

INCH-POUND

MS33800F

28 March 2018

SUPERSEDING

MS33800E

9 July 2004

## DETAIL SPECIFICATION SHEET

CONNECTOR, RECEPTACLE, ELECTRICAL, PIN CONTACT  
NO. 12, 14 AND 16 AWG, WATERPROOF

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

The requirements for acquiring the product described herein  
shall consist of this specification sheet.

This is a design standard not to be used as an MS part number.

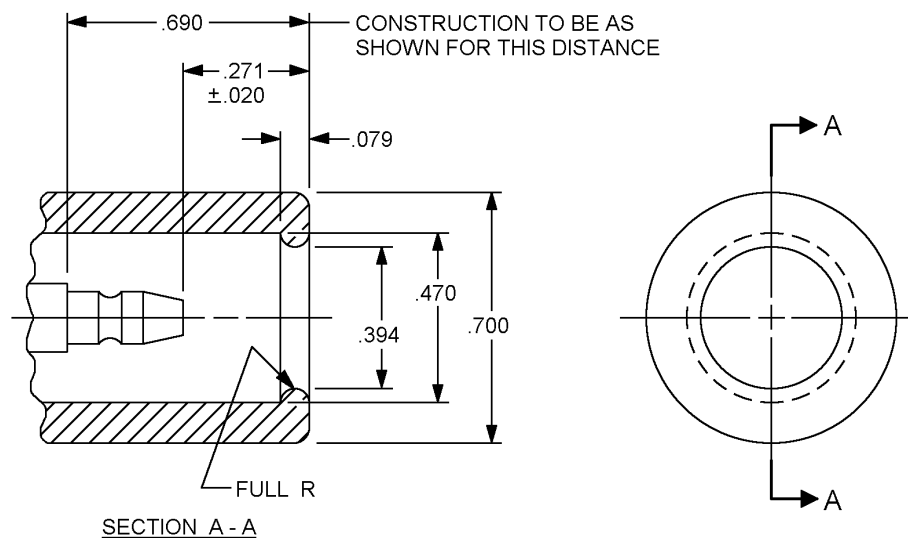


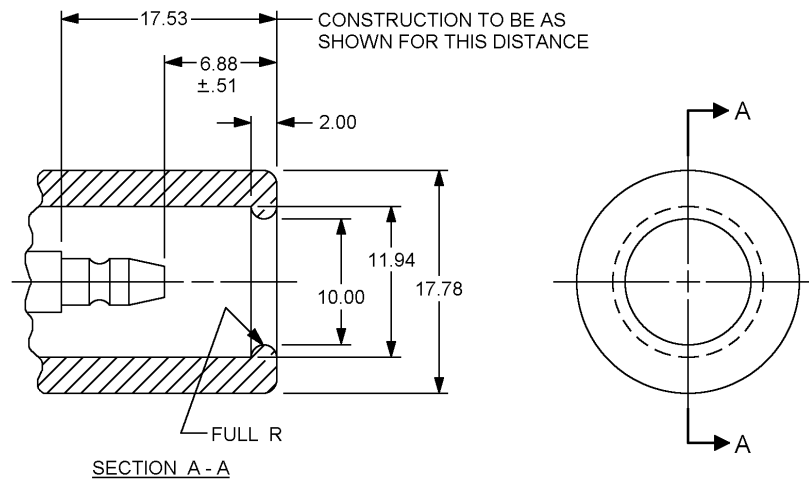
FIGURE 1. Connector, receptacle (small), imperial dimensions (inch).

Comments, suggestions, or questions on this document should be addressed to  
DLA Land and Maritime - VAI, P.O. Box 3990, Columbus OH 43218-3990 or emailed to  
[CircularConnector@dla.mil](mailto:CircularConnector@dla.mil). Since contact information can change, you may want to verify the  
currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.





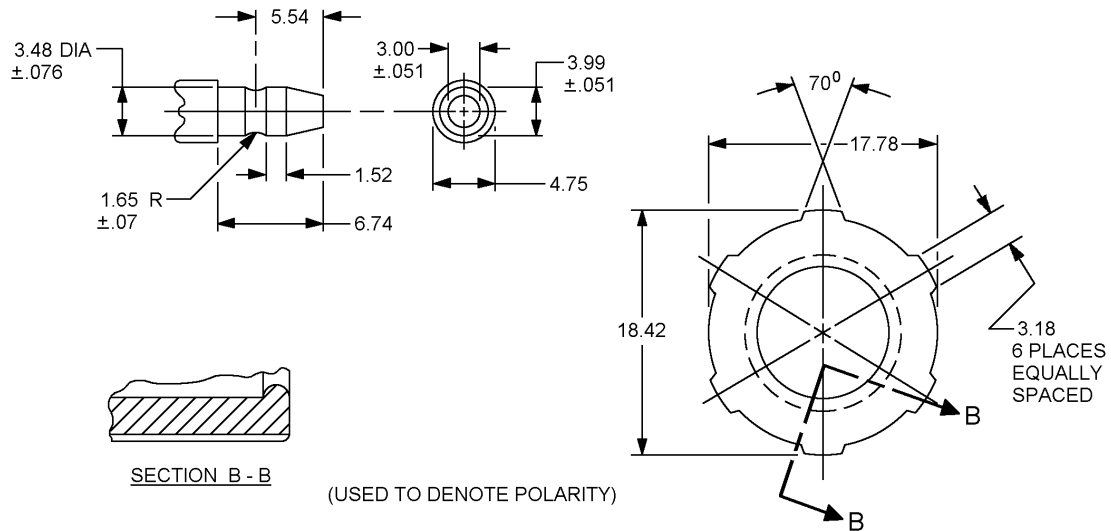
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STYLE I

FIGURE 2. Connector, receptacle (large), metric.

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STYLE II

mm	Inches	mm	Inches	mm	Inches
0.051	.0020	3.00	.0398	6.88	.2708
0.070	.0027	3.18	.3756	10.00	.3937
0.076	.0029	3.48	.1370	11.94	.4700
0.51	.0200	3.99	.1570	17.53	.6902
1.52	.0598	4.75	.1870	17.78	.7000
1.65	.0649	5.54	.2181	18.42	.7252
2.00	.0787	6.74	.2653		

## NOTES:

1. Dimensions are in millimeters.
2. Imperial (inch) dimensions are given for information only.
3. Unless otherwise specified, tolerance shall be  $\pm 0.13$  mm (.005 inches) on decimals,  $\pm 1^\circ$  on angles, and  $\pm 0.38$  mm (.0150 inches) for rubber products.

FIGURE 2. Connector, receptacle (large), metric - Continued.

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### REQUIREMENTS:

Design and construction: see figures 1 and 2.

For mating connectors see MS27143 and MS27144.

#### Material:

Shell: rubber, grade SC615, A1, C1, E3, F2 in accordance with ASTM-D2000.

Terminal: brass, composition 11 on 22 temper half hard minimum in accordance with ASTM-B121/B121M, ASTM-B36/B36M, ASTM-B16/B16M and ASTM-B124/B124M.

Protective finish terminal, silver plate, type II, grade A, .0002 minimum thickness, in accordance with ASTM-B700.

Style II to be used with ribbed connector to denote polarity.

Style II dimensions identical to style I except as noted.

Terminal shall be attached to component and shall withstand a full test of 100 pounds (46 kilograms).

For multiple connector design, minimum cavity center distance shall be .600 inches.

When connectors are coupled, the voltage drop shall not exceed 20 millivolts when tested in a 20-volt circuit as outlined in MIL-STD-202-307.

When connectors are coupled, the assembly shall meet the 1000-volt requirement of the dielectric strength test outlined in MIL-STD-202-302.

When connectors are coupled, waterproofness shall be achieved. For guidance on waterproofness, see MIL-HDBK-1184.

When connectors are coupled, the assembly shall meet the requirements of salt spray corrosion test outlined in MIL-STD-202-101 (5% saline, 200 hrs.)

Recycled, virgin and reclaimed materials: There are no requirements for the exclusive use of virgin materials; however, all materials shall be new and unused. The use of recycled or reclaimed (recovered) materials is acceptable provided that all other requirements of this document are met.

### APPLICATION NOTES:

(These application notes contain information of a general or explanatory nature and are provided for information only.)

Waterproof seal, cable selection and assembly: Recommend that only MIL-DTL-13486/1 cable be used for military applications in order to obtain a waterproof assembly. Other types of cable with smaller outer diameters have been found to be too small to provide a waterproof seal. In addition, to aid in assembling the cable to the connector, assembly lubricants such as isopropyl alcohol or SAE-AS8660, as referenced in Army Pamphlet AMCP 706-360.

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Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the previous issue.

Reference documents. This document references the following:

MIL-DTL-13486/1	ASTM-B36/B36M
MS27143	ASTM-B121/B121M
MS27144	ASTM-B124/B124M
MIL-STD-202-101	ASTM-B700
MIL-STD-202-302	ASTM-D2000
MIL-STD-202-307	SAE-AS8660
MIL-HDBK-1184	AMCP 706-360
ASTM-B16/B16M	

## CONCLUDING MATERIAL

## Custodians:

Army - AT  
Navy - AS  
Air Force – 85  
DLA - CC

## Preparing activity:

DLA - CC

(Project 5935-2018-069)

## Review activities:

Army - AR, CR, CR4, GL  
Navy - MC

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.