

INCH-POUND

MIL-C-83526/14(CR)
9 JUNE 1989

MILITARY SPECIFICATION SHEET
CONNECTOR, FIBER OPTIC, CIRCULAR, HERMAPHRODITIC,
TEST PLUG, 2 POSITIONS

This specification is approved for use by the Department of the Army and is available 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 the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-C-83526

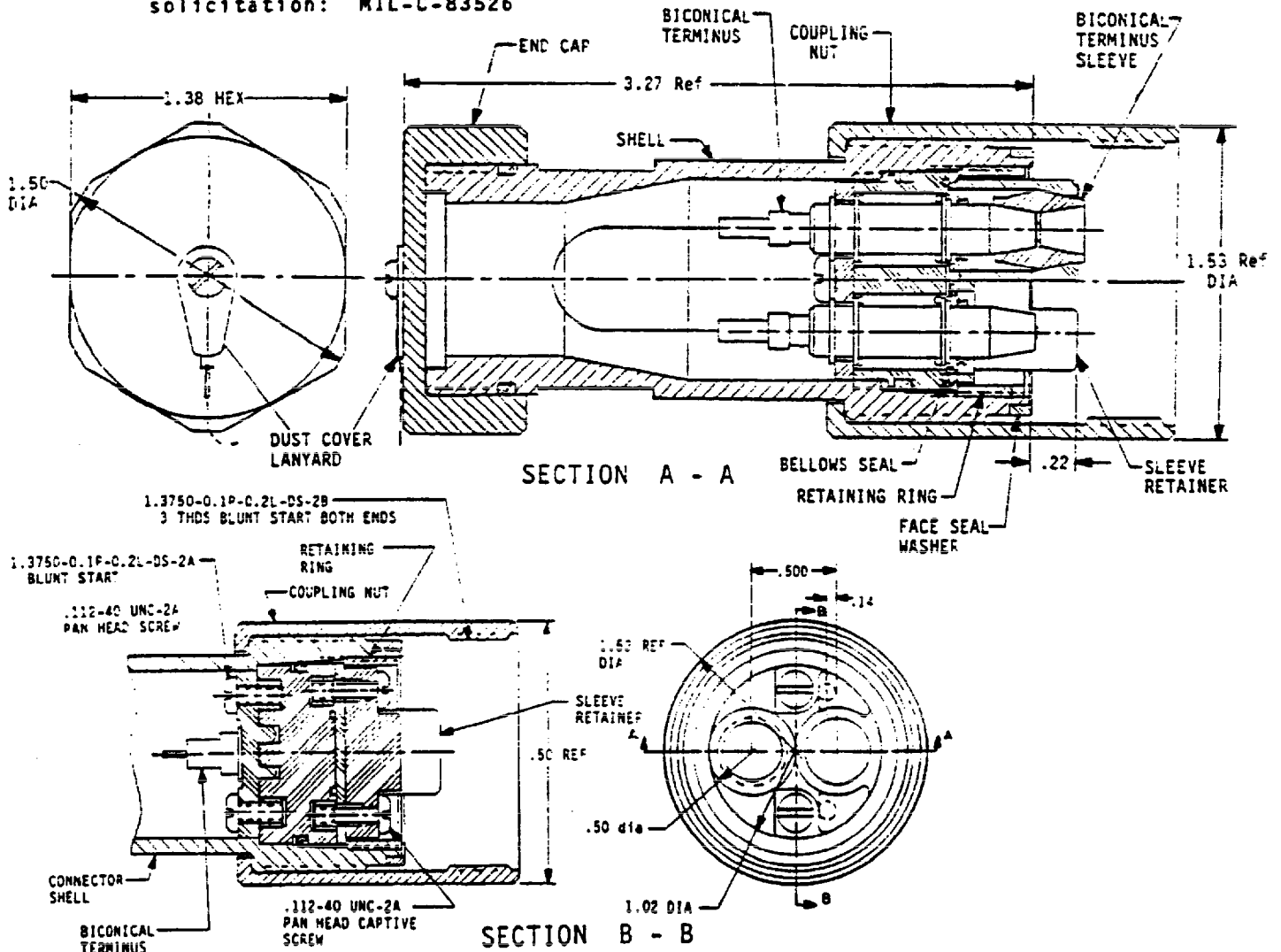
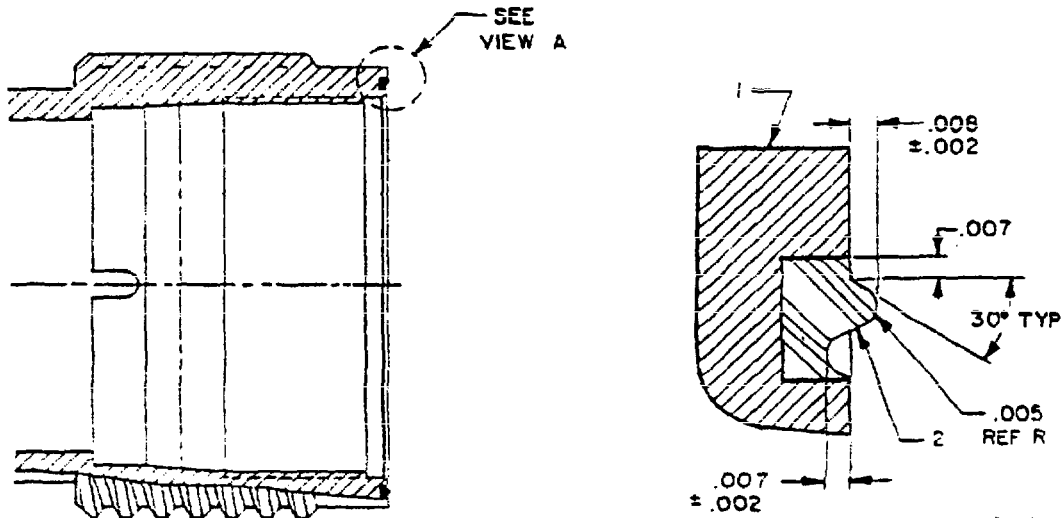
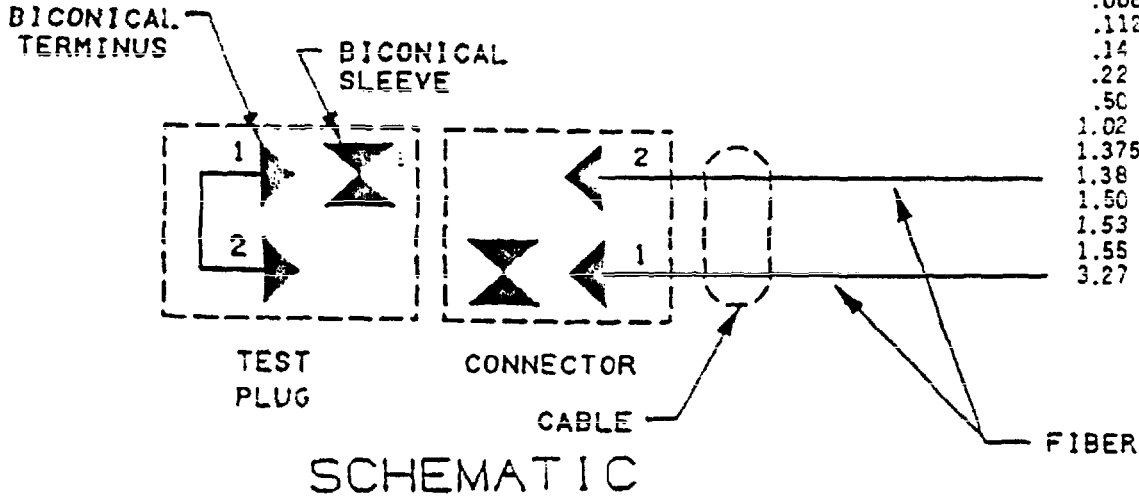


FIGURE 1. Connector test plug.



VIEW A
FACE SEAL WASHER DETAIL

Inches	mm
.002	0.05
.005	0.13
.007	0.18
.008	0.20
.112	2.84
.14	3.56
.22	5.59
.50	12.7
1.02	25.9
1.3750	34.925
1.38	35.1
1.50	38.1
1.53	38.9
1.55	39.4
3.27	83.1



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.010 (0.25 mm) for three place decimals, ± 0.03 (0.8 mm) for two place decimals and ± 0.1 (2.5 mm) for one place decimals. Angular tolerances are $\pm 0^\circ 30'$.
4. Unless otherwise specified, dimensions are symmetrical about centerlines.
5. The test plug loss and serial number shall be placed on the end cap.
6. The part number shall be placed on the test plug shell.

FIGURE 1. Connector test plug - Continued.

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REQUIREMENTS:

Dimensions and configurations: See figure 1.

Weight: 1.5 pounds maximum.

Fiber optic cable requirements: Shall be in accordance with D85045/8-B2A.

Coupling force: 3 to 10 pounds.

Coupling torque: 5 to 12 inch pounds.

Finish: The connector shall be cadmium finished, olive drab, in accordance with QQ-P-416, type II, class 3.

Materials: See table I.

TABLE I. Material description.

Parts description	Material	Finish
End cap	Aluminum 6061-T6	Olive drab cadmium per QQ-P-416, type II, class 3, 500 hours extended salt spray
Connector shell	Die cast aluminum 380	Olive drab cadmium per QQ-P-416, type II, class 3, 500 hours extended salt spray
Coupling nut	Aluminum 6061-T6	Olive drab cadmium per QQ-P-416, type II, class 3, 500 hours extended salt spray
Retainer ring	Type 303 stainless steel	Passivation in accordance with QQ-P-35
Sleeve retainer	Ryton R4	None
Terminus sleeve	Moulding compound in accordance with MS63601, type 1	None
Terminus	Moulding compound in accordance with MS63601, type 1	None

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TABLE I. Material description - Continued.

Parts description	Material	Finish
Terminus backbone	Aluminum 2011T3	Black anodized
Screws for sleeve retainer	Stainless steel	Passivation in accordance with QQ-P-35
C-clip	PH15-7 Mo steel in accordance with MS1632-4-25	
Washer	Stainless steel 302 in accordance with QQ-S-766	
Bellows seal	Fluorosilicone elastomer, 60 ±5 shore A durometer	Blue
Face seal washer	Neoprene durometer 70	None

Epoxy: Not applicable.

Installation and removal tools: Not applicable.

Threads: Applicable, except threads shall be inch-series in accordance with FED-STD-H23 or inch-series in accordance with FED-STD-H28 and MIL-STD-1373.

Termini: Applicable, except termini shall be as specified herein.

Terminus insertion and removal methods: Terminus insertion and removal methods shall be defined in the assembly instructions.

Insertion loss: Applicable with the following exceptions: Initial loss measurements and coupling loss changes monitored during and after other tests shall be made in accordance with EIA-455-171. Upon completion of each test samples shall be examined for compliance.

Discontinuity: Not applicable.

Analog modulation: Not applicable.

Crosstalk: Not applicable.

Ambient optical pickup: Not applicable.

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Part or Identifying Number (PIN): Example of PIN: M83526/14- (dash number from table II). Fiber optical yellow band: Not applicable.

TABLE II. PIN and dash number description.

M83526/14- dash number	Loss
01	2.5dB Max.
02	23.5dB \pm 0.5dB

Inserts marking: Not applicable.

Terminal cleaning: Not applicable.

Insert retention axial strength: Not applicable.

Insert retention radial strength: Not applicable.

Terminus retention: Not applicable.

Terminus insertion and removable forces: Not applicable.

Maintenance aging: Not applicable.

Mating durability: Not applicable.

Impact: Not applicable.

Twist test: Not applicable.

Cable seal flexing: Not applicable.

Cable retention: Not applicable.

Crush resistance: Applicable, except test load shall be 450 pounds.

External bending moment: Not applicable.

Temperature life: Not applicable.

Thermal shock: Applicable, except upper temperature shall be 71°C +2, -0°C, 10 cycles.

Shock: Applicable, except test condition A shall be utilized.

Ice crush/freezing water immersion: Not applicable.

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Salt spray: Applicable, except condition A of method 1001 shall be used.

Fluid immersion: Not applicable.

Water pressure or freezing: Not applicable

Ozone exposure: Not applicable.

Mud test: Not applicable.

Fungus resistance: Samples shall be tested in accordance with method 508.1, procedure I of MIL-STD-810. Following the test, examination of the test samples shall reveal no evidence of deterioration of component parts or constituent materials which will adversely affect performance.

Quality conformance and periodic inspection: D85045/08-B2A, or an equivalent approved by the qualifying activity, shall be used for quality conformance and periodic inspection.

Qualification inspection sample size: Applicable, except the following minimum test samples shall be provided for each connector series:

Six test plugs mated with six bulkhead connectors. Larger sample sizes to allow parallel testing is allowed.

Retention of qualification: Applicable, except the contractor shall forward a report of 24-month intervals.

Quality conformance inspection sample unit preparation: Applicable, except in cases where no MIL-C-85045 qualified sources exist, cable shall be specified by the qualifying activity.

Periodic inspection sampling plan: Applicable, except sample units shall be selected every 24 months.

Qualification inspection shall consist of performing the inspections and optical tests specified in table III herein, in the sequence shown.

Group A inspection shall consist of performing the inspections and optical tests specified in table IV herein, in the sequence shown.

Group B inspection shall consist of performing the inspections and optical tests specified in table V herein, in the sequence shown.

Group C inspection shall consist of performing the inspections and optical tests specified in table VI herein, in the sequence shown.

Group C sampling plan: Sample units which have passed group E inspection shall be selected in accordance with table VI.

NOTES:

1. This test plug mates with itself, MIL-C-83526/12 in-line connector, MIL-C083425/13 jam-nut connector, and MIL-C-83526/15 dust cover.
2. Test plug accessories: Each test plug shall be supplied with one plastic protective cover.
3. The test plug is bidirectional: An incoming signal on position 1 will exit on position 2; or, an incoming signal on position 2 will exit position 1.

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TABLE III. Qualification inspection.

Inspection MIL-C-83526	Optical test
	Insertion loss <u>1/</u> <u>2/</u>
<u>Group I</u> (All sample units) <u>1/</u>	
Physical conformance	
Size	
Weight	
Color	
Identification marking	
Workmanship	
Optical conformance	
Insertion loss	X
<u>Group II</u> (3 sample units)	
Thermal shock	d
<u>Group III</u> (3 sample units)	
Humidity	c
Mechanical shock	a
Vibration	c
Connector engagement and disengagement forces	
Coupling forces	
<u>Group IV</u> (3 sample units)	
Crush resistance	d
Salt spray	a
Sand and dust	a
Fungus	
Flammability	

1/ Sample units - Number indicated means that the number of connectors, backshell or accessories that shall be tested.

2/ a - Indicates performance test to be accomplished before and after inspection test.

d - Indicates performance test to be accomplished before, during and after inspection test.

X - Indicates that this test applies.

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TABLE IV. Group A inspection.

Inspection MIL-C-83526	Optical test
	Insertion loss
Color Workmanship Insertion loss Identification marking	X <u>1/</u> <u>2/</u>

1/ X - indicates that this test applies.

2/ Inspection level S-4 shall be utilized for insertion loss

TABLE V. Group B inspection.

Inspection MIL-C-83526	Optical test
	Insertion loss
Connector engagement and disengagement forces Coupling torques	

TABLE VI. Group C inspection.

Inspection	Optical insertion loss test <u>1/</u> <u>2/</u>	Sample quantity
Subgroup 1 (3 month interval)		
Thermal shock	d	4 units
Subgroup 2 (6 month interval)		
Mechanical shock	a	2 units
Vibration	a	2 units
Crush resistance	d	2 units
Humidity	d	2 units
Subgroup 3 (12 month interval)		
Flammability	-	2 units
Salt spray	a	2 units
Sand and dust	a	2 units
Fungus	-	2 units
Size	-	2 units
Weight	-	2 units

1/ a - indicates performance test to be accomplished before and after inspection test.

2/ d - indicates performance test to be accomplished before, during and after inspection test.

CONCLUDING MATERIAL

Preparing activity:
Army - CR

Agent:
DLA -ES

(Project 6060-A022-5)