

INCH-POUND

MIL-PRF-64266/19
w/AMENDMENT 1
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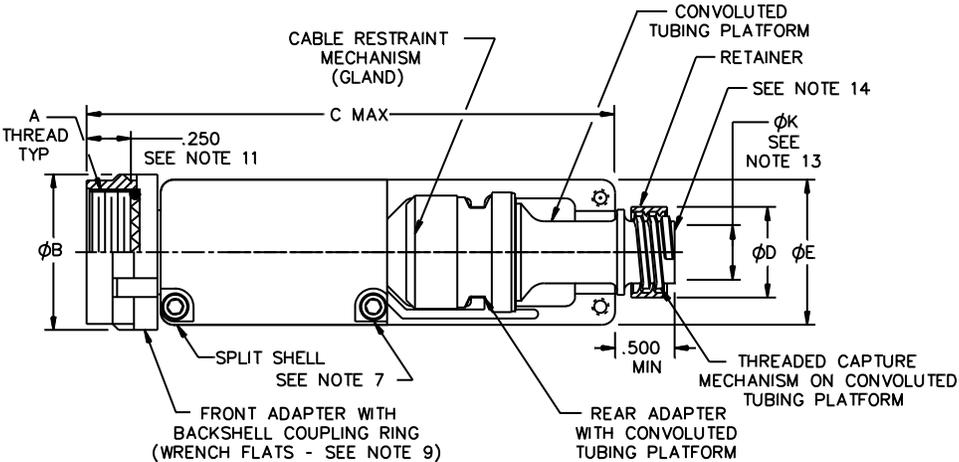
PERFORMANCE SPECIFICATION SHEET

CONNECTORS, FIBER OPTIC, CIRCULAR, PLUG AND RECEPTACLE STYLE, MULTIPLE REMOVABLE TERMINI, SCREW THREADS, BACKSHELL, SPLIT SINGLE FIBER CABLES, CONVULUTED TUBING THREADED CABLE INTERFACE, ENVIRONMENT RESISTING

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

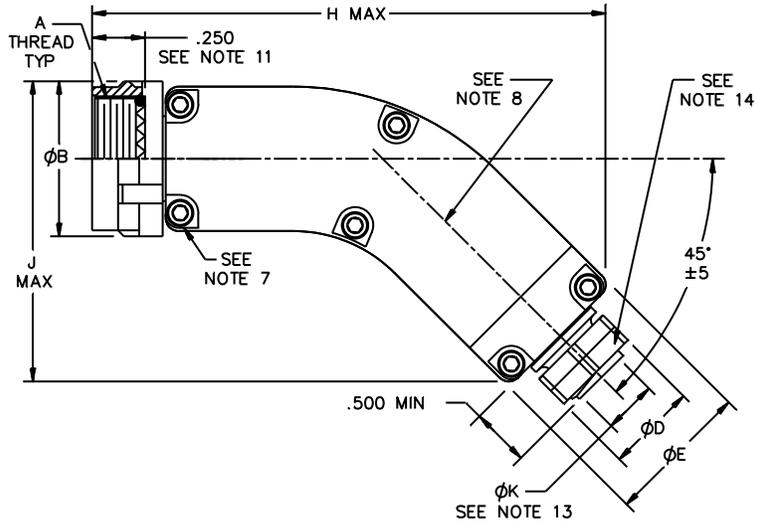
The requirements for acquiring fiber optic connectors described herein shall consist of this specification sheet and MIL-PRF-64266.

SCOPE. The performance requirements specified herein cover a backshell intended for use with a MIL-PRF-64266 or MIL-DTL-38999 connector plug or receptacle in a fiber optic only application. This backshell is intended for the cable harness configuration in which a bundle of single fiber cables (simplex optical cables) are routed through convoluted tubing to the connector plug or receptacle. This backshell is used for interface with the connector plug or receptacle on one end and with the convoluted tubing on the other end. Environmental resistant features include ability to restrict movement, position, and twist of each cable in addition to eliminate or reduce penetration of various environments. This backshell is one of a split (clam shell) shell configuration consisting of a front adapter, rear adapter, and two (split) shell halves. Split shell halves offer a means of easy access for inspection, troubleshooting and repair.

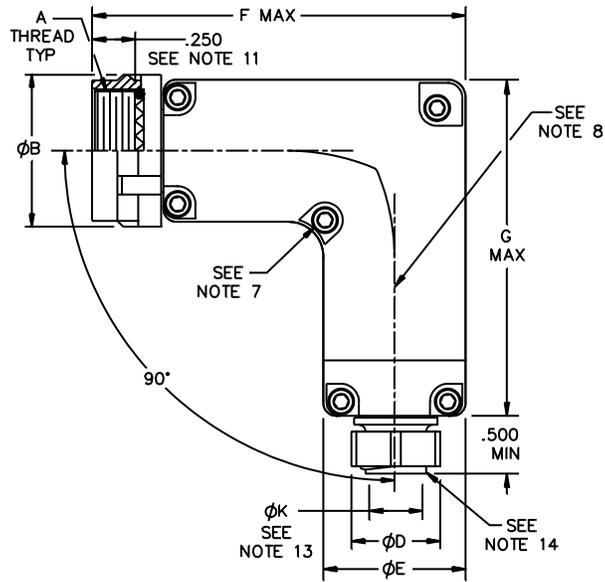


Straight Backshell

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



45° backshell



90° backshell

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

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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	0.960	24.38	0.50	12.7	0.960	24.38
13	M18x1.0-6H	1.085	27.56	0.50	12.7	1.085	27.56
15	M22x1.0-6H	1.255	31.88	0.75	19.5	1.255	31.88
17	M25x1.0-6H						
19	M28x1.0-6H						
21	M31x1.0-6H						
23	M34x1.0-6H	1.695	43.05	1.25	31.8	1.750	44.50
25	M37x1.0-6H						

Shell size	F max		G max		H max		J max		C max	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
11	2.5	63.5	3.2	81.3	4.3	109.2	3.3	83.8	3.5	88.9
13	2.5	63.5	3.3	83.8	4.4	111.8	3.4	86.4	3.5	88.9
15	2.7	68.6	3.4	86.4	4.7	119.4	3.6	91.4	4.2	106.7
17										
19										
21										
23	3.2	81.3	4.7	119.4	5.5	139.7	4.8	121.9	4.2	106.7
25										

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. See table VII herein for relationship of convoluted tubing size to shell size.
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, 15/16, 1-1/18 and 1-5/8 inch 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 [NAVAIR 01-1A-505-4/T.O. 1-1A-14-4/TM 1-1500-323-24-4](#). 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.
13. Backshell dimension K is listed in table I. Dimension K is the minimum inside diameter for cable entry.
14. Backshell interface dimensions with convoluted tubing shall be in accordance with table II for convoluted tubing made from FEP and table III for convoluted tubing made from PEEK.

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

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TABLE I. Backshell, cable entry end adapter dimensions, convoluted tubing material dependent.

Convoluted size	Convoluted tube material	Dia K min	
		inches	mm
3/8	FEP	.31	7.9
	PEEK	.32	8.1
7/16	FEP	.38	9.7
	PEEK	.37	9.4
1/2	FEP	.44	11.2
	PEEK	.43	10.9
5/8	FEP	.57	14.5
	PEEK	.55	14.0
3/4	FEP	.70	17.8
	PEEK	.68	17.3
7/8	FEP	.80	20.3
	PEEK	.79	20.1
1	FEP	.92	23.4
	PEEK	.92	23.4
1-1/4	FEP	1.13	28.7
	PEEK	1.17	29.7

TABLE II. Convoluted tubing interface dimensions for FEP material.

Convoluted tubing size	Maximum inside diameter (inch)	Minimum inside diameter (inch)	Maximum outside diameter (inch)	Minimum convolution depth (inch)	Maximum wall thickness (inch)	Convolutions per inch \pm 1 (righthand)
3/8	.375	.359	.510	0.054	0.013	11
7/16	.437	.427	.571	0.054	0.013	11
1/2	.500	.480	.650	0.063	0.018	10
5/8	.625	.603	.770	0.063	0.018	10
3/4	.750	.725	.930	0.079	0.018	9
7/8	.875	.860	1.073	0.079	0.018	8
1	1.00	.970	1.226	0.090	0.018	8
1-1/4	1.25	1.205	1.539	0.115	0.018	7

TABLE III. Convoluted tubing interface dimensions for PEEK material.

Convoluted tubing size	Maximum inside diameter (inch)	Minimum inside diameter (inch)	Maximum outside diameter (inch)	Minimum convolution depth (inch)	Nominal wall thickness \pm .002 (inch)	Convolutions per inch \pm 1 (righthand)
3/8	.375	.364	.500	0.054	0.008	8
7/16	.437	.427	.571	0.054	0.008	8
1/2	.500	.485	.630	0.063	0.008	8
5/8	.625	.608	.750	0.063	0.008	8
3/4	.750	.730	.890	0.079	0.009	8
7/8	.875	.855	1.060	0.079	0.009	8
1	1.00	.980	1.195	0.090	0.010	7
1-1/4	1.25	1.220	1.780	0.115	0.010	7

REQUIREMENTS:

Dimensions and configurations. See figure 1 herein and [MIL-PRF-64266](#), figure A-6.

Temperature ranges.

Operating: -67°F to 329°F (-55°C to 165°C)
 Non-operating: -40°F to 185°F (-40°C to 85°C)
 Storage: -40°F to 185°F (-40°C to 85°C)

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

TABLE IV. Backshell weights.

Shell size(s)	Cable entry angle	Composite		Aluminum		Stainless steel	
		ounce	gram	ounce	gram	ounce	gram
11	straight	1.13	32	1.94	55	5.42	154
	45°, 90°	1.30	37	2.39	68	7.18	204
13	straight	1.30	37	2.25	64	6.41	182
	45°, 90°	1.44	41	2.57	73	7.36	209
15	straight	1.44	41	2.57	73	7.36	209
	45°, 90°	1.62	46	2.89	82	8.17	232
17	straight	1.76	50	3.03	86	8.80	250
	45°, 90°	1.94	55	3.70	105	10.07	286
19	straight	1.94	55	3.20	91	9.57	272
	45°, 90°	2.08	59	3.70	105	10.70	304
21	straight	2.39	68	4.15	118	11.97	340
	45°, 90°	2.71	77	4.96	141	14.22	404
23	straight	2.39	68	4.47	127	12.46	354
	45°, 90°	2.89	82	5.10	145	13.41	381
25	straight	2.71	77	4.96	141	14.22	404
	45°, 90°	3.20	91	5.60	159	16.30	463

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 [NAVAIR 01-1A-505-4/T.O. 1-1A-14-4/TM 1-1500-323-24-4](#). A copy of this document may be obtained at web site <https://jswag.navair.navy.mil>.

Backshell capture mechanism for the convoluted tubing. A threaded capture mechanism shall be used to secure the convoluted tubing to the backshell. The threaded capture mechanism is part of the backshell and located at the cable entry end. A retainer or means shall be provided to prevent convoluted tubing movement that may otherwise cause unwinding or separation. The threaded capture mechanism and the retainer shall be designed for use with convoluted tubing made from either fluorocarbon (FEP) or polyether-ether-ketone (PEEK), as specified in the PIN. The retainer shall be included as part of the PIN.

Cable restraint mechanism. Backshell shall provide environmentally resisting support for the single fiber cables exiting the termini. Support shall restrict movement during vibration and shock (act as a vibration dampener), restrict position of each cable (act as a positioner to keep each cable separated), and restrict cable twist (act as an anti-rotation mechanism). The term "gland" shall be used in this specification sheet as the generic term for the cable restraint mechanism, piece or resilient member component of the backshell that is used to provide a degree of environmental sealing, restrict the position of each cable, restricts movement during vibration and shock, and restricts cable twist. The gland may also be referred to as a grommet, resilient bushing or spacer. The gland shall include an anti-rotation feature with a corresponding feature in the backshell. The anti-rotation feature shall position the termini cavities in the gland so that these cavities align with those in the connector insert. Also, the anti-rotation feature shall prevent rotational movement of the gland (i.e., prevent twisting of the cabling) once placed in the backshell.

Requirement for locking mechanism on the backshell coupling nut. The backshell coupling nut shall include a ratchet type locking mechanism (anti-coupling device) 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. The anti-coupling mechanism or feature shall be between the backshell

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coupling nut and backshell shell only. The locking mechanism 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).

Cable diameter range. Cable restraint mechanism and environmental sealing design shall accommodate a single fiber cable with a minimum diameter of .067 inch (1.7 mm) and a maximum diameter of .087 (2.2 mm).

Qualification. Qualification shall consist of performing testing specified as listed in table VII. Backshells qualified to this specification sheet shall include a rear adapter with a platform for interface with convoluted tubing.

TABLE V. Qualification inspections (except interoperability).

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	TR2	TR2	TR2	TR2
Environmental/non-E	Environmental	Environmental	Environmental	Environmental
Specification sheet	/19	/19	/19	/19
Test performed 2/, 8/, 9/, 12/				
Group 1 (4 mated pairs)				
Interoperability 6/	X 7/	X 7/	X 7/	X 7/
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	X			
Compression fitting engagement integrity				
Backshell mating durability	X			
Optical				
Insertion loss (initial)	X	X	X	X
Return loss (SM only)	X	X		
Group 2 (2 mated pairs)				
Backshell-to-connector mating torque	X			
Cable pull out force (retention)				
External bending moment	X			
Cable seal flexing				
Twist	X			
Impact	X			
Crush	X			
Vibration. Swept sine (TR1)				
Vibration. Random (TR1)				
Vibration. Swept sine (TR2)	X		X	X
Vibration. Random (TR2)	X			
Vibration. Random with temperature (TR2)	X			
Shock. MIL-S-901 10/	X	X		
Shock. Half sine pulse (TR2)				
Insertion loss verification				
Water pressure				
Modified SO ₂ /salt spray	X			

See notes at end of table.

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

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	TR2	TR2	TR2	TR2
Environmental/non-E	Environmental	Environmental	Environmental	Environmental
Specification sheet	/19	/19	/19	/19
Test performed <u>2/, 8/, 9/, 12/</u>				
Group 3 (2 mated pairs)				
Thermal shock (TR1)				
Thermal shock (TR2)	X			
Temperature humidity cycling	X			
Temperature cycling (TR1)				
Temperature cycling (TR2)	X			
Altitude immersion				
Life aging (Temperature life) (TR1)				
Life aging (Temperature life) (TR2)	X			
Freezing water	X			
Insertion loss verification	X			
Sand & dust	X <u>8/</u>			
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) see 4.9.6.10.1 in MIL-PRF-64266 3/	X			
Salt spray (TR2) see 4.9.6.10.2 in MIL-PRF-64266				
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 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 that the mounting 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/ 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. Not applicable.

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 VI 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 VI. 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
17	50	5.65	150	16.95
19	50	5.65	150	16.95
21	100	11.30	175	19.75
23	100	11.30	175	19.75
25	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. Not applicable.

Cable seal flexing. Not applicable.

Twist. Applicable. A 5 lb weight shall be applied to the entire cable bundle. Perform on a shell size 15 backshell.

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. 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 VII.

TABLE VII. 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
17	50	5.65	300	33.90	300	33.90
19	50	5.65	300	33.90	300	33.90
21	75	8.5	300	33.90	300	33.90
23	75	8.5	300	33.90	300	33.90
25	100	11.30	300	33.90	300	33.90

1/ Increments are rounded to near 0.05 N-m for compatibility with a torque wrench.

Impact. Applicable.

Crush. Applicable.

Water pressure. Not applicable.

Freezing water immersion. Applicable.

Sand and dust. Applicable.

Electromagnetic effects. Applicable except for backshell classes D and E material designators. 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 receptacle. Electromagnetic effects testing shall be conducted both with and without mating the MIL-PRF-64266/1 or MIL-PRF-64266/3 receptacle to a mating plug connector 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 $.25 \pm .13$ inch from the protruding portion of the rear adapter banding platform. 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 $.25 \pm .13$ inch from the protruding portion of the rear adapter banding platform. 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. 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 line 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 M64266/21 backshells were placed on the connector receptacles and one M64266/19 backshell and one M64266/20 backshell was placed on the connector plugs for each two connector mated pair going through one group of tests.

Temperature range. For inspections and tests performed for this qualification by similarity, tests for temperature range 2 shall be performed for those tests done differently dependent upon the temperature range.

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 larger connector backshells with similar design, construction, and materials meet the interoperability, visual and mechanical, size, weight, identification marking, workmanship, screw threads, backshell mating durability, insertion loss, vibration (swept sine only), shock ([MIL-S-901](#) only), altitude immersion, temperature cycling and electromagnetic effects inspections are performed in the qualification test sequence, then the backshells of the larger shell size inspection are qualified.

Smaller shell sizes. This qualification by similarity is applicable when testing smaller 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 smaller connector backshells 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 as performed in the qualification test sequence, then the backshells of the smaller shell size inspection 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 V, 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).

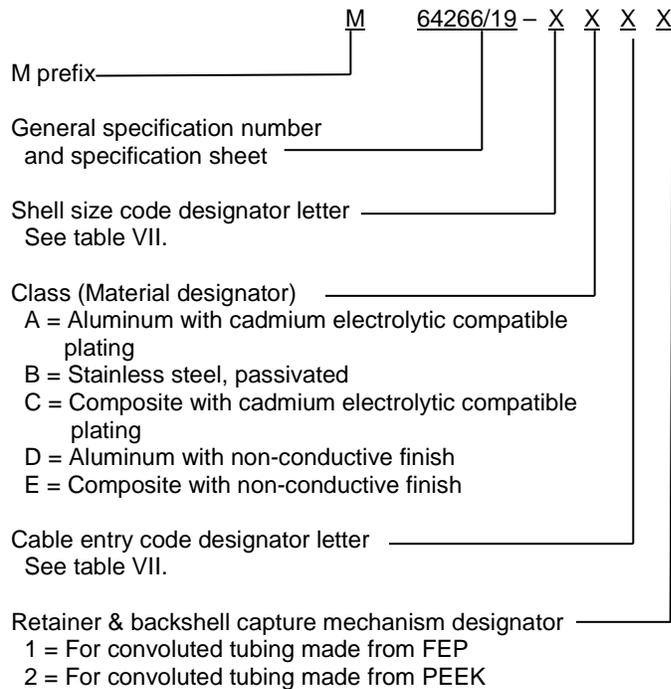
Shell sizes in addition to shell sizes 11, 13, 15, 23. If a connector backshell of shell sizes 11, 13, 15 and 23 in this specification sheet is qualified, and connector backshells of intermediate shell sizes (for use with MIL-DTL-38999 connectors) in this specification sheet meet the visual and mechanical size, weight, identification marking, workmanship, screw thread and backshell mating durability inspections, then the connector backshells of intermediate shell sizes are qualified.

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, external bending moment, twist, impact, crush, shock, 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.

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.

Marking.

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



PIN example. M64266/19-CAA1

TABLE VIII. PIN code designators.

Shell size	Shell size code	Cable entry code	Cable entry angle	Connector type	# of entry cables	Convoluted tubing size
11	B	A	Straight	M64266	2	3/8
	B	B	45°	M64266	2	3/8
	B	C	90°	M64266	2	3/8
11	B	L	Straight	M64266	4	7/16
	B	M	45°	M64266	4	7/16
	B	N	90°	M64266	4	7/16
11	B	D	Straight	M38999	2	3/8
	B	E	45°	M38999	2	3/8
	B	F	90°	M38999	2	3/8
13	C	A	Straight	M64266	6	1/2
	C	B	45°	M64266	6	1/2
	C	C	90°	M64266	6	1/2
13	C	D	Straight	M38999	4	7/16
	C	E	45°	M38999	4	7/16
	C	F	90°	M38999	4	7/16
15	D	A	Straight	M64266	10	3/4
	D	B	45°	M64266	10	3/4
	D	C	90°	M64266	10	3/4
15	D	L	Straight	M64266	8	3/4
	D	M	45°	M64266	8	3/4
	D	N	90°	M64266	8	3/4
15	D	D	Straight	M38999	5	1/2
	D	E	45°	M38999	5	1/2
	D	F	90°	M38999	5	1/2
17	E	D	Straight	M38999	8	5/8
	E	E	45°	M38999	8	5/8
	E	F	90°	M38999	8	5/8
19	F	D	Straight	M38999	11	3/4
	F	E	45°	M38999	11	3/4
	F	F	90°	M38999	11	3/4
21	G	D	Straight	M38999	16	7/8
	G	E	45°	M38999	16	7/8
	G	F	90°	M38999	16	7/8
23	H	A	Straight	M38999	36	1-1/4
	H	B	45°	M38999	36	1-1/4
	H	C	90°	M38999	36	1-1/4
23	H	D	Straight	M38999	21	1
	H	E	45°	M38999	21	1
	H	F	90°	M38999	21	1
	H	L	Straight	M64266	18	7/8
	H	M	45°	M64266	18	7/8
	H	N	90°	M64266	18	7/8
25	J	D	Straight	M38999	37	1-1/4
	J	E	45°	M38999	37	1-1/4
	J	F	90°	M38999	37	1-1/4
25	J	G	Straight	M38999	29	1
	J	J	45°	M38999	29	1
	J	K	90°	M38999	29	1

- 1/ Cable entry code based on cable entry angle, connector type and number of cavities in the connector insert, and convoluted tubing size listed for these first three parameters.
- 2/ Convoluted tubing size for each shell size and single fiber cable count in table VIII has been selected to ensure adequate cable movement and limit cable bend stress.

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. Adjustable or 1.25 inches (31.8 mm) open end wrench, torque wrench, crow foot wrench, adapter tool and scissors.

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

MIL-DTL-38999
MIL-PRF-64266/1
MIL-PRF-64266/2
MIL-PRF-64266/3
MIL-S-901
MIL-STD-1678-2
MIL-STD-1678-3
NAVAIR 01-1A-505-4/T.O. 1-1A-14-4/TM 1-5000-323-24-4
MIL-PRF-28876

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.

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

CONCLUDING MATERIAL

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

Preparing activity:
DLA – CC

(Project 6060-2014-056)

Review activities:
Army – TE
Navy – AS
Air Force – 13, 19, 93, 99
MISC – DI
MISC – MDA

Civil agencies:
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>.