

INCH-POUND

MIL-PRF-64266/18A
24 October 2013
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22 September 2011

PERFORMANCE SPECIFICATION SHEET

**CONNECTORS, FIBER OPTIC, CIRCULAR, PLUG AND RECEPTACLE STYLE,
MULTIPLE REMOVABLE GENDERLESS TERMINI, SCREW THREADS,
BACKSHELL, SPLIT, MULTIPLE FIBER CABLES, STRENGTH MEMBER CAPTURE AND BEND
LIMITING INTERFACE, ENVIRONMENT RESISTING**

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring fiber optic connectors described
herein shall consist of this specification sheet and MIL-PRF-64266.

SCOPE. The performance requirements specified herein cover a backshell intended for use with a MIL-DTL-38999 or MIL-PRF-64266 connector plug or receptacle in a fiber optic only application. This backshell is one of a split (clam shell) shell configuration consisting of a front adapter, rear adapter, two (split) shell halves, and heat shrink sleeves. This backshell is intended for cable end interface with a multiple fiber cable with an arimid yarn type strength member. Two rear adapter configurations allow capture of the multiple fiber cable strain relief by either banding strap or compression fitting. Environmental resistant features include ability to restrict movement, position, and twist in addition to eliminate or reduce penetration of various environments.

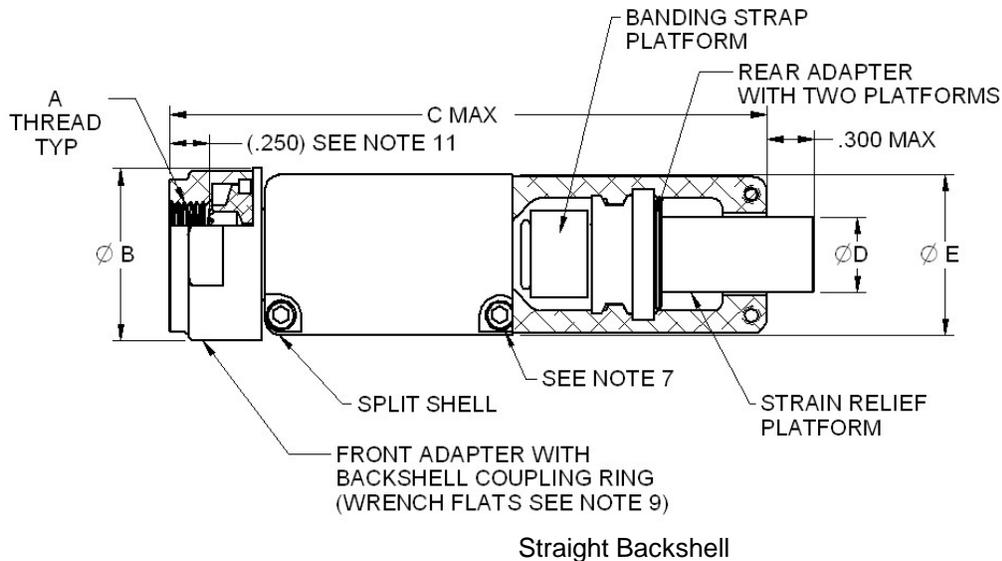
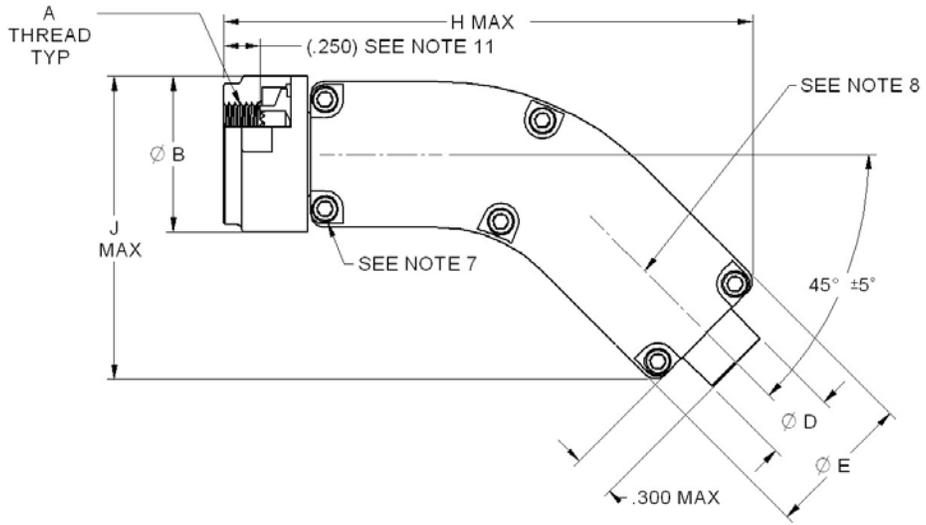
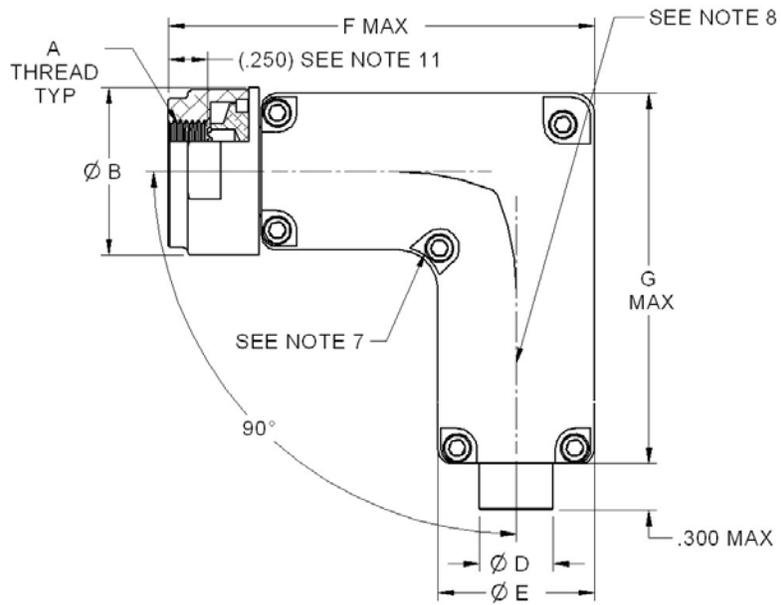


FIGURE 1. Straight, 45 and 90 degree backshell orientations.

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45° backshell



90° backshell

FIGURE 1. Straight, 45 and 90 degree backshell orientations - Continued.

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FIGURE 1. Straight, 45 and 90 degree backshell orientations - Continued.

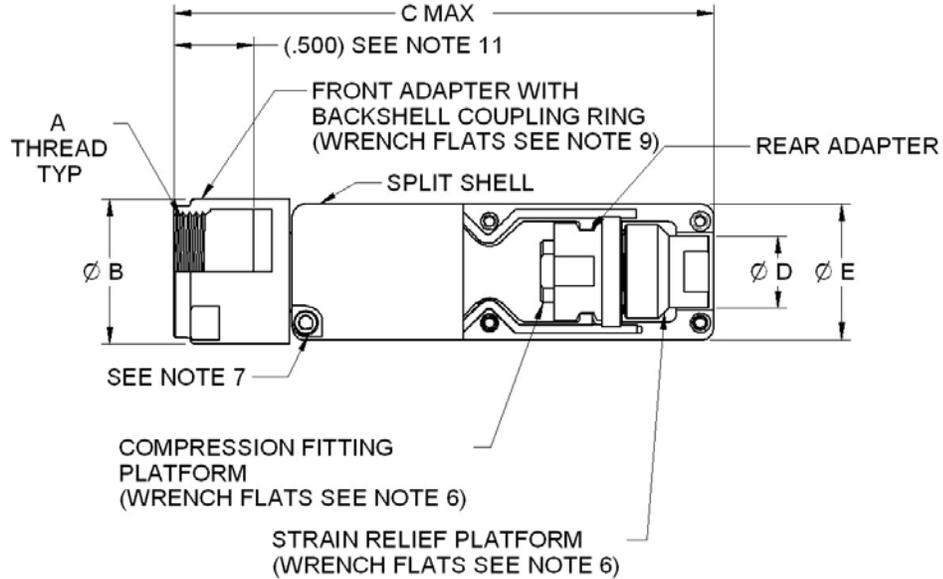
| Shell size | A Thread ISO metric | Dia B max | | Dia D max | | Dia E max | |
|------------|---------------------|-----------|------|-----------|------|-----------|------|
| | | inches | mm | inches | mm | inches | mm |
| 11 | M15x1.0-6H | 1.00 | 25.4 | .50 | 12.7 | 1.00 | 25.4 |
| 13 | M18x1.0-6H | 1.13 | 28.7 | .50 | 12.7 | 1.25 | 31.8 |
| 15 | M22x1.0-6H | 1.25 | 31.8 | .75 | 19.5 | 1.25 | 31.8 |
| 23 | M34x1.0-6H | 1.75 | 44.5 | 1.25 | 31.8 | 1.75 | 44.5 |

| Shell size | F max | | G max | | J Max | | H Max | | C Max | |
|------------|--------|------|--------|-------|--------|-------|--------|-------|--------|-------|
| | inches | mm | inches | mm | inches | mm | inches | mm | inches | mm |
| 11 | 3.0 | 76.2 | 3.5 | 88.9 | 3.5 | 88.9 | 4.9 | 124.5 | 4.0 | 101.6 |
| 13 | 3.0 | 76.2 | 3.6 | 91.4 | 3.6 | 91.4 | 5.0 | 127.0 | 4.0 | 101.6 |
| 15 | 3.2 | 81.3 | 3.7 | 94.0 | 3.8 | 94.0 | 5.3 | 134.6 | 4.7 | 119.4 |
| 23 | 3.7 | 94.0 | 5.0 | 127.0 | 5.0 | 127.0 | 6.1 | 154.9 | 4.7 | 119.4 |

Notes.

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimensions apply to plated/finished part.
4. Metric equivalents are in millimeters (mm).
5. Backshell internal configuration not shown. The backshell interface dimensions shall be in accordance with figure A-6 of MIL-PRF-64266.
6. Rear adapter configurations. Rear adapter may be configured with one of two platforms to capture (constrain) the cable strain relief. The cable strain relief is the cable strength member (such as arimid yarn or Kevlar).
 - a. Rear adapter with banding platform. This interface shall be compatible for use of both a banding strap and heat shrink. Banding strap is one with a 0.25 inch (6.35 mm) nominal band width and a 0.375 inch (9.53 mm) maximum buckle (locking mechanism) width. Backshell shall withstand an applied 160 lb (712 N) linear force around the circumference of the backshell at the band interface surface. The force shall be applied by placing a banding strap onto the backshell using a banding tool. The cable strength member (Kevlar) capture mechanism for the arimid yarn (Kevlar) on the multiple fiber cable shall be the banding strap.
 - b. Rear adapter with compression fitting platform (alternative configuration). The cable strength member (Kevlar) capture mechanism for the arimid yarn (Kevlar) on the multiple fiber cable shall be of a compression fitting type design. Engagement of the compression fitting shall be done using two wrenches. The distance between wrench flats, for the two different wrench flats on the compression fitting, shall be 7/16 (11.11 mm) and 11/16 (17.46 mm), 7/16 (11.11 mm) and 11/16 (17.46 mm), 5/8 (15.88 mm) and 3/4 (19.05 mm), and 1-1/16 (26.99 mm) and 1-1/4 inch (31.75 mm) for shell sizes 11, 13, 15 and 23, respectively.
7. Screws used shall be captive and fastened using a 3/32 inch hex wrench for shell sizes 11, 13, and 15 and a 7/64 inch hex wrench for shell size 23.
8. Rear adapter and front adapter for backshells with the 45 degree and the 90 degree cable entry angles shall be the same as that for the backshells with a straight cable entry angle.
9. Wrench flats. Wrench flats shall be placed on the front adapter coupling ring. The distance between wrench flats shall be 7/8 inch (22.23 mm), 15/16 inch (23.81 mm), 1-1/8 inch (28.56 mm), and 1-5/8 inch (41.28 mm) for shell sizes 11, 13, 15 and 23, respectively.
10. Strip length. Strip length shall be standardized as specified in fabrication procedure in accordance with NAVSEA Drawing 8283460. The strip length shall be the same length for backshells with a straight, 45 degree and 90 degree cable entry angles.
11. Distance from front of coupling ring to connector mating surface. This dimension provided for reference only to determine horizontal dimension for a mated connector with backshell.

12. Envelop length dimensions are specified to one decimal place to expedite inspection process unless otherwise indicated.



Refer to figure 1 for dimensional tables and notes.
 Illustrations for 45 and 90 degree orientations in figure 1 apply to figure 2.

FIGURE 2. Straight backshell orientation with alternative rear adapter.

REQUIREMENTS.

Dimensions and configurations. See figure 1 herein and MIL-PRF-64266, figure A-6.

Temperature ranges.

| | | |
|----------------|--|---|
| Operating. | -18 ⁰ F to 150 ⁰ F | (-28 to 65 C) |
| Non-operating. | -40 ⁰ F to 168 ⁰ F | (-40 ⁰ C to 70 ⁰ C) |
| Storage. | -40 ⁰ F to 168 ⁰ F | (-40 ⁰ C to 70 ⁰ C) |

Weight. Weight shall not exceed the specified value in table I for the applicable shell size, cable entry angle and material.

TABLE I. Backshell weights.

| Shell size(s) | Cable entry angle | Composite | | Aluminum | | Stainless steel | |
|---------------|-------------------|-----------|------|----------|------|-----------------|------|
| | | ounce | gram | ounce | gram | ounce | gram |
| 11 | straight | 1.41 | 40 | 2.18 | 62 | 4.96 | 141 |
| | 45 ⁰ | 1.51 | 43 | 2.25 | 64 | 5.03 | 143 |
| | 90 ⁰ | 1.87 | 53 | 2.39 | 68 | 5.46 | 155 |
| 13 | straight | 1.94 | 55 | 2.89 | 82 | 6.55 | 186 |
| | 45 ⁰ | 2.01 | 57 | 2.96 | 84 | 6.65 | 189 |
| | 90 ⁰ | 2.39 | 68 | 3.20 | 91 | 7.18 | 204 |
| 15 | straight | 2.89 | 82 | 4.33 | 123 | 9.82 | 279 |
| | 45 | 3.06 | 87 | 4.47 | 127 | 10.00 | 284 |
| | 90 ⁰ | 3.59 | 102 | 4.79 | 136 | 10.81 | 307 |
| 23 | straight | 6.48 | 184 | 9.75 | 277 | 22.14 | 629 |
| | 45 ⁰ | 6.79 | 193 | 10.00 | 284 | 22.35 | 635 |
| | 90 ⁰ | 8.07 | 229 | 10.81 | 307 | 24.29 | 690 |

Fabrication procedure. Standard fabrication procedure (for both the terminus placement/termination onto the end of fiber optic cabling and the assembly of the connector and backshell onto the fiber optic cabling) shall be used. Standard fabrication procedure shall be in accordance with NAVSEA Drawing 8283460. A copy of this document can be obtained at Web Site. <https://fiberoptics.nswc.navy.mil> in the NAVSEA Drawing section under Component Information. If unable to access this Web Site, request an application by e-mail to NSWC DD Warfare Systems Department at DLGR_NSWC_Foweb@navy.mil.

Backshell capture mechanism for the cable strength member. An aramid yarn capture mechanism shall be used to secure the multiple fiber cable to the backshell. The capture mechanism shall be part of the backshell rear adapter, configured as a banding strap platform used to secure a banding strap to this platform (see figure 1, note 6) or configured as a compression fitting platform (see figure 1, note 6).

Cable bend limiter restraint mechanism. Backshell shall contain means to provide environmentally resisting support for the multiple fiber cable exiting the backshell. Support shall restrict movement during cable pull, vibration and shock (act as a vibration dampener), and restrict cable twist (act as an anti-rotation mechanism). The term "heat shrink sleeve" shall be used in this specification sheet as the generic term for material placed on each of the two platforms on the rear adapter. Uses for this material may include a degree of environmental sealing, to restrict cable twist, and to provide a degree of limiting the bend placed in the cable as it exits the backshell.

Requirement for the backshell coupling nut. The backshell coupling nut shall be used as the means to ensure that a backshell mated to a connector maintains full thread engagement (maintains complete coupling). Complete coupling of the mated connector and backshell is achieved by a clockwise rotation of the coupling nut. This coupling shall be sufficient to ensure no backing off of the coupling nut during mechanical shock or vibration.

Wrench flats on coupling nut. Front adapter coupling nuts shall contain wrench flats or a non-movable hex nut. This wrench flat or hex nut shall be sufficient to permit applying a torque for affixing the backshell to the connector (see figure 1, note 9).

Heat shrink. When the backshells being supplied have the rear adapter configured with a banding strap platform and a strain relief platform, two pieces of SAE AMS-DTL-23053/5 heat shrink, a minimum of 2 inches in length (before shrinkage), shall be provided with each backshell as part of the PIN (see marking section below). One piece of heat shrink shall permit shrinkage directly over the platform on the rear adapter where the cabling exits the backshell (strain relief platform). The other piece of heat shrink shall permit shrinkage over a banding strap affixing the aramid yarn to the banding strap platform on the rear adapter.

Cable diameter range. Cable restraint mechanism and environmental sealing design shall accommodate a multiple fiber cable with the diameter ranges specified in table II.

TABLE II. Backshell cable diameter ranges.

| Shell size ^{1/} | Shell size designator | Cable diameter number | Cable diameter range (inch) | Cable diameter range (mm) |
|--------------------------|-----------------------|-----------------------|-----------------------------|---------------------------|
| 11 | B | 1 | .240 - .250 | 6.10 – 6.35 |
| | B | 2 | .280 - .315 | 7.11 – 8.00 |
| | B | 3 | .305 - .346 | 7.75 – 8.79 |
| 13 | C | 1 | .280 - .315 | 7.11 – 8.00 |
| | C | 2 | .305 - .346 | 7.75 – 8.79 |
| 15 | D | 1 | .495 - .515 | 12.57 – 13.08 |
| | D | 2 | .380 - .423 | 9.65 – 10.74 |
| | D | 3 | .423 - .465 | 10.4 – 11.81 |
| | D | 4 | .305 - .346 | 7.75 – 8.78 |
| 23 | H | 1 | .768 - .866 | 19.50 – 22.00 |
| | H | 2 | .900 – 1.000 | 22.86 – 25.40 |

^{1/} Cable diameters for other shell sizes are to be determined.

Qualification. Qualification shall consist of performing testing specified as listed in table III.

Backshells qualification. Backshells qualified to this specification sheet shall include a rear adapter configured with a banding strap platform and a strain relief platform. As an alternative, the backshell being provided can instead have a rear adapter configured with a compression fitting platform (see figures 1 and 2). A rear adapter configured with a banding strap platform and a strain relief platform is preferred.

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TABLE III. Qualification inspections (except interoperability).

| Cable entry angle | Straight | Straight | 45 Degree | 90 Degree |
|---|---------------|---------------|---------------|---------------|
| Shell size <u>11/</u> | 15 | 15 | 15 | 15 |
| Fiber size (microns) | SM | MM | SM | SM |
| Temperature range | TR1 | TR1 | TR1 | TR1 |
| Environmental/non-E | Environmental | Environmental | Environmental | Environmental |
| Specification sheet | /18 | /18 | /18 | /18 |
| Test performed <u>2/</u> , <u>8/</u> , <u>9/</u> , <u>13/</u> | | | | |
| Group 1 (4 mated pairs) | | | | |
| Interoperability <u>6/</u> | X <u>7/</u> | X <u>7/</u> | X <u>7/</u> | X <u>7/</u> |
| Visual & Mechanical | | | | |
| Size | X | | X | X |
| Weight | X | | X | X |
| Identification Marking | X | X | X | X |
| Screw threads | X | | | |
| Workmanship | X | | X | X |
| Functional | | | | |
| Banding strap attachment integrity <u>12/</u> | X | | | |
| Compression fitting engagement integrity | X | | | |
| Backshell mating durability | X | | | |
| Optical | | | | |
| Insertion loss (initial) | X | X | X | X |
| Return loss (SM only) | X | | | |
| Group 2 (2 mated pairs) | | | | |
| Backshell-to-connector mating torque | X | | | |
| Cable pull out force (retention) | X | | | |
| External bending moment | X | | | |
| Cable seal flexing | X | | | |
| Twist | X | | | |
| Impact | X | | | |
| Crush | X | | | |
| Vibration: Swept sine (TR1) | X | | X | X |
| Vibration: Random (TR1) | X | | | |
| Vibration: Swept sine (TR2) | | | | |
| Vibration: Random (TR2) | | | | |
| Vibration: Random with temperature (TR2) | | | | |
| Shock: <u>MIL-S-901</u> <u>10/</u> | X | X | | |
| Shock: Half-sine pulse (TR2) | | | | |
| Insertion loss verification | | | | |
| Water pressure | X | | X | X |
| Modified SO ₂ /salt spray | X | | | |

See notes at end of table.

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TABLE III. Qualification inspections (except interoperability) – Continued.

| Cable entry angle | Straight | Straight | 45 Degree | 90 Degree |
|---|---------------|---------------|---------------|---------------|
| Shell size 11/ | 15 | 15 | 15 | 15 |
| Fiber size (microns) | SM | MM | SM | SM |
| Temperature range | TR1 | TR1 | TR1 | TR1 |
| Environmental/non-E | Environmental | Environmental | Environmental | Environmental |
| Specification sheet | /18 | /18 | /18 | /18 |
| Test performed <u>2/</u> , <u>8/</u> , <u>9/</u> , <u>13/</u> | | | | |
| Group 3 (2 mated pairs) | | | | |
| Thermal shock (TR1) | X | | | |
| Thermal shock (TR2) | | | | |
| Temperature/humidity cycling | X | | | |
| Temperature cycling (TR1) | X | | | |
| Temperature cycling (TR2) | | | | |
| Altitude immersion | | | | |
| Life aging (Temperature life) (TR1) | X | | | |
| Life aging (Temperature life) (TR2) | | | | |
| Freezing water | X | | | |
| Insertion loss verification | X | | | |
| Sand & dust | X 8 | | | |
| Identification marking | X | | | |
| Group 4 (2 mated pair + parts) <u>1/</u> | | | | |
| Electromagnetic effects (2 mated pair) | X | | X | X |
| Fluid immersion (2 mated pair) | X | | | |
| Shell to shell conductivity (initial) | X | | | |
| Salt spray (2 mated pair) 4.9.6.10.1 <u>3/</u> | X | | | |
| Salt spray (TR2) 4.9.6.10.2 | | | | |
| Shell to shell conductivity | X | | | |
| Flammability (1 mated pair) <u>4/</u> | X | | | |
| Fungus resistance (parts) <u>5/</u> | X | | | |
| Ozone exposure (parts) <u>5/</u> | X | | | |
| Insertion loss verification | | | | |

1/ Group 1 mated pair are to be used for Groups 2 and 3 tests. Group 4 can be done before Group 1 with separate samples.

2/ TR1 = test as specified for temperature range 1. TR2 = test as specified for temperature range 2.

3/ Two options. a. Use same two mated pair from the fluid immersion test. b. Use separate mated pair (If option b, can use one cable of sufficient length to loop around to the cable entrance of each backshell).

4/ One mated pair from the fluid immersion, salt spray, or Group 2/3 samples after that Group's test completion may be used.

5/ Parts only; assembly not required.

6/ Interoperability. This testing is done by DLA Land and Maritime -TEB which maintains/retains the interoperability standards. Please note that separate test samples are required for interoperability testing. These test samples will then be retained by DLA Land and Maritime - TEB as interoperability standards.

7/ Interoperability is performed on both single mode and multimode for each shell size.

8/ Specific test practices for physical, mechanical, environmental and material tests, including clarifications and further details, are found in [MIL-STD-1678-3](#).

9/ Specific test practices for the optical performance tests, including clarifications and further details, are found in [MIL-STD-1678-2](#).

10/ Shock test. Standard shock fixture 4A for bulkhead mounting shall be used. Supplement test

fixture that shall be used and the mounting that shall be performed are specified in Measurement 3202 of [MIL-STD-1678-3](#).

- 11/ See qualification by similarity for other shell sizes if shell size 15 is being qualified. Otherwise, use this qualification table for the other shell sizes also.
- 12/ Perform either Banding strap attachment integrity or Compression fitting engagement integrity, depending on type of strain relief attachment provided on the backshell.
- 13/ Full qualification list for the backshell with a straight cable entry angle contains more testing requirements than the 45 or 90°. Only by qualifying the straight backshell first, a further reduced test sequence as listed in the table can be used to qualify the backshell configurations with a 45 and 90° cable entry angle. Otherwise the full qualification listed for the backshell with the straight cable entry angle must be performed for backshell configurations with a 45 and 90° cable entry angle.

Identification marking. Applicable. Both initial and after environmental testing.

Banding strap attachment integrity. For a backshell containing a rear adapter with a banding platform, no buckling, cracking or other backshell damage (including to plating) shall result from attachment of a banding strap when applied to the conditions of note 6 in figure 1.

Compression fitting engagement integrity. For a backshell containing a rear adapter with a compression fitting platform, no buckling, cracking or other backshell damage (including to plating) shall result from engagement of a compression mechanism when applied to the conditions of note 6 in figure 1.

Backshell and backshell accessory attachment. Not applicable.

Backshell-to-connector mating torque. The backshell threads shall withstand the applied torque to mate (affix) the backshell to the connector that is specified in table IV with no damage. The backshell shall be mated to a connector mounted in a suitable fixture to prevent movement of the connector during the test. The torque shall be applied to the backshell at a rate of approximately 10 in-lb per second until the specified applied torque is obtained. This torque shall be applied for a minimum of 1 minute.

TABLE IV. Backshell-to-connector mating torque.

| Shell size | Mating torque ^{1/} ± 5 in-lb (± .55 N-m) | | | |
|------------|--|-------|-------|-------|
| | Composite | | Metal | |
| | in-lb | N-m | in-lb | N-m |
| 11 | 50 | 5.65 | 100 | 11.30 |
| 13 | 50 | 5.65 | 150 | 16.95 |
| 15 | 50 | 5.65 | 150 | 16.95 |
| 23 | 100 | 11.30 | 175 | 19.75 |

^{1/} Increments are rounded to nearest 0.05 N-m for compatibility with a torque wrench.

Cable pull-out force. Applicable.

Cable seal flexing. Applicable.

Twist. Applicable.

Mating durability. Not applicable.

Backshell mating durability. Backshell shall be assembled and completely disassembled for 25 assembly (mating) cycles. Each cycle shall include connector-to-backshell coupling (mating) as part of the backshell assembly. A new banding strap and new pieces of heat shrink shall be used for each assembly. No optical measurements need to be performed during or after this test. A separate piece of cabling may be used for this test. This test may be performed prior to test sample assembly for Group I optical tests.

External bending moment. Applicable. Applied bending moment shall be as specified in table V.

TABLE V. Backshell applied bending moment.

| Shell size(s) | Minimum applied bending moment ^{1/} | | | | | |
|---------------|--|------|----------|-------|-----------------|-------|
| | Composite | | Aluminum | | Stainless steel | |
| | in-lb | N-m | in-lb | N-m | in-lb | N-m |
| 11 | 25 | 2.85 | 125 | 14.15 | 125 | 14.15 |
| 13 | 25 | 2.85 | 275 | 31.10 | 275 | 31.10 |
| 15 | 50 | 5.65 | 300 | 33.90 | 300 | 33.90 |
| 23 | 75 | 8.50 | 300 | 33.90 | 300 | 33.90 |

^{1/} Increments are rounded to nearest 0.05 N-m for compatibility with a torque wrench.

Impact. Applicable.

Crush. Applicable.

Water pressure. Applicable.

Freezing water. Applicable.

Sand and dust. Applicable.

Electromagnetic effects. Applicable except for classes D and E material designator backshells. When not tested as part of the initial qualification, the backshell shall be assembled to a MIL-PRF-64266/1 or MIL-PRF-64266/3 connector receptacle. Electromagnetic effects testing shall be conducted both with and without mating the MIL-PRF-64266/1 or MIL-PRF-64266/3 connector receptacle to a mating connector plug or dust cover.

Salt spray. Applicable.

Shell-to-shell conductivity. Applicable. Perform both initial and after salt spray. For a backshell mated to a connector plug, the voltage drop of the mated connector plug-to-backshell shall be measured from a point on the rear accessory thread of the connector plug to a point on the backshell 1.0 ± .25 inch from the cable entry end on the backshell rear adapter. For a backshell mated to a connector receptacle, the voltage drop of the mated connector receptacle-to-backshell shall be measured from a point on the flange of the connector receptacle adjacent to the mounting hole to a point on the backshell 1.0 ± .25 inch from the cable entry end on the backshell rear adapter. When tested as part of the initial qualification, the voltage drop between the connector receptacle and connector plug shall be measured also.

Modified SO₂/salt spray. Applicable.

Altitude immersion. Not Applicable.

Fluid immersion. Applicable.

Cleaning procedures. Each shipment of backshells shall include recommended cleaning procedures. The following wording or equivalent is recommended: "To clean, use lint free wipe dampened with alcohol and blow dry with air."

Qualification by similarity.

Backshell configurations to test. The below qualification by similarity is valid if M64266/18 backshells with a straight cable entry angle were placed on the connector receptacles and M64266/18 backshells with a straight cable entry angle were placed on the connector plugs for each two connector mated pair going through one group of tests. Backshells tested initially for qualification shall have the rear adapter configured with a banding strap platform and a strain relief platform.

Larger shell sizes. This qualification by similarity is applicable when testing larger shell sizes in this specification sheet and the initial shell size 15 is qualified to this specification sheet. If a connector backshell of shell size 15 is qualified, and a larger connector backshell with similar design, construction, and materials meet the interoperability, visual and mechanical, size, weight, identification marking, workmanship, screw threads, banding strap attachment integrity (or compression fitting engagement integrity, as applicable), backshell mating durability, insertion loss, vibration (swept sine only), shock (MIL-S-901 only), water pressure, temperature cycling and electromagnetic effects inspections and tests are performed in the qualification test sequence, then the backshells of the larger shell size inspected are qualified.

Smaller shell sizes. This qualification by similarity is applicable when testing smaller shell sizes to this specification sheet and the initial shell size 15 is qualified in this specification sheet. If a connector backshell of shell size 15 is qualified, and a smaller connector backshell with similar design, construction, and materials meet the interoperability, visual and mechanical, size, weight, identification marking, workmanship, screw thread, backshell mating durability, insertion loss, bending moment, mechanical shock and vibration (swept sine only) inspections and tests as performed in the qualification test sequence, then the backshells of the smaller shell size inspected are qualified.

Cable entry angle. If a connector backshell with a straight cable entry angle and specified shell size in this specification sheet is qualified, and connector backshells with 45 degree and 90 degree entry angles in this specification sheet meet the inspections specified in table III, then the connector backshells with 45 degree and 90 degree entry angles for the same shell size are qualified. This qualification by similarity is allowed under the constraint that the same front adapter and same rear adapter design are used as is on the backshell with the straight cable entry angle (see figure 1, note 8).

Alternate backshell material. If a connector backshell in this specification sheet made from aluminum is qualified, and connector backshells made from composite or stainless steel in this specification sheet meet the visual and mechanical, size, weight, identification marking, workmanship, screw thread, backshell mating durability, insertion loss, return loss, cable pullout force, external bending moment, impact, crush, shock, water pressure, thermal shock, temperature humidity cycling, temperature cycling, life aging, sand and dust, fluid immersion, shell-to-shell conductivity, modified SO₂/salt spray, vibration (as performed in the qualification test sequence), electromagnetic effects, salt spray, flammability, fungus resistance, and ozone exposure inspections, then the backshells of the alternate material inspected are qualified. If there is a material change of the rear adapter, then banding strap attachment integrity (or compression fitting engagement integrity, as applicable) shall be included.

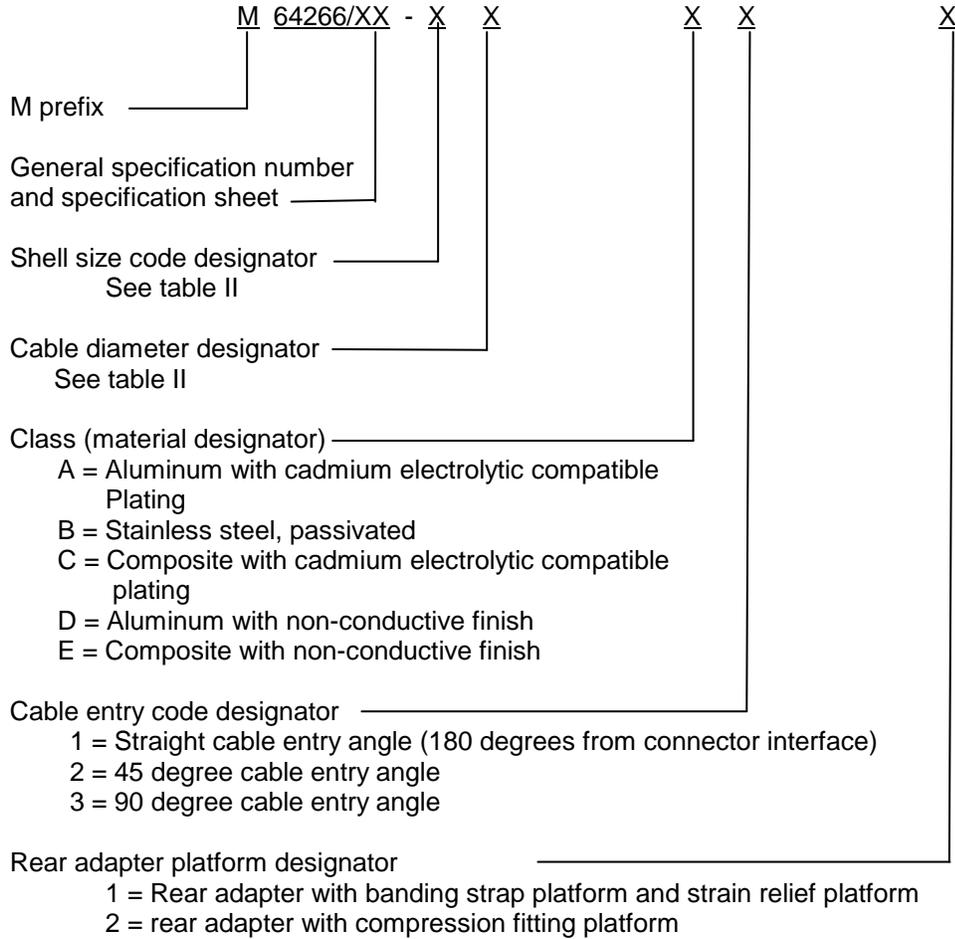
MIL-PRF-64266/18A

Alternate plating or plating process. If a connector backshell with one plating or plating process in this specification sheet is qualified, and connector backshells made with an alternate (different type) plating or same type plating using an alternate plating process in this specification sheet meet the plating and plating process specified in 4.7.5.5 of the MIL-PRF-64266 base specification, then the backshells with the alternate plating or plating process, as applicable, inspected are qualified.

Alternate rear adapter. Backshell shall be qualified to this specification sheet containing a rear adapter configured with a banding strap platform and a strain relief platform. A rear adapter configured with a compression fitting platform, that meet the size, weight, identification marking, workmanship, screw thread, backshell mating durability, compression fitting engagement integrity, insertion loss, return loss, cable pullout force, external bending moment, impact, crush, shock, water pressure, thermal shock, temperature humidity cycling, temperature cycling, life aging, sand and dust, fluid immersion, electromagnetic effects, salt spray inspections, shall be qualified for use as an alternative rear adapter for backshells in this specification sheet.

Marking.

Part or Identification Number (PIN). Marked on coupling ring of the backshell.



PIN example. M64266/18-C1A11

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Mating counterpart. Backshell mates with MIL-PRF-64266/1 wall mounting receptacle, MIL-PRF-64266/2 plug, and MIL-PRF-64266/3 jamnut mounting receptacle.

Installation and removal tools. Backshells shall be assembled onto the connector and multiple fiber, fiber optic cable using only the tools and equipment listed in NAVSEA Drawing 8283460 for the connector accessories assembly procedure.

Referenced documents. In addition to MIL-PRF-64266, this specification sheet references the following documents.

MIL-PRF-64266/1
MIL-PRF-64266/2
MIL-PRF-64266/3
MIL-PRF-28876
MIL-S-901
MIL-DTL-38999
MIL-STD-1678-2
MIL-STD-1678-3
NAVSEA Drawing 8283460
SAE AMS-DTL-23053/5

Standardization based on lessons learned. For the older, existing fiber optic, multiple termini connectors; each vendor has a different backshell aramid yarn capture mechanism and assembly process. The logistic support is taxing the system. For instance, at several JFOWG (Joint Fiber Optic Working Group) meetings, the Navy school house reported that training on the MIL-PRF-28876 connector assembly took a significant portion of the time and cost for the fiber optic curriculum. This leads to logistic difficulties in adding new training material and obtaining (paying for) parts needed in this connector assembly. The implementation of this lesson learned is that the backshell configuration and assembly process for any new connector and any new backshell configuration introduced must be standardized to the maximum extent feasible.

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.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - SH
Air Force - 85
DLA - CC

Preparing activity:
DLA-CC

(Project 6060-2013-025)

Review activities:
Navy - AS
Air Force - 13, 19, 93, 99
DIA - DI
NASA - NA

NOTE. The activities listed above were interested in this document on 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>.

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