

METRIC

MIL-DTL-38999/51B  
14 June 2013  
SUPERSEDING  
MIL-DTL-38999/51A  
1 October 2010

DETAIL SPECIFICATION SHEET

CONNECTOR, ELECTRICAL, CIRCULAR, COVER,  
PROTECTIVE, PLUG, MIL-DTL-38999 SERIES IV

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 and MIL-DTL-38999.

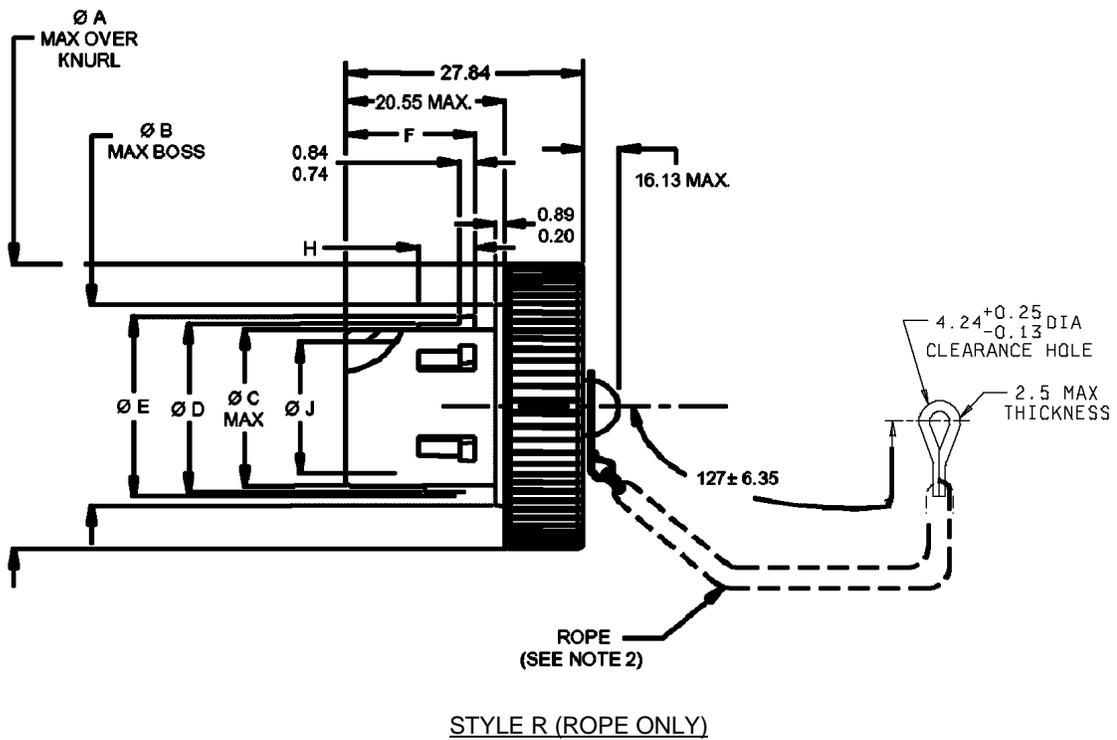
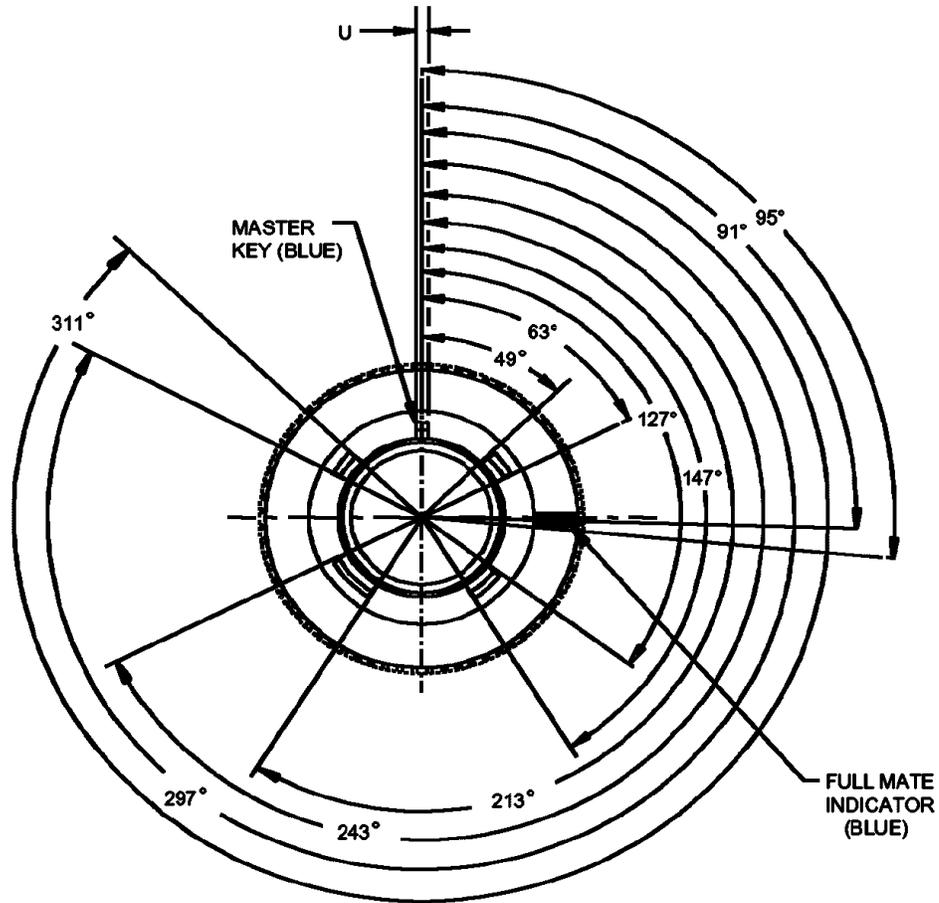


FIGURE 1. Protective cover, plug, all classes.



mm	Inches	mm	Inches
0.20	.008	16.13	.635
0.74	.029	20.55	.809
0.84	.033	27.84	1.096
0.89	.035	127	5.000

FIGURE 1. Protective cover, plug, all classes - Continued.

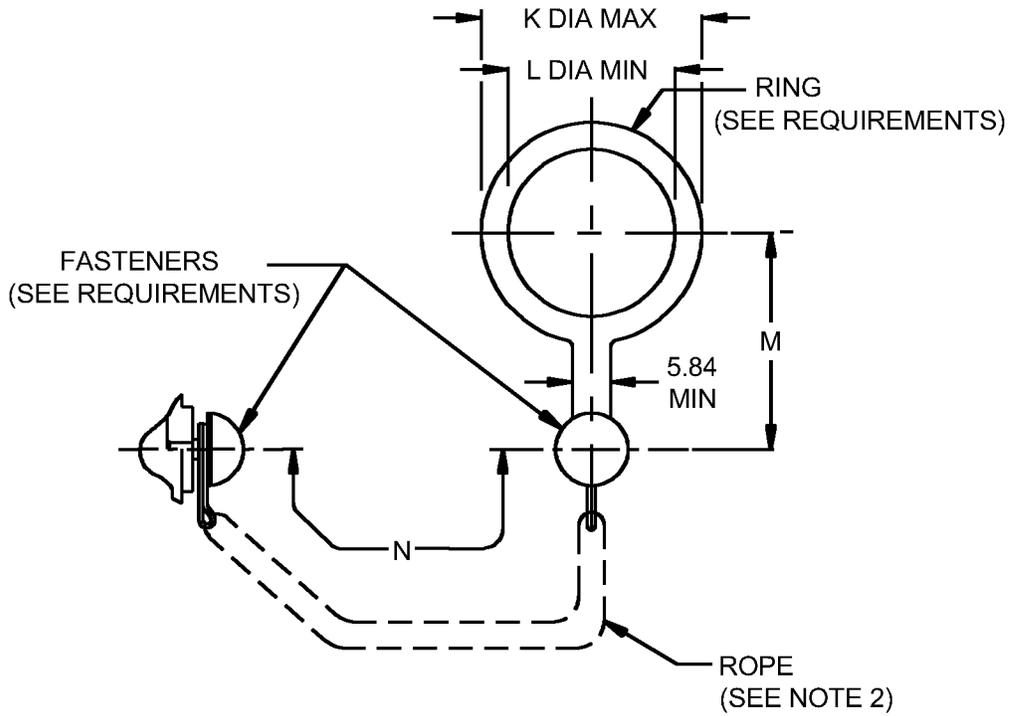
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Dimensions									
Shell size	A max dia	B max dia	C dia	D dia	E dia	F	H	J min	U max
11	35.05 (1.380)	20.14 (.793)	12.929 (.509)	14.986 (.590)	16.26 (.640)	17.145 (.675)	7.010 (.276)	10.74 (.423)	1.651 (.065)
			12.776 (.503)	14.884 (.586)	16.15 (.636)				
13	39.88 (1.570)	23.34 (.919)	16.10 (.634)	18.313 (.721)	19.33 (.761)	16.993 (.669)		13.64 (.537)	
			15.95 (.628)	18.212 (.717)	19.23 (.757)				
15	42.17 (1.660)	26.52 (1.044)	19.28 (.759)	21.463 (.845)	22.48 (.885)			16.81 (.662)	2.159 (.085)
			19.13 (.753)	21.361 (.841)	22.38 (.881)				
17	49.47 (1.790)	29.72 (1.170)	22.48 (.885)	24.638 (.970)	25.65 (1.010)			19.99 (.787)	
			22.33 (.879)	24.536 (.966)	25.55 (1.006)				
19	48.77 (1.920)	32.87 (1.294)	25.63 (1.009)	27.81 (1.095)	27.66 (1.089)	16.891 (.665)	6.756 (.266)	22.25 (.876)	2.667 (.105)
			25.48 (1.003)	27.76 (1.093)	27.56 (1.085)				
21	52.33 (2.060)	36.04 (1.419)	28.80 (1.134)	30.99 (1.220)	30.84 (1.214)	16.739 (.659)		25.43 (1.001)	
			28.65 (1.128)	30.48 (1.200)	30.73 (1.210)				
23	57.15 (2.250)	39.22 (1.544)	31.98 (1.259)	34.29 (1.350)	34.11 (1.343)			28.60 (1.126)	3.175 (.125)
			31.83 (1.253)	33.78 (1.330)	34.01 (1.339)				
25	60.45 (2.380)	42.39 (1.669)	35.15 (1.384)	37.34 (1.470)	37.34 (1.470)			31.78 (1.251)	
			35.00 (1.378)	36.83 (1.450)	37.24 (1.466)				

NOTES:

1. Dimensions are in millimeters. Inch equivalents are given for information only.
2. Method of attachment to cover and or ring is optional.

FIGURE 1. Protective cover, plug, all classes – Continued.



STYLE N (ROPE AND RING)

Dimensions				
Shell size	K max dia	L min dia	M	N
11	27.0 (1.063)	18.0 (.709)	20.50 (.807)	127.00 (5.00)
			18.00 (.709)	
13	30.0 (1.181)	20.0 (.788)	27.00 (1.06)	127.00 (5.00)
			20.00 (.788)	
15	31.0 (1.220)	23.0 (.907)	22.50 (0.886)	127.00 (5.00)
			18.00 (.709)	
17	37.0 (1.457)	26.0 (1.025)	30.50 (1.201)	127.00 (5.00)
			23.50 (.925)	

FIGURE 2. Protective cover, plug, rope and ring assembly, all classes.

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Dimensions				
Shell size	K max dia	L min dia	M	N
19	40.0 (1.575)	29.0 (1.141)	31.50 (1.240) 25.00 (.984)	127.00 (5.00)
21	44.0 (1.732)	32.0 (1.260)	33.00 (1.30) 26.50 (1.043)	127.00 (5.00)
23	46.0 (1.811)	34.0 (1.339)	34.000 (1.339) 27.50 (1.083)	127.00 (5.00)
25	49.0 (1.929)	39.0 (1.538)	38.00 ( 1.496 ) 30.00 (1.181)	127.00 (5.00)

NOTES:

1. Dimensions are in millimeters. Inch equivalents are given for information only.
2. Method of attachment to cover and or ring is optional.

FIGURE 2. Protective cover, plug, rope and ring assembly, all classes – Continued.

REQUIREMENTS:

Dimensions and configurations: See figures 1 and 2.

Materials:

- Cover - Classes C, F, G, R, W and X: Impact extruded or machined aluminum alloy.  
Classes P, T and Z: Impact extruded or machined aluminum alloy.  
Classes H, K, N, S and Y: Corrosion resistant steel.  
Classes J and M: High performance resin in accordance with MIL-DTL-38999.  
Class F: Impact extruded or machined aluminum alloy.  
(Base materials only. For finishes or surface treatments for each class, see MIL-DTL-38999.)
- Gasket - Silicone elastomer.
- Ring - Corrosion resistant steel, passivated, 1.020 mm (0.040 inches) maximum thickness.

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Rope - Insulated stainless steel, passivated.  
Insulation shall withstand 200°C environment.

Fastener - Stainless steel, passivated.  
Option: Aluminum integral to cover.

Mating connectors: MIL-DTL-38999, series IV plugs.

Gasket shall be bonded to cover, or mechanically retained.

Rope shall rotate freely on fastener.

Fastener tensile strength: The protective cover and rope assembly shall withstand a dead weight tensile load of 25 pounds applied to both axial and longitudinal directions. The load shall be applied at the end of the rope assembly and held for 5 minutes. There shall be no separation of the rope assembly from the protective cover or damage to the rope assembly. Both axial and longitudinal directions shall be 25 pounds. The load shall be applied to the end of the rope.

Air Leakage: Testing shall be in accordance with EIA-364-02, except the minimum period of measurement shall be 10 seconds. The air leakage rate shall be no greater than 1 atmospheric cubic inch per hour ( $4.55 \times 10^{-3} \text{ cm}^3/\text{s}$ ) Protective covers shall be mated to connectors having either contacts or inserts removed so that a pressure of 10 lbft/in<sup>2</sup> (.703 Kg/cm<sup>2</sup>) can be applied against the insides of the protective covers or stowage receptacles.

Qualification (all classes): Qualification shall be in accordance with MIL-DTL-38999 except only the following tests shall be required:

- Examination of product
- Coupling torque
- Humidity
- Salt spray (corrosion)
- Fastener tensile strength (see requirement)
- Air Leakage

Qualification (classes J and M only): Qualification shall be in accordance with MIL-DTL-38999, except that in addition to the test sequence specified for all classes above, the following tests shall be required:

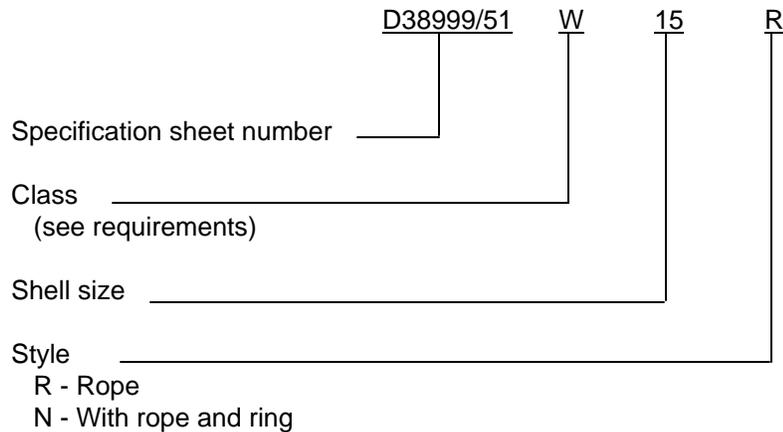
- Temperature cycling
- Hydrolytic stability

Group A sampling inspection. Sampling for group A inspection shall be as specified in table I.

TABLE I. Group A sampling plan.

Lot size	Sampling size
1 to 13	100 percent
14 to 150	13 units
151 to 280	20 units
281 to 500	29 units
501 to 1,200	34 units
1,201 to 3,200	42 units
3,201 and up	54 units

Part or Identifying Number (PIN) example:



Class F is not for Navy use and is inactive for Air Force new design.

**Change effectivity.** Unless otherwise specified by the preparing activity and/or the qualifying activity, all changes from the previous revision of this specification sheet shall become effective within 90 days of the date of publication of the latest revision. If unable to implement changes within the 90 day time period, the manufacturer or value added distributor shall notify the qualifying activity. The qualifying activity shall determine if an extension may be granted.

**Disposition of stock.** Unless otherwise specified by the qualifying activity and coordinated with the preparing activity, qualified manufacturers and their selling agents or distributors may continue to ship protective covers which were manufactured in accordance with the previous revision of this specification sheet for a period of 18 months from the date of the latest revision, provided that form, fit and function are not affected.

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue, due to the extent of the changes.

Referenced documents. In addition to MIL-DTL-38999, this document references the following:

EIA-364-02

#### CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - AS  
Air Force - 85  
DLA - CC

Preparing activity:

DLA - CC

(Project 5935-2012-018)

Review activities:

Army - MI  
Navy - EC, MC, OS  
Air Force - 19, 99

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>.