



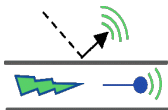
TOPSIDE

EMI/EMP

FLEXIBLE CONDUIT & SHIELDING

ADAPTERS

Providing Unmatched Shielded
Conduit and Conduit Adapters
Increased Data Integrity

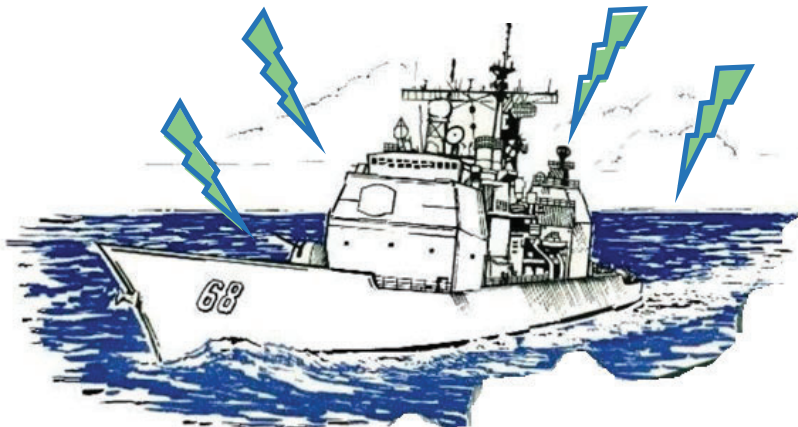


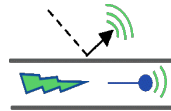
SHIELD RIGHT

Topside EMI/EMP Flexible Conduit &
Shielding Adapters

Foranne Manufacturing's "SHIELD RIGHT" is approved by
Naval Sea System Command "28 Nov 06"

**"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"**





SHIELD RIGHT

Topside EMI/EMP Flexible Conduit & Shielding Adapters

SHIELD RIGHT Topside Flexible Conduit & Conduit Adapters

For shipboard discrete cable/wire shielding requirements, **Shield Right** provides 360° grounding of shield, providing shielding effectiveness in the 70-80 db range. The heat shrinkable weather seal provides an easily installed barrier against harsh maritime environments, that cause damaging corrosion.

Next Generation Conduit Adapters Design not only out performs all competitors, the complete assembly consist of only 6 parts 7 total components.

FIELD TESTED AT EMPRESS I AND DURING "AT SEA" PORTION OF USS ANZIO/EMPRESS II TRIAL.
TEST REPORTS ALV UPON REQUEST

- SE (SHIELDING EFFECTIVENESS) = 72db
- PROVIDES 360° GROUNDING OF SHIELDED CONDUIT
- DOUBLE IRIS SPRING DESIGN INCREASES ATTENUATION OF UNWANTED RF ENERGY
- MEETS AND EXCEEDS THE REQUIREMENTS:

MIL-STD-1310H STANDARD PRACTICE: SHIPBOARD BONDING, GROUNDING, AND OTHER TECHNIQUES FOR ELECTROMAGNETIC COMPATIBILITY, ELECTROMAGNETIC PULSE (EMP) MITIGATION, AND SAFETY

S9407-AB-HBK-010 REV 2 HANDBOOK OF SHIPBOARD ELECTROMAGNETIC SHIELDING PRACTICES

SAE-AS81765/1

INSULATING COMPONENT, MOLDED, ELECTRICAL, HEAT SHRINKABLE POLYOLEFIN, CROSSLINKED, SEMI-RIGID AND FLEXIBLE

"Simply put" *SHIELD RIGHT*

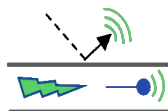
Will save you Substantial Time and Money, Guaranteed:

Ease of assembly = ***Reduces vessel labor***

Less components = ***Reduces the margin of error
slashing rework & assembly time***

Improved test results = ***Greater margin on performance***





SHIELD RIGHT

Topside EMI/EMP Flexible Conduit & Shielding Adapters

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**"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"**

UNMATCHED PERFORMANCE OVER ALL COMPETITORS

SHIELD RIGHT "Conduit"



Interlocked Design 1/4" - 3"

- Bronze core with liquid tight TPU jacket (zero halogen)
- Navy Haze Gray Color
- Temperatures: Standard Product: -40°F to +257°F (-40°C to +125°C)
High Temperature Product: -40°F to +500°F (-40°C to + 260°C)
- UV Resistant
- Corrosion Resistant
- Special bronze core provides high-level shielding effectiveness
- Shielding Effectiveness of 81-119 dB from 1 kHz to 1 GHz
- Meets MIL-STD-1310H
- Meets MIL-PRF-24758A(SH)

STANDARD PRODUCT MEETS OR EXCEEDS:

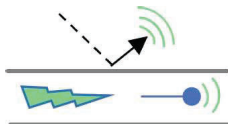
- ASTM-E162 (flame spread)
- ASTM-E662 (smoke density)
- Bombardier SMP-800C (toxic gas generation)

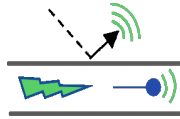
HIGH TEMPERATURE PRODUCT MEETS OR EXCEEDS:

- IEC 60614-1 Flame Resistant
- IEC 60614-1 Halogen Free
- NES 713 (1.0) Toxicity Index
- NES 711 Low Smoke Index
- IEC 60068-2-5 Solar Weathering
- Tear Strength: 43 kN/m (ASTM D624)

For optimal shielding, the conduit fill should not exceed 50%

Trade Size	Part Number	INSIDE DIAMETER		OUTSIDE DIAMETER		BEND RADIUS	WEIGHT (lbs/100')
		MIN	MAX	MIN	MAX		
1/4"	SR-24758-A	0.250"	**	**	0.620"	1.25"	**
3/8"	SR-24758-J	0.484"	0.505"	0.690"	0.710"	3.0"	24
1/2"	SR-24758-B	0.622"	0.642"	0.820"	0.840"	3.0"	28
5/8"	SR-24758-K	0.620"	**	**	1.020"	3.0"	**
3/4"	SR-24758-C	0.820"	0.835"	1.030"	1.050"	4.0"	42
1"	SR-24758-D	1.041"	1.066"	1.290"	1.315"	4.0"	56
1 1/4"	SR-24758-E	1.380"	1.395"	1.630"	1.660"	4.5"	75
1 1/2"	SR-24758-F	1.575"	1.600"	1.865"	1.900"	7.0"	96
2"	SR-24758-G	2.020"	2.045"	2.340"	2.375"	9.5"	125
2 1/2"	SR-24758-H	2.480"	2.505"	2.840"	2.875"	12.0"	165
3"	SR-24758-L	3.070"	3.100"	3.460"	3.500"	13.5"	211





SHIELD RIGHT

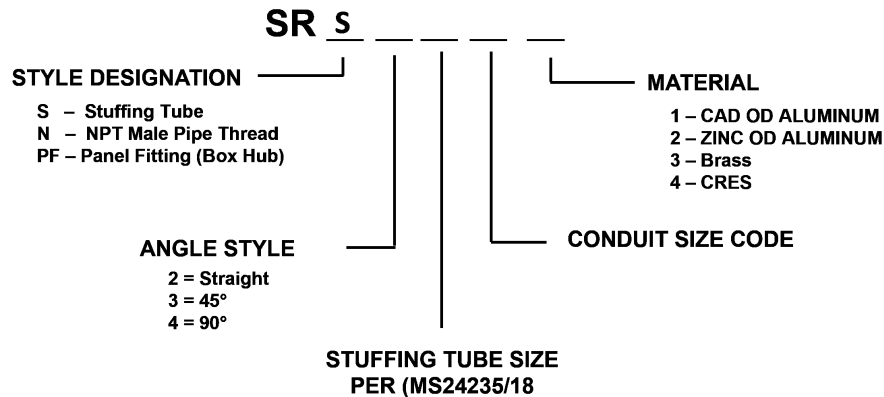
Topside EMI/EMP Flexible Conduit & Shielding Adapters

Foranne Manufacturing's "SHIELD RIGHT" is approved by
Naval Sea System Command "28 Nov 06"

"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"

UNMATCHED PERFORMANCE OVER ALL COMPETITORS

SHIELD RIGHT "Stuffing Tube Adapters"

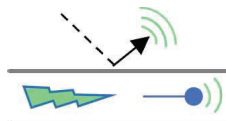


Stuffing Tube Size Code	Shield Right Code	R.H. External Class 2 A Thread
A	A	.875 - 12 UN
B	B	1.00 - 12 UNF
C	C	1.125 - 12 UNF
D	D	1.250 - 12 UNF
E	E	1.250 - 12 UNF
F	F	1.3125 - 12 UN
G	G	1.500 - 12 UNF
J	J	1.625 - 12 UN
K	K	1.750 - 12 UN
L	L	1.8125 - 12 UN
M	M	2.000 - 12 UN
N	N	2.0625 - 12 UN
P	P	2.8175 - 12 UNS
R	R	2.3125 - 12 UNS

Trade Size	Shield Right Part Number
1/4"	SR24758-A
3/8"	SR24758-J
1/2"	SR24758-B
5/8"	SR24758-K
3/4"	SR24758-C
7/8"	N/C
1"	SR24758-D
1 1/4"	SR24758-E
1 1/2"	SR24758-F
2"	SR24758-G
2 1/2"	SR24758-H
3"	SR24758-L

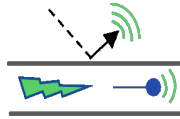
Each **SHIELD RIGHT** kit contains:

- Complete Grounding Adapter of the Specified size and style
- Required Amount of MIL-T22361 Anti-seize Compound, and Applicator.
- Abrasive Cleaning Strip
- Heat Shrinkable Weather Seal Boot
- Simple Installation Instructions



PERFORMANCE OF THIS ADAPTER IS ONLY GUARANTEED
WHEN USED WITH SHIELD RIGHT SR24758 CONDUIT





SHIELD RIGHT

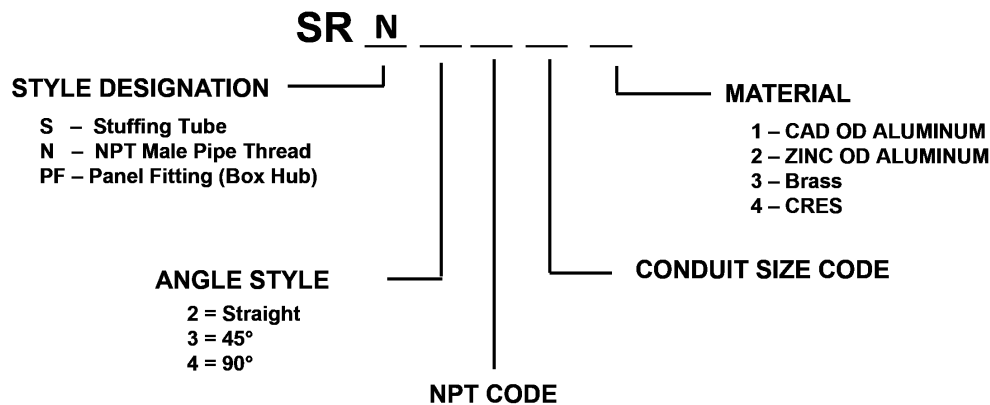
Topside EMI/EMP Flexible Conduit & Shielding Adapters

Foranne Manufacturing's "SHIELD RIGHT" is approved by
Naval Sea System Command "28 Nov 06"

"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"

UNMATCHED PERFORMANCE OVER ALL COMPETITORS

SHIELD RIGHT "Male NPT Tapered Pipe Thread"

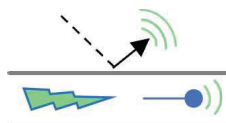


Shield Right Code	R.H. External NTP Tapered Pipe Thread	Ø Pipe Thread
AA	1/4 - 18 NPT	.540
A	3/8 - 18 NPT	.675
B	1/2 - 14 NPT	.840
C	3/4 - 14 NPT	1.050
E	1 - 11 ½ NPT	1.315
J	1 ¼ - 11 ½ NPT	1.660
M	1 ½ - 11 ½ NPT	1.900
S	2 - 11 ½ NPT	2.375
W	2 ½ - 8 NPT	2.875
X	3 - 8 NPT	3.500

Trade Size	Shield Right Part Number
1/4"	SR24758-A
3/8"	SR24758-J
1/2"	SR24758-B
5/8"	SR24758-K
3/4"	SR24758-C
7/8"	N/C
1"	SR24758-D
1 1/4"	SR24758-E
1 1/2"	SR24758-F
2"	SR24758-G
2 1/2"	SR24758-H
3"	SR24758-L

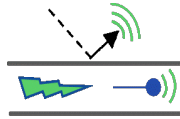
Each SHIELD RIGHT kit contains:

- Complete Grounding Adapter of the Specified size and style
- Required Amount of MIL-T22361 Anti-seize Compound, and Applicator.
- Abrasive Cleaning Strip
- Heat Shrinkable Weather Seal Boot
- Simple Installation Instructions



PERFORMANCE OF THIS ADAPTER IS ONLY GUARANTEED
WHEN USED WITH SHIELD RIGHT SR24758 CONDUIT



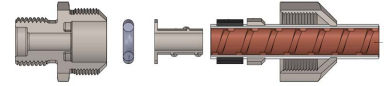


SHIELD RIGHT

Topside EMI/EMP Flexible Conduit & Shielding Adapters

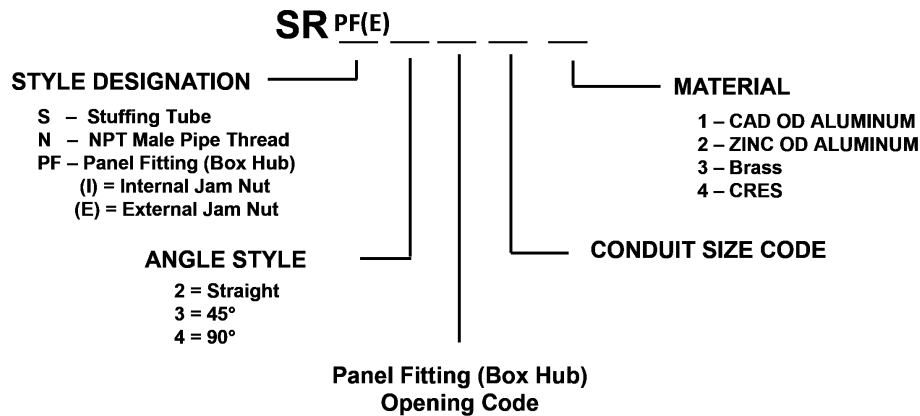
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"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"



UNMATCHED PERFORMANCE OVER ALL COMPETITORS

SHIELD RIGHT "Panel Fitting Adapters"

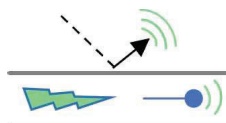


Shield Right Code	Mounting Hole Size	Class - 2A Thread
A	.625	.625-24 UNEF
J	.750	.750-20 UNEF
B	.875	.875-20 UNEF
K	1.000	1.000-20 UNEF
C	1.188	1.188-18 UNEF
Consult Factory	1.125	Consult Factory
Consult Factory	1.250	Consult Factory
Consult Factory	1.3125	Consult Factory
D	1.438	1.438-18 UNEF
Consult Factory	1.500	Consult Factory
E	1.750	1.750-16 UN
F	2.000	2.000-16 UN
G	2.500	2.500-16 UN
H	3.000	3.000-16 UN
L	3.500	3.500-16 UN

Trade Size	Shield Right Part Number
1/4"	SR24758-A
3/8"	SR24758-J
1/2"	SR24758-B
5/8"	SR24758-K
3/4"	SR24758-C
7/8"	N/C
1"	SR24758-D
1 1/4"	SR24758-E
1 1/2"	SR24758-F
2"	SR24758-G
2 1/2"	SR24758-H
3"	SR24758-L

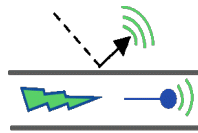
Each SHIELD RIGHT kit contains:

- Complete Grounding Adapter of the Specified size and style
- Required Amount of MIL-T22361 Anti-seize Compound, and Applicator.
- Abrasive Cleaning Strip
- Heat Shrinkable Weather Seal Boot
- Simple Installation Instructions



PERFORMANCE OF THIS ADAPTER IS ONLY GUARANTEED
WHEN USED WITH SHIELD RIGHT SR24758 CONDUIT



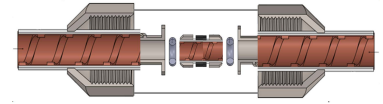


SHIELD RIGHT

EMI/EMP Flexible Conduit to Flexible
Conduit Adapters

Foranne Manufacturing's "SHIELD RIGHT" is approved by
Naval Sea System Command "28 Nov 06"

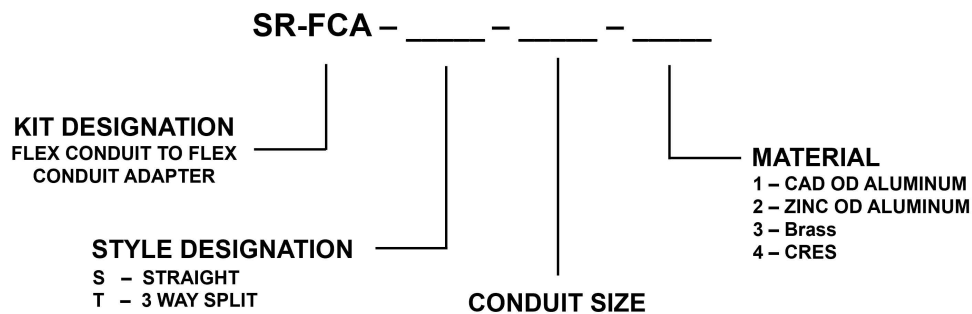
"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"



UNMATCHED PERFORMANCE OVER ALL COMPETITORS

SHIELD RIGHT "Conduit to Conduit Adapters"

ORDERING INFORMATION

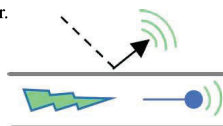


Trade Size	Part Number	INSIDE DIAMETER		OUTSIDE DIAMETER		BEND RADIUS	WEIGHT (lbs/100')
		MIN	MAX	MIN	MAX		
1/4"	SR-24758-A	0.250"	**	**	0.620"	1.25"	**
3/8"	SR-24758-J	0.484"	0.505"	0.690"	0.710"	3.0"	24
1/2"	SR-24758-B	0.622"	0.642"	0.820"	0.840"	3.0"	28
5/8"	SR-24758-K	0.620"	**	**	1.020"	3.0"	**
3/4"	SR-24758-C	0.820"	0.835"	1.030"	1.050"	4.0"	42
1"	SR-24758-D	1.041"	1.066"	1.290"	1.315"	4.0"	56
1 1/4"	SR-24758-E	1.380"	1.395"	1.630"	1.660"	4.5"	75
1 1/2"	SR-24758-F	1.575"	1.600	1.865"	1.900"	7.0"	96
2"	SR-24758-G	2.020"	2.045"	2.340"	2.375"	9.5"	125
2 1/2"	SR-24758-H	2.480"	2.505"	2.840"	2.875"	12.0"	165
3"	SR-24758-L	3.070"	3.100"	3.460"	3.500"	13.5"	211

Each **SHIELD RIGHT** kit contains:

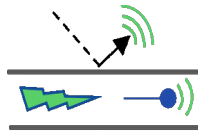
- Complete Grounding Adapter of the Specified size and style
- Required Amount of MIL-T22361 Anti-seize Compound, and Applicator.
- Abrasive Cleaning Strip
- Heat Shrinkable Weather Seal Boot
- Simple Installation Instructions

FOR STEP DOWN APPLICATION – CONSULT FACTORY



PERFORMANCE OF THIS ADAPTER IS ONLY GUARANTEED
WHEN USED WITH SHIELD RIGHT SR24758 CONDUIT





SHIELD RIGHT

EMI/EMP Flexible Conduit Connector
Adapters

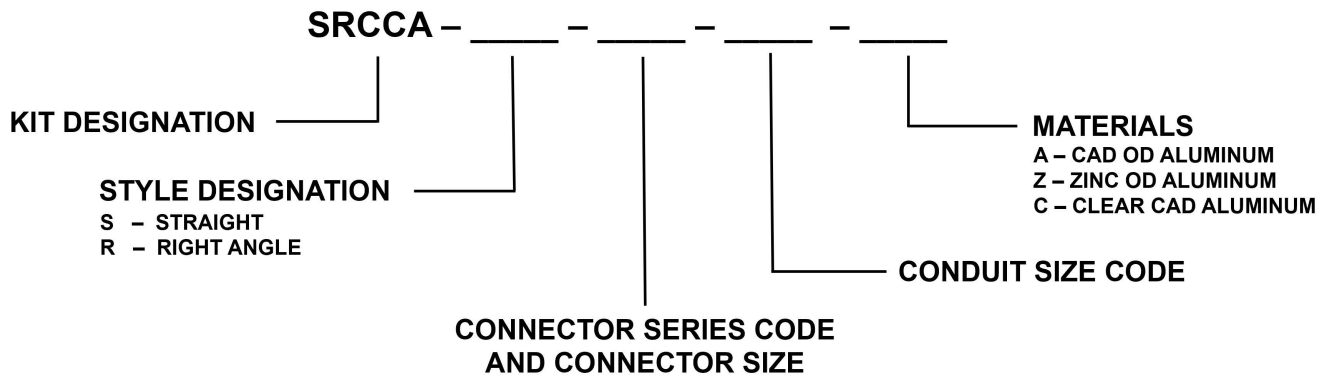
Foranne Manufacturing's "SHIELD RIGHT" is approved by
Naval Sea System Command "28 Nov 06"

"APPROVED EMI/EMP CONDUIT SYSTEMS FOR
USE ON TOPSIDE INSTALLATIONS"

UNMATCHED PERFORMANCE OVER ALL COMPETITORS

SHIELD RIGHT "Connector Conduit Adapters"

ORDERING INFORMATION



I - M2880/6

SH Sizes: 11, 13, 15, 17,
19, 23, 25, 29, 33

III - 5015 Series I

SH Sizes: 10, 14, 16,
18, 22, 24, 28, 32, 36

II- 38999 Series II

SH Sizes: 8, 10, 12,
14, 16, 18, 20, 22, 24

IV - 5015 Series II

SH Sizes: 10, 12, 14,
16, 18, 20, 24, 28, 32

V - 26482 Series II

SH Sizes: 8, 10, 12,
14, 16, 18, 20, 22, 24

Trade Size	Part Number	INSIDE DIAMETER		OUTSIDE DIAMETER		BEND RADIUS	WEIGHT (lbs/100')
		MIN	MAX	MIN	MAX		
1/4"	SR-24758-A	0.250"	**	**	0.620"	1.25"	**
3/8"	SR-24758-J	0.484"	0.505"	0.690"	0.710"	3.0"	24
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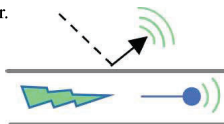
SRCCA Back Shell Kits

Are designed to meet all thread, mechanical, material and plating
specification / requirements per the desired connector series.

Adapters are customizable to include material and plating
requirements. Consult factory

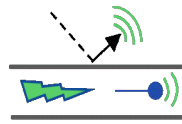
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- Abrasive Cleaning Strip
- Heat Shrinkable Weather Seal Boot
- Simple Installation Instructions



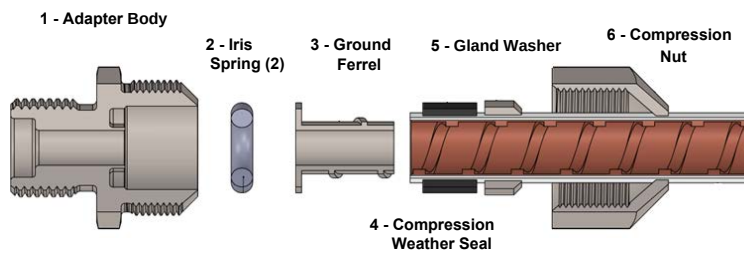
PERFORMANCE OF THIS ADAPTER IS ONLY GUARANTEED
WHEN USED WITH SHIELD RIGHT SR24758 CONDUIT





SHIELD RIGHT

Topside EMI/EMP Flexible Conduit & Shielding Adapters



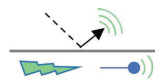
Complete Assembly

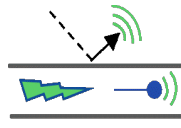
Assembly Instructions

1. Locate Ground Spring (2) and place on the back flange of the Adapter Body (1)
2. Securely Install Adapter Body (1) to both terminations as required
(Apply a small amount of Anti-Seize (Supplied) to the exposed thread of the Adapter Body)
3. Measure, Cut & Fit Conduit (7) to both terminations allowing full engagement to adapter cavity (Remove any loose shards from end of Conduit carefully not to deform conduit core)
4. Slide Heat Shrink (Supplied Not Shown) over Conduit Jacket (7)
5. Slide Compression Nut (6), over Conduit Jacket (7)
6. Slide Gland Washer (5) over Conduit Jacket (7)
7. Slide Gland Seal (4) over Conduit Jacket (7)
8. Carefully screw the Conduit Ferrell (3) through the conduit opening
(Make sure the Ferrell is flush to the conduit, DO NOT OVER TIGHTEN)
9. Slide Gland Washer (5) and Gland Seal (4) towards the Ferrell
(Make sure conduit jacketing is securely lying underneath both (5) & (4))
10. Place the second Ground Spring (2) into the Adapter Body (1)
(Make sure the spring is seated in the groove inside the back end of the adapter body(1))
11. Firmly insert conduit assembly end (5, 4, 3) into Adapter Body (1)
12. Once assembly is firmly seated in the Adapter Body, slide Compression-Nut (6) towards the Adapter Body (1) and tighten until approximately .05" from the Jam Nut



Final Step, set conduit position, locate heat shrink to desired location, apply heat





SHIELD RIGHT

Topside EMI/EMP Flexible Conduit &
Shielding Adapters



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
1333 ISAAC HULL AVE SE
WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO

2450
Ser 62/050
28 Nov 06

From: Director, Force Test, Assessment and Readiness
Engineering Division
To: Program Executive Office, Ships (PMS 400D)
ATTN: Mr. J. O'Shaughnessy
1333 Isaac Hull Ave SE, Washington Navy Yard, DC 20376

Subj: **APPROVED EMI/EMP CONDUIT SYSTEMS FOR USE ON TOPSIDE
INSTALLATIONS**

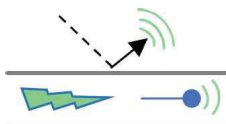
Ref: (a) SEA 62 Memorandum 2450 Ser 06/021 of 29 Jan 04
(b) SEA 62 Letter 2450 Ser 06/055 of 18 Nov 05

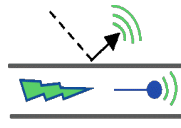
Encl: (1) Consolidated Glenair MIL-PRF-24758A Test Report
QTR M24758 of 25 Apr 06
(2) Lothar O. Hoeft, PHD, Report, **"Foranne MIL-PRF-24758A
Conduit Assembly Surface Transfer Impedance Test"**
of 5 Jul 06 and as revised, 27 Aug 06

1. Reference (a) provided SEA 62E technical review of the Glenair, Inc "First System" conduit testing and documentation with regard to its equivalency to the Entraco "Sea-FROST™" conduit and Termination System. SEA 62E's technical assessment was that the Glenair "First System" product was mechanically and electrically equivalent to the Entraco "Sea-FROST™" system. Subsequently, in response to the issuance of MIL-PRF-24758A(SH), Glenair developed a MIL-PRF-24758A product line. Test and inspection results were provided in enclosure (1).

2. Reference (b) provided the SEA 62E technical review of the Foranne Manufacturing, Inc conduit and components test reports as compared to the MIL-PRF-24758A requirements and recommended that additional testing be conducted to meet the performance requirements of MIL-PRF-24758A. The results of this additional testing were provided in enclosure (2).

3. SEA 62E, the technical warrant holder for EMI Control, EMC, EMP and RADHAZ for ships and submarines, has completed a detailed technical review of enclosures (1) and (2). Based on this review and the previous review noted in reference (b), it is **SEA 62E's assessment that the Foranne Inc "Shield Right" and the Glenair MIL-PRF-24758A products tested meet the performance requirements of MIL-PRF-24758A and are considered acceptable to**





SHIELD RIGHT

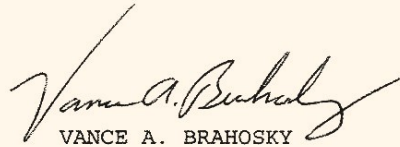
Topside EMI/EMP Flexible Conduit &
Shielding Adapters

Subj: APPROVED EMI/EMP CONDUIT SYSTEMS FOR USE ON TOPSIDE
INSTALLATIONS

use for EMI/EMP control on topside installations onboard US Navy
ships.

3. SEA 06 will provide this information to the Fleet and its support activities via Naval message. This message will also reiterate the policy that only rigid conduit and conduit systems that meet the performance requirements of MIL-PRF-24758A are approved for topside use in new ship construction, new installations, overhauls and modernization.

4. The SEA 06 point of contact is Mr. D. Mark Johnson, SEA 62E, Commercial (202) 781-3140 or DSN 326-3140. His lead engineer for MIL-PRF-24758A is Mr. Neal Stetson, NSWC Dahlgren Code Q504, (540) 653-3470 or DSN 249-3470.



VANCE A. BRAHOSKY

Copy to:

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