 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 First article. When specified (see 6.2), the contractor shall furnish an adapter for first article inspection and approval (see 4.2.1 and 6.4).

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3.2 Standard commercial product. The adapters shall, as a minimum, be in accordance with the requirements of this specification and shall be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, shall be included in the items being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements or manufacturer's catalogs, or brochures, and represents the latest production model.

3.3 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. 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 specification unless otherwise specified.

3.3.1 Malleable cast iron. Malleable iron castings shall conform to ASTM A47, grade optional.

3.3.2 Cast aluminum. Aluminum castings shall conform to ASTM B26, alloy 355.0, condition T6 or alloy 356.0, condition T6 or alloy 535.0.

3.3.2.1 Extruded aluminum. Extruded aluminum shall conform to ASTM B221, alloy 6061, condition T6 or alloy 6262, condition T6.

3.3.2.2 Forged aluminum. Forged aluminum shall conform to ASTM B211, alloy 6262, condition T6.

3.3.3 Brass.

3.3.3.1 Brass bars. Brass bars shall conform to ASTM B16.

3.3.3.2 Drop-forged brass. Drop-forged brass shall conform to ASTM B124, alloy 377.

3.3.3.3 Cast brass. Brass castings shall conform to ASTM B584, alloy 836 or 844.

3.3.4 Cast bronze. Bronze castings shall conform to ASTM B62.

3.3.5 Rubber gaskets. Rubber gaskets conforming to NFPA No. 1963 shall be furnished with each connection that would require one to achieve a proper seal.

3.4 Design and construction. Adapters shall be of the type of thread and size specified (see 6.2), one end male and the other end female. They shall be of heavy cast or forged construction and shall be fabricated of aluminum,

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brass, bronze, or malleable iron, as specified (see 6.2). The adapters shall be of the 125-pound class, conforming to the pressure-temperature rating specified in table I.

TABLE I. Pressure-temperature rating.

Temperature of	Pressure psi
-20 to 150	200
200	190
250	180
300	165
350	150
400	125

3.4.1 Threads. Thread sizes, dimensions, and tolerances shall conform to FED STD H28 or NFPA 1963 as specified (see 6.2).

3.4.2 Tolerances. Unless otherwise specified (see 6.2), tolerances on all dimensions except threads shall be  $\pm 0.03125$  inch.

### 3.5 Performance.

3.5.1 Porosity requirements. When subjected to a pressure of 60 pounds per square inch (psi) in accordance with 4.6.1, adapters shall have no visible air leakage.

3.5.2 Hydrostatic pressure requirements. Adapters shall be capable of withstanding a hydrostatic test pressure of 250 psi without visible leakage when tested in accordance with 4.6.2.

3.6 Finish. All parts of the adapters including castings, forgings, and machined surfaces shall be clean and free from sand, dirt, fins, pits, sprues, scale, or other harmful extraneous material. All edges shall be rounded or beveled, with no sharp, ragged, or rough edges.

3.6.1 Machine work. The finish on contact and bearing surfaces shall be 125 microinches (root-mean-square) or less.

3.6.2 Anodic coatings. All aluminum parts shall be protected by a hard anodic coating conforming to type III, class 1, of MIL-A-8625. All surfaces normally painted shall be painted in accordance with the manufacturer's standard practice.

3.6.3 Plating. All iron surfaces, including threaded surfaces, shall be cadmium plated in accordance with QQ-P-416, type I, class 1.

3.7 Identification marking. The adapters shall be identified in accordance with the manufacturer's standard practices.

3.8 Workmanship. The adapters shall be made and finished with a degree of uniformity and a grade of workmanship practicable in a well-equipped factory. They shall meet the requirements of this specification and ensure proper functioning of all parts of the unit.

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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.

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

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on one adapter when a first article is required (see 3.2, 6.2, and 6.4). This inspection shall include the examination of 4.5 and the tests of 4.6. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the adapter meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.2 Quality conformance inspection. The quality conformance inspection shall be performed on the sample adapter selected in accordance with 4.4. This inspection shall include the examination of 4.5, the tests of 4.6, and the packaging inspection of 4.7.

4.3 Inspection lot. All units of the same type offered to the Government at one time shall be considered a lot for the purpose of inspection. The sample unit shall be one complete adapter.

4.4 Sampling. A random sample of adapters shall be selected from each lot in accordance with MIL-STD-105.

4.4.1 Sampling for examination. Examination of the adapters shall be based on inspection level II and an Acceptable Quality Level (AQL) of 2.5 percent defective.

4.4.2 Sampling for tests. Tests of the adapters shall be based on inspection level S-3 and an AQL of 1.0 percent defective.

4.5 Examination. Each sample selected in accordance with 4.4 shall be examined for compliance with the requirements specified in section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.6 Tests. Each sample selected in accordance with 4.4 shall be tested to determine compliance with this specification. Tests shall be conducted as specified in 4.6.1 through 4.6.2.

4.6.1 Porosity test. While under water, each adapter shall be subjected to an air pressure of 15 psi for not less than 1 minute. The air pressure shall then be increased to 60 psi for a period of 3 minutes. No visible leakage of air shall occur in either instance.

4.6.2 Hydrostatic pressure test. Each adapter shall be subjected to a 1-minute hydrostatic test pressure at 50 psi. The pressure shall then be increased to 250 psi for a period of 3 minutes. No visible leakage shall occur in either instance.

4.7 Packaging inspection. The preservation, packing, and marking of the item shall be inspected to verify conformance to the requirements of section 5.

## 5. PACKAGING

5.1 Preservation, packing, and marking. Preservation, packing, and marking shall be in accordance with the requirements of MIL-V-3, with the level of preservation and the level of packing as specified (see 6.2).

## 6. NOTES

6.1 Intended use. Adapters covered by this specification are intended for applications involving air, oil, gas, and water. They are to be used in connecting units having one type of thread to units having another type of thread.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. When first article is required for inspection and approval (see 3.1, 4.2.1, and 6.4).
- c. Nominal pipe or hose size, types of threads (pipe, hose, etc.), male or female threads, and kind of material required (see 3.3 through 3.4.1).
- d. When different tolerances on dimensions are required (see 3.4.2).
- e. Level of preservation and level of packing required (see 5.1).

6.3 Data requirements. When this specification is used in an acquisition which incorporates a DD Form 1423 and invokes the provisions of paragraph 7-104.9(n) of the Defense Acquisition Regulations (DAR), the data requirements will be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the Contract Data Requirements List (DD Form 1423) incorporated into the contract. When the provisions of DAR 7-104.9(n) are not invoked, the data shall be delivered in accordance with the contract requirements.

6.4 First article. When a first article inspection is required, the item will be tested and should be a first production item consisting of one complete adapter or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the documents first article.

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

Custodians:

Army - ME  
Navy - YD  
Air Force - 99

Preparing activity:

Navy - YD  
Project No. 4730-0342

Review activities:

Navy - OS  
DLA - CS

User activity:

Navy - CG

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL	
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MIL-A-17204D - ADAPTERS, STRAIGHT OR REDUCING, PIPE THREAD TO HOSE THREAD	
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DD FORM 1426  
1 OCT 76

Replaces edition of 1 Jan 72 which may be used.

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