

MIL-C-83522/1F

	Min	Max
A	.3858 (9.799)	.3863 (9.812)
C	.080 (2.03)	.100 (2.54)
D	.179 (4.55)	.182 (4.62)
E	.220 (5.59)	.233 (5.92)
F	.485 (12.32)	---
G	.183 (4.65)	.244 (5.69)
H	---	.150 (38.1)
J	.015 (0.38)	.045 (1.14)
B	Plug must not enter .118 hole gauge	Plug must enter .124 dia. hole gauge

K dimensions		
50/125 μ m fiber	62.5/125 μ m fiber	100/140 μ m fiber
.1300 max .1275 min	.1300 max .1275 min	.1450 max .1425 min

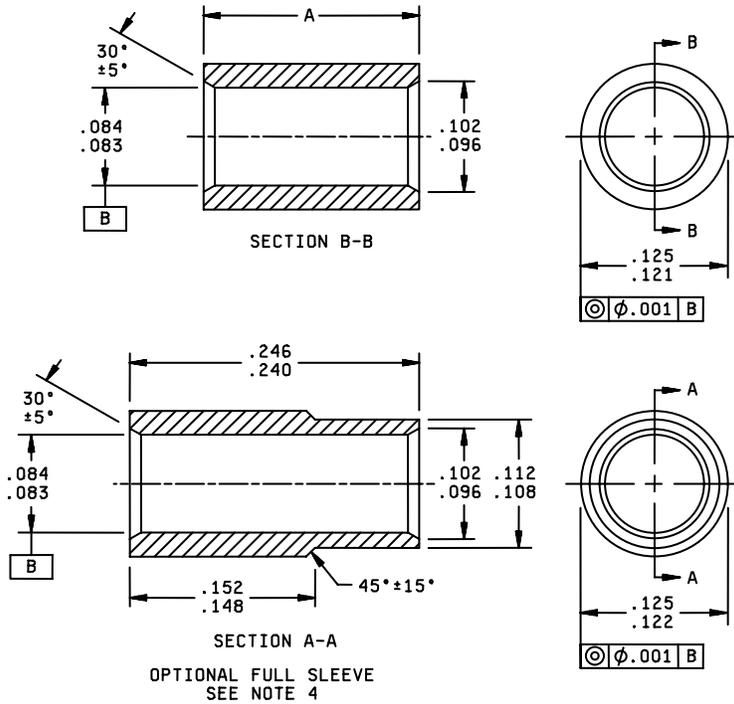
Inches	mm	Inches	mm
.001	0.02	.0625	1.588
.002	0.05	.0847	2.151
.005	0.13	.0850	2.159
.010	0.25	.090	2.29
.015	0.38	.123	3.12
.024	0.61	.124	3.15
.028	0.71	.127	3.23
.030	0.76	.131	3.33
.036	0.91	.250	6.35
.046	1.17	.309	7.85
.060	1.52	.315	8.00

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Millimeters are in parentheses.
4. Dimensions for fiber optic cable shall be in accordance with MIL-PRF-85045.
5. K dimension is specified in micrometer. This dimension is critical to fiber alignment. Dimensions for fiber optic fiber shall be in accordance with MIL-PRF-49291.
6. Dimension A is obtained after product has been assembled.
7. Ferrule may be an integral part of component.
8. One full length sleeve to be used in conjunction with two step-down nose connectors.
9. One-half length sleeve to be used in conjunction with one step-down nose connector and one receptacle (active device).
10. O-ring is required. Component shall be machined for either O-ring location A or location B.
11. Dimension of O-ring area.

FIGURE 1. Dimensions and configuration - Continued.

MIL-C-83522/1F



	A	
	Min	Max
Full sleeve (see note 4)	.240 (6.10)	.246 (6.25)
One-half sleeve (see note 5)	.117 (2.97)	.124 (3.15)

Inches	mm
.001	0.03
.083	2.11
.084	2.13
.096	2.44
.102	2.59
.108	2.74
.112	2.85
.121	3.07
.122	3.10
.125	3.18
.148	3.76
.152	3.86
.240	6.10
.246	6.25

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are in parentheses.
3. Metric equivalents are given for general information only.
4. One full length acetal sleeve to be used in conjunction with two step-down nose connectors.
5. One-half length acetal sleeve to be used in conjunction with one step-down nose connector and one receptacle (active device).
6. Dimensions apply to sleeve as manufactured. Sleeve material may be compressed when in use.

FIGURE 2. Alignment sleeves.

MIL-C-83522/1F

Part or Identifying Number (PIN): See table I.

TABLE I. PIN.

PIN M83522/1-	Fiber size μm
03	50/125
03	62.5/125
04	100/140

REQUIREMENTS:

Metals: The plug housing shall be of corrosion resistant steel in accordance with SAE-AMS-QQ-S-763, class 303 or nickel plated brass in accordance with ASTM-B36/B36M alloys C23000, C24000, C26000, or C26800 or ASTM-B16/B16M or ASTM-B122/B122M alloys C377000, C46400, C48200, or C48500. Other metal components shall be of corrosion resistant steel in accordance with SAE-AMS-QQ-S-763, class 303; nickel plated beryllium copper in accordance with ASTM-B196/B196M except alloy C17000, ASTM-B197/B197M, or ASTM-B194 except alloy C17000 or nickel plated brass in accordance with ASTM-B36/B36M alloys C23000, C24000, C26000, or C26800 or ASTM-B16/B16M or ASTM-B122/B122M alloys C377000, C46400, C48200, or C48500.

Epoxies: Use Trabond 230, Eccobond 144B or an equivalent epoxy approved by the qualifying activity.

Dimensions and configuration: See figure 1.

Fiber optic cable requirements:

Cable diameter: In accordance with MIL-PRF-85045.

Cable configuration: In accordance with MIL-PRF-85045.

Fiber diameter: 50/125 μm , 62.5/125 μm , and 100/140 μm .

Fiber numerical aperture: In accordance with MIL-PRF-49291.

Fiber type: Multimode.

Fiber optic contact:

Method of optical alignment: Ferrule/sleeve type (see figure 2).

Lens configuration: Not applicable.

Coating requirements: Not applicable.

MIL-C-83522/1F

Optical requirements:

Number of optical termini: One.

Coupling loss (attenuation): 3 dB maximum per mated pair.

Weight: 6 grams maximum.

Polarization: Not applicable.

Safety wire holes: Optional.

Force to engage and disengage:

Longitudinal force: 12 pounds maximum.

Torque: 4 inch-pounds maximum.

Coupling proof torque: 5 inch-pounds minimum.

Coupling mechanism retention force: 60 pounds minimum.

Ozone exposure: Not applicable.

Durability: 200 cycles, 1 dB maximum change.

Low temperature: 1 dB change.

Plug accessories: Each plug shall be supplied with a minimum of one crimp ferrule as needed (see figure 1); two alignment sleeves (see figure 2); one protective cable-end cap; one 1.5 inch length of heat-shrink tubing or one rubber boot; and one set of assembly instructions. The assembly instructions shall include a listing of the epoxies specified in this specification sheet and a cleaning procedure statement as follows:

Cleaning procedures: Dampen lens tissue (paper wipes or cotton swab) with a small amount of isopropyl alcohol or water. Gently wipe the face of the connector, removing any debris, particularly around the optical fiber, using clean lens tissue (paper wipes, cotton swab). Dry face of connector by blowing with dry air.

NOTE: The plug mates with MIL-C-83522/4 receptacle; MIL-C-83522/5 receptacle, MIL-C-83522/7 receptacle; MIL-C-83522/8 receptacle; or a MIL-C-83522/3 adapter mated with another MIL-C-83522/1 plug. Connection to any other type plug may result in excessive coupling loss.

Referenced documents: In addition to MIL-C-83522, this document references the following:

MIL-PRF-49291	MIL-C-83522/7	ASTM-B36/B36M	ASTM-B197/B197M
MIL-C-83522/3	MIL-C-83522/8	ASTM-B122/B122M	SAE-AMS-QQ-S-763
MIL-C-83522/4	MIL-PRF-85045	ASTM-B194	
MIL-C-83522/5	ASTM-B16/B16M	ASTM-B196/B196M	

MIL-C-83522/1F

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

Custodians:

Army - CR
Navy - SH
Air Force - 11
DLA - CC
NASA – NA

Preparing activity:

DLA - CC

(Project 6060-2006-011)

Review activities:

Navy - AS
Air Force – 02, 03, 19, 33, 93, 99
DIA - DI

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 <http://assist.daps.dla.mil/>.