

I INCH-POUND IMIL-C-83733C(USAF)
AMENDMENT 1
30 October 1989

MILITARY SPECIFICATION

CONNECTOR, PLUG AND RECEPTACLE, ELECTRICAL, MINIATURE, RECTANGULAR TYPE,
RACK TO PANEL, ENVIRONMENTAL RESISTING, 200°C TOTAL CONTINUOUS
OPERATING TEMPERATURE, HIGH RELIABILITY, GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-C-83733C(USAF), dated 28 July 1986, and is approved for use within the Department of the Air Force and is available for use by all Departments and Agencies of the Department of Defense.

PAGE 1

1.2.1, following class R, add: "Class S - Space environment applications".

Beneficial comments note. Delete "Electronic Support Division AFLC, 2750 ABW/ES, Gentile AF Station, Dayton, Ohio 45444" and substitute: "2750TH Air Base Wing, Electronic Support Division (2750TH ABW/ESP), Gentile AFS, Ohio 45444-4500".

PAGE 2

MIL-C-55330, delete and substitute:

"MIL-C-55330 - Connectors, Electrical and Fiber-Optic, Packaging of."

PAGE 3

2.1.1, in military standards section, below MIL-STD-202 add

"MIL-STD-790 - Reliability Assurance Program for Electronic Parts".

delete: "MS27495 and MS27534."

2.1.2 Other publications, following, "ANSI B46.1-1962", add:

"ASTM-E-595-77 - Standard Test Method for Total Mass Loss and Volatile Condensable Materials for Outgassing in a Vacuum Environment.

SP-R-0022 - General Specification, Vacuum Stability Requirement of Polymetric Material for Spacecraft Applications.

NHB 8060.1 - Flammability, Odor and Offgassing Requirements and Test Procedures for Materials in Environment That Support Combustion.

(Application for copies of SP-R-0022 and NHB 8060.1 should be addressed to the National Aeronautics and Space Administration, ES-5, Lyndon B. Johnson Space Center, Houston, TX 77058.)"

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Following 3.2, add

"3.2.1 Reliability. The contractors reliability program for assembled connectors and assembly procedures shall meet the requirements of MIL-STD-790".

Following 3.3.2, add

"3.3.2.1 Nonmetallic materials. All nonmetallic materials for class S connectors shall meet the outgassing, flammability, odor and toxicity requirements, see 3.6.26 and 3.6.27. Materials capable of emitting vacuum condensable gases-conductive, noxious or toxic gasses when exposed to low pressure or high temperature shall not be used."

3.3.4 1, delete and substitute.

3.3.4.1 Finish for class R connectors. Aluminum parts shall be electroless nickelplated in accordance with MIL-C-26074, class 3 or 4, with .001 min. plating thickness. All other metal parts shall be made of corrosion-resistant materials shall be protected to meet the performance requirements of this specification "

PAGE 6

FIGURE 1, delete " .813" and substitute. ".817/ 809"

PAGE 7

Interface and backend dimensions, substitute the following

"B shell dimension H from 3.190 to 3.194/3.186"

PAGE 8

FIGURE 2, delete ".813" and substitute ".817/ 809"

PAGE 9

Interface and backend dimensions, substitute the following

"B shell dimension H from 3.190 to 3.194/3.186
B shell dimension E from 3.271/3.261 to 3.281/3.261"

PAGE 10

3.6, delete "The class R", and substitute

"The class R and class S"

3.6, add the following at the end of the sentence: "In addition, class S connectors shall meet the requirements specified herein."

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Following 3.6.25, add.

"3.6.26 Thermal vacuum out-gassing (class S). The entire connector assembly, when tested in accordance with 4.6.27, shall have maximum total mass loss (TML) of 1.0 percent of the original specimen mass and shall have a maximum volatile condensable material (VCM) content of 0.1 percent of the original specimen mass. When successfully tested as specified in 4.6.27, the connectors shall meet the subsequent tests listed in table VII.

"3.6.27 Flammability, odor and toxicity (class S). Fully mated connectors shall be tested as specified in 4.6.28 and shall meet subsequent tests listed in table VII."

Following 4.1.2, add:

"4.1.3 Reliability assurance program. A reliability assurance program shall be established and maintained in accordance with MIL-STD-790 Evidence of such compliance shall be verified by the qualifying activity of this specification as a prerequisite for qualification and continued qualification effective 24 months after the date of this specification."

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TABLE VII, group 3, following mating and unmating forces, add:

	Requirement paragraph	Test paragraph
"Thermal vacuum out-gassing (class S) - - - -	3.6.26	4.6.27
Flammability, odor and toxicity (class S) -	3.6.27	4.6.28"

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Following, 4.5.1.3.3, add.

"4.5.2 Inspection of packaging. The sampling and inspection of the preservation, packing and container marking shall be in accordance with the requirements of MIL-C-55330."

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4 6.27, delete and substitute the following

"4.6.27 Thermal vacuum out-gassing (class S) All nonmetallic materials including lubricants used in the manufacturing of these connectors shall be tested in accordance with SP-R-0022 and ASTM-E-595-77 to determine the maximum TML of the original specimen mass and the VCM content of the original specimen mass. For the purpose of determining TML and VCM of connectors, the original specimen mass shall be the assembled connector mass excluding metallic parts. The TML and VCM for the connectors may be determined by testing the specific materials of the connector and calculating the loss for the connector

"4.6.28 Flammability, odor, and toxicity (class S) Complete connector assemblies, one connector with protective cap and one fully mated connector pair shall meet the requirements of NHB 8060.1.

"4.6.29 Post test inspection The tested connectors shall be inspected to determine the effects of previous testing. Any evidence of cracking, loosening of parts, carbon tracking, excess wear, tearing of grommet seals, resilient interface material, peripheral seals, or missing parts shall be recorded "

Delete the note following "5. PACKAGING" in its entirety

PAGE 30

6.3, line 10, update organization name to

"2750TH Air Base Wing, Electronic Support Division (2750TH ABW/ESP),
Gentile AFS, OH 45444-4500"

CONCLUDING MATERIAL

Custodian
Air Force - 85

Review activities
Air Force - 11, 99
DLA - ES

Preparing activity
Air Force - 85

Agent
DLA - ES

(Project 5935-F329)