

[INCH-POUND]
 A-A-50563
 October 13, 1995
 SUPERSEDING
 W-C-586D
 5 February 1980

COMMERCIAL ITEM DESCRIPTION

CONDUIT OUTLET BOXES, BODIES, AND ENTRANCE CAPS, ELECTRICAL: CAST METAL

The General Services Administration has authorized the use of this Commercial Item Description as a replacement for W-C-586D which is cancelled.

1. SCOPE. This description covers cast metal conduit outlet boxes, bodies, and entrance caps for use with threaded and threadless rigid conduit, intermediate metallic conduit, and electrical metallic conduit. Outlet boxes may be used as wire outlets or as mountings for lampholders, rosettes, switches, convenience outlets, to enclose wire splices, for mounting or enclosing surface wiring offsets, pull boxes, and other functions in conduit runs. Entrance caps provide a weather-resistant service entrance for wires.

2. CLASSIFICATION.

2.1 Types, designs, and forms. The conduit boxes, bodies, and entrance caps shall be of the following types, designs, and forms as specified:

- | | |
|-----------|--|
| Type I | Conduit bodies which are essentially an enlarged section of conduit with hubs and access openings. |
| Design 1 | Standard size wiring chamber with threaded hub connection for rigid conduit |
| Design 2 | Standard size wiring chamber with threadless hub connection for rigid conduit |
| Design 3 | Standard size wiring chamber with threadless hubs for electrical metallic tubing |
| Design 4 | Wiring chambers enlarged in both length and width and with threaded hub connection for rigid conduit |
| Design 5 | Wiring chamber with increased length and with threaded hub connection for rigid conduit |
| Design 6 | Wiring chamber with increased length and with threadless hub connection for electrical metallic tubing |
| Type II | Rectangular base general purpose conduit outlet boxes for wiring devices |
| Design 7 | Threaded hub connection for rigid conduit, shallow depth |
| Design 8 | Threaded hub connection for rigid conduit, deep depth |
| Design 9 | Threadless hub connection for rigid conduit, shallow depth |
| Design 10 | Threadless hub connection for rigid conduit, deep depth |
| Design 11 | Threadless hub connection for electrical metallic tubing, shallow depth |

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data which may improve this document should be sent by letter to: Commanding Officer (Code 156), Naval Construction Battalion Center, 1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

A-A-50563

Distribution Statement A. Approved for public release; distribution is unlimited.

- Design 12 Threadless hub connection for electrical metallic tubing, deep depth
- Form 1 - Single gang
Form 2 - Two gang parallel
Form 3 - Three gang parallel
Form 4 - Four gang parallel
Form 5 - Two gang tandem
- Type III Round base general purpose conduit outlet boxes with threaded conduit hubs
- Design 16 Nominal 4-inch (10.2 cm) diameter for exposed installation
- Type IV Round base weather-resistant conduit outlet boxes, with threaded conduit hubs, for exposed installation
- Design 18 Nominal 3-1/2 inch (8.9 cm) diameter
Design 19 Nominal 4-5/8 inch (11.7 cm) diameter
- Type V Round base explosion proof, dust-ignition-proof, and weather-resistant conduit outlet boxes with threaded conduit hubs
- Design 20 3-1/2 inch (8.9 cm) diameter, threaded cover, plain base
Design 21 4-1/4 inch (10.8 cm) diameter, threaded cover, plain base
Design 22 5-3/4 inch (14.6 cm) diameter, threaded cover, flanged, mounting base
Design 23 3-1/2 inch (8.9 cm) diameter, threaded cover, flanged, mounting base
Design 25 3-1/2 inch (8.9 cm) diameter, cover attached by screws, plain base
Design 26 4-5/8 inch (11.7 cm) diameter, cover attached by screws, plain base
- Type VI Entrance caps, electrical
- Design 27 Threaded hub connection for rigid conduit
Design 28 Threadless hub connection for electrical metallic tubing
Design 29 Threadless hub connection for rigid conduit
- Form 6 - With 3 wire (3-knockout) insulating cover
Form 7 - With 5 wire (5-knockout) insulating cover
Form 8 - With 7 wire (7-knockout) insulating cover
Form 9 - With 4 wire (4-knockout) insulating cover
Form 10 - With 6 wire (6-knockout) insulating cover

A-A-50563

2.2 Styles. The outlets and devices shall be one of the styles listed below. For definition, the front shall be the surface where the access to the wiring chamber is located. The right and left side shall be determined by placing the hub end up and viewing toward the cover opening. Tables I through V indicate normal availability of the various styles with respect to type, design, form and size.

Style A	One hub in the back
Style AA	Two hubs in the back
Style B	One hub in one side
Style BC	One hub in each end, Mogul style
Style BLB	One hub in one end and one hub at a 90 degree (°) angle at the opposite end in the back, mogul style
Style BUB	One hub at each end at a 45° angle, mogul style
Style BT	One hub at each end and one hub on one side, mogul style
Style C	One hub in each end
Style CA	One hub in each end and one hub in the back
Style CC	One hub in one end and two hubs in the other
Style CD	Two hubs in each end directly opposite
Style CT	(Type II) One hub in each end, and one hub in a side
Style E	One hub in one end
Style L	One hub in one end and one hub in the right side, with cover on back
Style LA	One hub in one end and one hub in the back
Style LB	One hub in one end and one hub placed at a 90° angle at the opposite end in the back
Style LBD	One hub at one end and one hub at a 90° angle at the opposite end in the back with cover
Style LBL	One hub in one end and one hub in the back and left side at the opposite end
Style LBR	One hub in one end and one hub in the back and right side at the opposite end
Style LF	One hub in one end and on hub placed at a 90° angle at the opposite end in the front
Style LFN	One hub in one end and one hub 90° out in front at the opposite end with a mounting platform
Style LL	One hub in one end and one hub placed at a 90° angle at the opposite end, on the left side
Style LR	One hub in one end and one hub placed at a 90° angle at the opposite end, on the right side
Style LRL	One hub in one end and one hub placed at a 90° angle at the opposite end on a side with access openings in both front and back
Style R	One hub in an end and one hub on the right side
Style S	Two hubs in one end
Style T	(Type I) One hub in each end, and one hub in a side
Style T	(Type II) One hub in each side, and one hub in one end
Style TA	One hub in each end, one hub in a side, and a hub in the back
Style TB	One hub in each end and one hub in the back
Style TM	One hub in each end and one hub on one side with a mounting platform
Style UB	One hub in each end, both hubs offset in the back at a 45° angle from the outlet centerline, with a projected included

A-A-50563

angle of 90°
 Style X One hub in each side and in each end

2.3 Hub size. Conduit hub sizes shall be 1/2- (1.3 cm), 3/4- (1.9 cm), 1- (2.5 cm), 1-1/4- (3.2 cm), 1-1/2- (3.8 cm), 2- (5.1 cm), 2-1/2- (6.4 cm), 3- (7.6 cm), 3-1/2- (8.9 cm), 4- (10.2 cm), 5- (12.7 cm), or 6-inch (15.2 cm) trade size, as specified. Hub sizes are related to type, design, form, and style and shall be as shown in tables I through V.

3. SALIENT CHARACTERISTICS.

3.1 Description. Conduit outlet boxes, bodies, and entrance caps shall consist of a cast metal body, a wiring chamber, and an access opening to the wiring chamber. All types shall have integral conduit hubs. Each hub shall have an integral end stop for the conduit or tubing, and shall provide a smooth, well rounded opening into the wiring chamber. Boxes without integral conduit hubs or end stops shall provide adequate room for the installation of a bushing.

3.2 Identical items. Conduit outlet boxes, bodies, or entrance caps of the same classification furnished under any specific contract shall be physically and mechanically identical. This requirements includes parts, assemblies, components and accessories. No deviation will be acceptable without prior written approval of the contracting officer.

3.3 Design. Conduit outlet boxes, bodies, and entrance caps shall conform to UL 514B. In addition to complying with UL 514B, type V outlet boxes shall comply with the applicable requirements of UL 886 covering installation in class I, groups C and D, and class II, groups E, F, and G, division 1 locations as defined in the NFPA 70.

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.

3.5 Construction. The construction of conduit outlet boxes, bodies, and entrance caps shall insure sufficient strength and rigidity in the finished product to enable the product to resist damage during shipment, rough handling, installation, and use.

3.5.1 Type I. Type I conduit bodies shall essentially be an enlarged section of conduit. Covers for conduit bodies of the same size supplied under the same contract shall be interchangeable.

3.5.2 Type II. Type II outlet boxes shall have two tapped No. 6, 32 threads per inch (32 threads per 2.54 cm) device attaching screw holes located on 3-9/32 inch (8.3 cm) centers for each wiring device position. Covers for the same form supplied under the same contract shall be interchangeable.

3.5.3 Type III. Type III outlet boxes shall be cylindrical in shape and shall be designed to permit installation of standard 4-inch (10.2 cm) round outlet box covers with or without wiring devices. The outlet box surface

A-A-50563

mating with the cover shall be flat and smooth. Outlet boxes shall be designed for surface mounted installation.

3.5.4 Type IV. Type IV outlet boxes shall be cylindrical in shape and shall have surface mating with cover smooth, flat, and designed for the reception of a gasket. Holes for attaching cover shall not communicate with the interior of the outlet box. Means shall be provided for attaching wiring devices or a fastening strap on which wiring devices can be mounted. When specified, outlet boxes shall be provided with mounting feet.

3.5.5 Type V. Type V outlet boxes shall be cylindrical in shape and designed for wiring in hazardous locations. Outlet boxes of design 20 through 23 shall be threaded for attachment of the cover, and the cover shall be provided with lugs or comparable devices to facilitate installing. When specified, the base of design 20, 21, 22, 25, and 26 outlet boxes shall be furnished with at least two lugs to permit screw or nail mounting. The base of design 23 outlet box shall be extended to provide a mounting flange with four holes at quadrant intervals. Designs 25 and 26 outlet boxes shall have the cover attached by not less than four screws spaced equidistant around the perimeter.

3.5.6 Type VI. Entrance caps shall essentially be a conduit terminating fitting at the point of service entrance connection. The entrance cap shall assure a raintight condition within the conduit when the service entrance wires are installed with the proper drip loop. Entrance caps shall be provided with insulating covers containing knockouts of sufficient size to accommodate the wire sizes applicable to the particular conduit size.

3.6 Threaded conduit hubs. Internal conduit threads shall be in accordance with SAE J476a for tapered pipe thread form, except for hubs on service entrance caps which may be SAE straight thread form. The hubs of the outlet boxes and bodies shall be threaded in such a manner that the centerline of the conduit, when attached, shall be in alignment with the centerline of the hub.

3.7 Covers. Blank covers, threaded hub covers, or special purpose covers, with or without gaskets as required, shall be furnished as specified. Mounting screws shall conform to SAE J475a for screw threads.

4. REGULATORY REQUIREMENTS.

4.1 Materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR). Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this description 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 description unless otherwise specified.

4.1 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units,

A-A-50563

provided they fall within specified tolerances using conversion tables contained in the latest version of Federal Standard No. 376, and all other requirements of this Commercial Item Description including form, fit, and function are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

5. QUALITY ASSURANCE PROVISIONS.

5.1 Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of the Commercial Item Description, and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices, and is the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract. Contractor certifications shall include Underwriter Laboratory certification as follows:

5.1.1 Underwriter Laboratories Inc. certification. Acceptable evidence of meeting the requirements of UL 514B and UL 886 shall be the UL label, listing in the UL Electrical Appliance and Utilization Equipment List, or a certified test report from a recognized independent testing laboratory indicating that the fittings have been tested and conforms to UL 514B and UL 886.

6. PRESERVATION, PACKAGING, PACKING, LABELING AND MARKING. Preservation, packaging, packing, labeling and marking shall be in accordance with the requirements of ASTM D 3951, unless otherwise specified in the contract or order.

7. NOTES.

7.1 Intended use. This specification covers outlet boxes, bodies, and entrance caps intended for use in rigid metal conduit, intermediate metal conduits, and electrical metallic wiring systems. Outlet boxes may be used as wire outlets or as mountings for lampholders, rosettes, switches, convenience outlets, to enclose wire splices, for mounting or enclosing surface wiring devices, and other similar applications. Outlet bodies provide turns, offsets, pull boxes, and other functions in conduit runs. Entrance caps provide a weather-resistant service entrance for wires.

7.2 Part Identification Number (PIN). The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor. The PINs to be used for items acquired to this CID are created as follows:



A-A-50563

TABLE I - Type I Conduit Bodies With Designs and Hub Size Groups Where All Hubs Are The Same Size

*Hub Size Groups						
Style	Design 1	Design 2	Design 3	Design 4	Design 5	Design 6
A	1, 2	-	-	-	-	-
BLB	-	-	-	-	2	-
BC	-	-	-	-	2	-
BUB	-	-	-	-	2	-
LBD	1, 2, 3, 4	-	-	-	-	-
B	1, 2	-	-	-	-	-
BT	-	-	-	-	2	-
C	1, 2	3	3	1, 2	1, 2	1, 2
E	1, 2	1	-	1, 2	1, 2	-
LB	1	-	-	-	-	-
LF	3	-	-	-	-	-
LL	1, 2	1	1	1, 2	1, 2	1, 2
LR	1, 2	1	1	1, 2	1, 2	1, 2
LRL	1, 2	3	3	-	-	-
T	1, 2	3	3	1, 2	1, 2	1, 2
TA	3	-	-	-	-	-
TB	3	-	-	-	-	-
UB	3	-	-	-	-	1, 2
X	1	-	1	-	2	2

- *Group 1 - Includes 1/2- (1.3 cm), 3/4- (1.9 cm), and 1-inch (2.54 cm) size hubs
- Group 2 - Includes 1- (2.54 cm), 1-1/4- (3.2 cm), 1-1/2- (3.8 cm), 2- (5.1 cm), 2-1/2- (6.4 cm), 3- (7.6 cm), 3-1/2- (8.9 cm), and 4-inch (10.2 cm) size hubs
- Group 3 - Includes 1/2- (1.3 cm), 3/4- (1.9 cm), 1- (2.5 cm), 1-1/4- (3.2 cm), 1-1/2- (3.8 cm), and 2-inch (5.1 cm) size hubs
- Group 4 - Includes 5-, and 6-inch size hubs

A-A-50563

TABLE II - Type I, design 1, 2, and 3 Conduit Bodies With Styles and Hub Size
Where Hubs Are Not All The Same

Style	Design	End	Side	End
T	1,2,3	1/2	1/2	1/2
	1,2,3	3/4	1/2	3/4
	1,2,3	3/4	3/4	3/4
	1,2,3	1	1/2	1
	1,2,3	1	3/4	1
	1,2,3	1	1	1
	1	1-1/2	1-1/4	1-1/4
	1	1-1/2	1-1/2	1-1/2
	1	2	2	2
	1	2-1/2	2-1/2	2-1/2
	1	3	3	3
	1	3-1/2	3-1/2	3-1/2
	1	4	4	4

A-A-50563

*TABLE III - Type II Outlet Boxes With Design and Forms

Style	Design	Form	Hub Sizes (inch)	Design	Form	Hub Sizes (inch)
A	7	1,2	1/2,3/4, & 1	8	1,2	1/2,3/4,& 1
AA	7	1	1/2,3/4, & 1			
C	7, 9, 11	1,2,3,4 & 5	1/2,3/4, & 1	8,10,&12	1, 2, 3 & 4	1/2,3/4, &1
CA	7	1	1/2,3/4, & 1	8	1	1/2,3/4, & 1
CC	7	1,2	1/2,3/4, & 1	8	1,2	1/2,3/4, & 1
CD	7	1	1/2,3/4			
E	7,9,11	1,2,3 & 4	1/2,3/4, & 1	8,10 & 12	1,2,3 & 4	1/2,3/4, & 1
L	7	1	1/2,3/4, & 1	8	1	1/2,3/4, & 1
LA	7	1	1/2,3/4, & 1	8	1	1/2,3/4, & 1
LBL	7	1	1/2,3/4, & 1			
LBR	7	1	1/2,3/4, & 1			
LFN	7	1	3/4			
R	7	1	1/2,3/4, & 1	8	1	1/2,3/4, & 1
S	7	1,2	1/2,3/4, & 1	8	1,2	1/2,3/4, & 1
T	7	1	1/2,3/4, & 1	8	1	1/2,3/4, & 1
TM	7	1	3/4			
*X	7	1	1/2,3/4, & 1	8	1	1/2,3/4, & 1

*Forms 3 and 4 have the number of hubs on the one end equal to the form number with one hub on the other end.

A-A-50563

TABLE IV - Types III and IV Outlet Boxes With Styles, Sizes, Forms, and Designs

Style	Hub Size (inch)	Type III Design	Type IV Design
B	1/2, 3/4, & 1	16	18 & 19
C	1/2, 3/4, & 1	16	18 & 19
L	1/2, 3/4, & 1	16	18 & 19
T	1/2, 3/4, & 1	16	18 & 19
X	1/2, 3/4, & 1	16	18 & 19

TABLE V - Type V Outlet Boxes With Design, Styles, and Sizes

Style	Design 20	Design 21	Design 22	Design 23	Design 25	Design 26
C	1/2, 3/4 & 1	1-1/4	1-1/2 & 2	1/2, 3/4 & 1	1/2, 3/4 & 1	1/2, 3/4 & 1
CA	1/2, 3/4 & 1	-	1-1/4	-	-	-
E	1/2, 3/4 & 1	1-1/4	1-1/2 & 2	-	1/2, 3/4 & 1	1/2, 3/4 & 1
L	1/2, 3/4 & 1	1-1/4	1-1/2 & 2	1/2, 3/4 & 1	1/2, 3/4 & 1	1/2, 3/4 & 1
LA	1/2, 3/4	1-1/4	1-1/2 & 2	-	-	-
T	1/2, 3/4 & 1	1-1/4	1-1/2 & 2	1/2, 3/4 & 1	1/2, 3/4 & 1	1/2, 3/4 & 1
TA	1/2, 3/4	-	-	-	-	-
X	1/2, 3/4 & 1	1-1/4	1-1/2 & 2	1/2, 3/4 & 1	1/2, 3/4 & 1	1/2, 3/4 & 1

A-A-50563

7.4. Source of documents.

7.4.1 NFPA Standards are available from the National Fire Protection Association (NFPA), Batterymarch Park, Quincy, MA 02269.

7.4.2 SAE Standards are available from the Society of Automotive Engineers, Inc. (SAE), 400 Commonwealth Drive, Warrendale, PA 15096.

7.4.3 ASTM Standards are available from the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103-1187.

7.4.4 UL Standards are available from the Underwriters Laboratories, Inc. (UL), 333 Pfingsten Road, Northbrook, IL 60062-2096.

MILITARY INTEREST:

CUSTODIANS:

Army - ME

Navy - YD1

Air Force - 99

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

PREPARING ACTIVITY:

Navy - YD1

AGENT: DLA-GS

Project No.: 5975-1147