

W-R-36D  
25 November 1983  
SUPERSEDING  
W-R-36C

FEDERAL SPECIFICATION

RACEWAYS AND FITTINGS, METALLIC, UNDERFLOOR

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 metallic underfloor duct systems designed for use as raceways for the installation of wires and cables.

1.2 Classification. Underfloor metallic raceways furnished under this specification shall be of the following types, as specified (see 6.2).

Type I - Covered  
Type II - Flush

2. APPLICABLE DOCUMENTS

2.1 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 (see 6.2).

Federal Standards

FED-STD 123 - Marking for Domestic Shipment (Civilian 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 Description. 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 25, 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 within 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.)

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(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 Specification

MIL-P-116 - Preservation, Methods of

#### Military Standards:

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 U.S. Military Property

MIL-STD-794 - Parts and Equipment, Procedures for Packaging of

(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 Other publications. The following document forms 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.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

No. 70 - National Electric Code

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

UNDERWRITERS' LABORATORIES, INC. (UL)

UL-884 - Standard for Underfloor Raceways and Fittings

(Application for copies should be addressed to the Underwriters' Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.)

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. These requirements cover metal underfloor duct systems type I covered and type II flush. These systems are designed for use as raceways for the installation of wires and cables in accordance with NFPA No. 70.

3.2 Standards. The raceways and fittings shall conform to the requirements of UL-884 as applicable.

3.2.1 Compliance. Prior to approval of the first shipment, the contractor shall submit to the contracting officer, or his authorized representative, satisfactory evidence that the raceways and fittings he proposes to furnish under this specification meets the requirements of UL-884 as applicable.

3.2.2 UL-884. Acceptable evidence of meeting the requirements of UL-884 shall be the UL certification symbol or label, listing in the UL file, or a certified test report (see 6.2) from a recognized independent testing laboratory indicating the products have been tested and conforms to UL-884. Such evidence must be acceptable to the contracting officer.

3.3 Standard commercial product. The raceways and fittings 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 units 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.

3.4 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.

3.5 Design and Performance. Metallic raceways and fittings covered by this specification shall conform to the design and performance requirements of Underwriters' Laboratories, Inc., Standard UL-884 for Underfloor Raceways and Fittings. All boxes, couplings, elbows, bends, duct supports, etc., shall be suitable for use with the duct furnished to form the complete system (see 4.3).

3.6 Interchangeability. All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to insure interchangeability of component parts, assemblies, accessories, and spare parts.

3.7 Coverplate adjustment. Junction boxes and covers shall contain provisions for adjusting heights to a minimum of 3/8 inch before and after installation.

3.8 Recessed floor fittings. Recessed floor fittings shall meet the requirements of UL-884. This fitting shall be adjustable to the floor finish.

3.9 Attachments. Means for attaching kick posts, bell nozzles, strain reliefs, and abandoning plates shall be provided. These means of attaching shall comply with UL-884. Fittings shall enclose receptacles and terminals except for wiring accesses.

3.10 Identification marking Department of Defense (DOD) only. When specified (see 6.2) raceways and fittings shall be marked for identification in accordance with MIL-STD-130.

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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. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

4.2 Examination. Each raceway and fitting 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.

4.3 Tests. Raceways and fittings shall be tested in accordance with UL-884 (see 3.5).

4.4 Standards compliance. The contractor shall make available to the contracting officer or his authorized representative evidence of compliance with the applicable requirements cited in section 3.2.1. The Government reserves the right to examine and test all raceways and fittings to determine the validity of the certification.

4.5 Preparation for delivery inspection. An examination shall be made to determine compliance with the requirements of section 5. The sample unit shall be one unit prepared for shipment. Sampling shall be in accordance with MIL-STD-105. The inspection level shall be S-2 with an average quality level of 4.0 percent defective.

#### 5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging. Preservation and packaging shall be level A or commercial as specified (see 6.2).

5.1.1 Level A. The raceways and fittings shall be packaged by method III of MIL-P-116.

5.1.2 Commercial. The equipment shall be preserved in accordance with the contractor's standard practice in a manner to prevent deterioration and damage.

5.2 Packing. Packing shall be level A, B, or commercial as specified (see 6.2).

5.2.1 Levels A and B. Packing shall be accordance with MIL-STD-794. Containers shall be selected from table I of MIL-STD-794 for the appropriate level.

5.2.2 Commercial. The equipment shall be prepared for shipment in a manner which will insure arrival at destination in a satisfactory condition. Preparation for delivery shall comply with applicable carrier rules and regulations.

### 5.3 Marking.

5.3.1 Military agencies. Shipments to military agencies shall be marked in accordance with MIL-STD-129.

5.3.2 Civil agencies. Shipments to civil agencies shall be marked in accordance with FED-STD-123.

## 6. NOTES

6.1 Intended use. Raceways and fittings will be used to form an underfloor system to house electrical wires and cables.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, symbol, and date of this specification.
- b. Types of raceways (see 1.2).
- c. Specifications and standards (see 2.1).
- d. Applicable industry standard (see 3.2.2)
- e. When marking for DoD is required (see 3.10).
- f. Level of preservation and packaging, and level of packing required (see 5.1 and 5.2).

### MILITARY INTERESTS:

Custodians

Army - ER  
Navy - YD  
Air Force - 85

Review Activities

Army - ME  
Air Force - 99

### CIVIL AGENCY COORDINATING ACTIVITY:

GSA

### PREPARING ACTIVITY:

Navy - YD

Project No. 5975-0583

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.