MILITARY SPECIFICATION

INTERCONNECTION BOX, FIBER OPTIC, METRIC
GENERAL SPECIFICATION FOR

This amendment forms a part of MIL I 24728A, dated 23 July 1992, and is approved for use by all Departments and Agencies of the Department of Defense

PAGE 2

2 1 1. SPECIFICATIONS, MILITARY Delete

"MIL-E-16400 Electronic, Interior Communication and Navigation Equipment, Naval Ship and Shore General Specification For "
"MIL I 17214 Indicator, Permeability, Low Mu (Go-no-go) "

2 1 1. SPECIFICATIONS, MILITARY. Add

"MIL-B-7883 - Brazing of Steels, Copper, Copper Alloys, Nickel Alloys, Aluminum and Aluminum Alloys "
"MIL-C-5541 - Chemical Conversion Coatings on Aluminum and Aluminum Alloys "

2 1 1. STANDARDS, MILITARY Add

"MIL-STD-2036 General Requirements for Electronic Equipment Specifications "

2 1 1. STANDARDS MILITARY Delete "MIL STD 1678" and substitute "DOD-STD-1678"

PAGE 3

2 2. American Society for Testing and Materials (ASTM)· Add

"ASTM A 342 - Test Method for Permeability of Feebly Mechanic Materials "

PAGE 4

3 3 2 2, line 5 Delete "MIL-E-16400" and substitute "MIL-STD-2036"

3 3 2 3 1, line 2 Delete "MIL-E-16400" and substitute "MIL-STD-2036"

3 3 4, line 3 Delete "(see 4 6 9)" and substitute "(see 4.6.8)"

3 3 2 4 Delete paragraph and substitute

"3 3.2 4 Welding, structural Welding shall be in accordance with MIL-STD-454, requirement 13. Welding, brazing, and similar processes used in the manufacture of enclosures shall be performed so as to withstand all required tests "

3 4.1, line 1· Delete "in which construction welding shall be in accordance with MIL-STD-454, requirement 13"

PAGE 5

3 4 4 Delete "The types and sizes of cables, used within an interconnection box, shall be as specified in the specification sheet (see 3 1) "

PAGE 6

3 4 9, line 2 Delete "The size shall not exceed the size limitations as specified in MIL-E-16400 "

3 4 11, line 3 Delete "stress reliefed" and substitute "stress relieved"

3 5 1 1, line 1 Delete "a splice" and substitute "a qualified splice"

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Add as new paragraph 3 5 1 2

"3 5 1 2 Discontinuity When measured in accordance with 4 6 4 1 the change in optical transmittance of the qualified splice or connector installed in the fiber optic interconnection box in a standard manner shall meet the requirements contained in the applicable component specification "

PAGE 7

3 5 3 2 Delete

3 5 3 6 Delete and substitute

"3 5 3 6 Fluid immersion (see 4 6 6 6) The interconnection box gasket shall reveal no cracks, splits voids, excessive swelling or softening of material, peeling or change characteristics in a manner that results in loss of seal integrity unless otherwise specified "

3 5 3 7, line 3 Delete "3 5 1 1" and substitute "3 5 1 1 and 3 5 1 2 "

3 5 3 8 Delete and substitute

"3 5 3 8 Shock (see 4 6 6 8) The interconnection box shall show no evidence of broken or displaced parts, cracks, or physical damage that would impair the intended operation of the box Minor physical damage such as small cracks minor yielding of structure out-of tolerance clearances and similar damage shall not be cause for failure unless such damage causes unacceptable impairment of the interconnection box performance The interconnection box shall meet the requirements of 3 5 1 1 and 3 5 1 2 "

3 5 3 9, line 2 Delete "3 hours" and substitute "1 hour "

3 5 3 10 Add "(see 4 6 6 10)" after the paragraph title

PAGE 8

3 6 2 Delete "NOTICE" and substitute "WARNING "

3 6 2 Delete "DANGER" and substitute "WARNING "

4 4 2, line 2 Delete

"The sample unit shall be subjected to the inspections of group I The sample unit shall then be subjected to the group II and group III tests specified on the individual specification sheets After completion of sample testing, all units shall be resubjected to group I testing "

4 4 4, line 25 Delete "that has been no production" and substitute "there has been no production "

PAGE 10

TABLE II row 5 Delete and substitute

Identification markings	3 6	4 6 1	1/

TABLE II, row 11 Delete and substitute

Fluid immersion	3 5 3 6	4 6 6 6	3/

PAGE 11

TABLE III, row 4 Delete and substitute

Identification markings	3 6	4 6 1

PAGE 14

4 6 5 5 line 1 Delete "The loading and operating conditions shall be as specified (see 3 1) "

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PAGE 15

4 6 6 2 line 4 Delete "and dimensionally measured in accordance with 4 6 3 2 "

4 6 6 3 Add the following sentence at the end "The subcycle shall be included in the test "

4 6 6 3. line 2 Delete "MIL-STD 1678" and substitute "DOD STD-1678 "

4 6 6 5 Delete and substitute

"4 6 6 5 Water pressure (see 3 5 3 5) A completely assembled interconnection box shall be immersed in water for 48 hours Unless otherwise specified (see 3 1), the applied pressure shall be 0 1 megapascals (equivalent to a depth of 10 4 meters) The interconnection box shall be maintained at a temperature between 10 and 35°C for the duration of the test At the completion of the test, the interconnection box shall be visually examined in accordance with 4 6 1 "

4 6 6 6 Delete and substitute

"4 6 6 6 Fluid immersion (see 3 5.3 6) The interconnection box gasket shall be immersed in each of the fluids in table VI at the temperature specified for 24 hours Sample preconditioning shall be under ambient conditions One immersion cycle shall be performed The interconnection box gasket shall be completely dried after each immersion At the completion of the test, the interconnection box gasket shall be visually examined "

TABLE VI rows 6 and 7 Delete and substitute

Coolant 1/		20 25
Seawater	ASTM D 1141	20 25

PAGE 16

4 6 6 7. line 6 Delete "of at least 50 microseconds (μs)" and substitute "sufficient to resolve discontinuities of 50 microseconds (μs) or longer"

4 6 6 8. line 4 Delete "of at least 50 microseconds (μs)" and substitute "sufficient to resolve discontinuities of 50 microseconds (μs) or longer"

4 6 6 10 Delete and substitute·

"4 6 6 10 Operating temperature (see 3 5 3 10) The interconnection box shall be subjected to the specified operating temperature extremes as shown in table VII The change in optical transmittance (see 4 6 4 1) shall be determined during each step of constant temperature

"TABLE VII Operating temperature schedule

Step	Duration
1 Maintain +25°C ±2°C	1 hour
2 Ramp to high operating temperature	2 hours (max)
3 Maintain high operating temperature	24 hours
4 Ramp to +25°C ±2°C	2 hours (max)
5 Maintain +25°C ±2°C	1 hour
6 Ramp to low operating temperature	2 hours (max)
7 Maintain low operating temperature	24 hours
8 Ramp to +25°C ±2°C	2 hours (max)
9 Maintain +25°C ±2°C	1 hour

"

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4 6 8 line 2 Delete "MIL I 17214" and substitute "ASTM A 342 "

PAGE 17

6 5. line 2 Delete "(see 4 6)" and substitute "(see 4 5) "

CONCLUDING MATERIALS

Custodians
Army CR
Navy SH
Air Force - 85
NASA NA

Review activities
Army AR, MI
Navy AS, CG, MC YD
Air Force 17 19 80 99
DLA ES

Preparing activity
Navy SH

Agent

DLA - ES

(Project 6099-0004)

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