



MISSION-CRITICAL
INTERCONNECT
SOLUTIONS



Ask about available
MIL-C-24231 packaging

Glenair
SIGNATURE SERIES

Mission-Critical Navy, Shipboard, and Underwater Connectors

NAVSEA Qualified and Glenair Signature Solutions

JANUARY 2025

**MISSION-CRITICAL
INTERCONNECT SOLUTIONS
Navy/Subsea**

DLA-Qualified and Commercial



MIL-DTL-28840 SHIPBOARD ELECTRICAL CONNECTORS, ALL SLASH SHEETS, NO GAPS



M28840 connectors and contacts, all qualified slash sheets and classes including Tin Zinc

M28840 backshells and connector accessories, qualified and commercial equivalent

EMI / RFI filters, savers, and other signature M28840 derivatives

M28840/4 and /5 wire protection metal-core conduit system and fittings

NAVSEA-QUALIFIED MIL-PRF-28876 FIBER OPTIC CONNECTION SYSTEM



Qualified QPL-29504 pin, socket, and dummy termini

Qualified M28876 environmental fiber optic connectors

Qualified M28876 backshells and accessories

Turnkey environmental and inside-the-box assemblies

US NAVY QUALIFIED MIL-PRF-24758A METAL-CORE CONDUIT, FITTINGS, AND ASSEMBLIES FOR ABOVE- AND BELOW-DECK SHIPBOARD WIRE ROUTING APPLICATIONS

**Part Number
750-098**



Select for superior crush resistance and corrosion protection

Highly flexible crush-proof metal conduit in stainless steel with Viton, Neoprene, or Bluejacket protective covering

**Part Number
750-192**



Select for low-frequency EMC protection in and around motors and control equipment

Nickel-iron conduit material plus shielding and jacketing



Composite conduit splice fitting



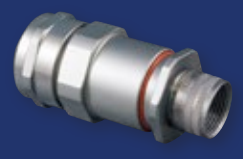
Stainless steel conduit feed-thru fitting



Low-Profile RP Plus System



Heavy-duty environmental conduit-to-panel fitting



Heavy-duty environmental conduit-to-connector fitting

US NAVY QUALIFIED ENVIRONMENTAL WIRE PROTECTION SOLUTIONS



Qualified MIL-PRF-24758A (SH) "Bluejacket" conduit assemblies



Qualified NAVSEA heavy-wall boots and feed-thru adapters



NAVSEA-qualified sound / power above-deck junction boxes

DEEP WATER HIGH-PRESSURE 10K PSI / 700 BAR / 7000M CONNECTORS



SeaKing™ 700 10K PSI open-face high-density subsea connectors and cables



SeaKing™ Fiber 10K PSI open-face underwater fiber optics



SeaKing™ Power 1-6.6 kV connectors for primary power junctions



SeaKing™ 700 PEEK cathodic delamination-free glass-filled composite



QUALIFIED

MIL-DTL-28840

Connectors and accessories: every slash sheet, no gaps

- All sizes and platings in-stock and ready for immediate shipment
- High density, scoop proof contact arrangements
- Flange mount, box mount, jam-nut and in-line receptacles
- Straight, 45° and 90° strain reliefs and backshell assemblies
- Sav-Con® connector savers and bulkhead feedthrus
- Contact and connector assembly tools



MIL-DTL-28840 qualified connectors and accessories. Splined connector-to-backshell interface is ideally suited for heavy backshells and cables

QUALIFIED CADMIUM-FREE AND COMPATIBLE TIN-ZINC (TZ) PLATING FOR CLASS CODE L AND M (CLASS T AND TJ) NAVY LAND AND MARITIME APPLICATIONS.



- New DLA-qualified replacement for Cadmium
- High conductivity and shielding performance in harsh maritime conditions
- High corrosion resistance
- Compatibility with legacy cadmium-plated connectors and environmental shrink boots
- RoHS-compliant material
- Test reports available upon request

L - Class T: Aluminum, Tin-Zinc Plate over Electroless Nickel, Non-Reflective

QUALIFIED MIL-DTL-28840 Connectors and Accessories



MIL-DTL-28840 • FULLY-QUALIFIED • EVERY SLASH SHEET • NO GAPS • IN-STOCK AVAILABILITY



Contacts

M39029/83 pin and /84 socket



Clamps

M28840/1 straight
M28840/2 90°
M28840/3 45°



Conduit

M28840/4 Metal-Core



Conduit Fittings

M28840/5 Backshell for Metal Core Conduit
M28840/6 EMI/RFI Environmental Backshell
M28840/25 90° EMI Conduit Adapter
M28840/27 45° EMI Conduit Adapter
M28840/30 Metal Conduit Coupler, Styles A and B
M28840/22 Metal Conduit Bushing
M28840/23 "E Nut"



Backshells

M28840/8 90° EMI/RFI Environmental
M28840/ 45° EMI/RFI Environmental Backshell



Connectors

M28840/10 Wall Mount Receptacle Connector
M28840/11 In-Line Receptacle Connector
M28840/12 Box Mount Receptacle Connector
M28840/14 Jam Nut Mount Receptacle Connector
M28840/16 Plug Connector



Connector / Backshell Assemblies

M28840/17 Plug Connector / Straight Strain Relief
M28840/18 Plug Connector with 90° Strain Relief
M28840/19 Plug Connector with 45° Strain Relief
M28840/20 Recept., Straight EMI/RFI Backshell
M28840/21 In-Line Recept., St. EMI/RFI Backshell
M28840/26 Plug, with Straight EMI/RFI Backshell
M28840/28 90° Adapter Assembly Plug
M28840/29 Plug with 45° EMI/RFI Backshell



Protective Covers

M28840/13 Protective Receptacle Cover
M28840/15 Protective Plug Cover



Tools and Accessories

M28840/7 Dummy Stowage Receptacle
M28840/24 Mounting Gasket



QPL AND COMMERCIAL MIL-PRF-28876 Fiber optic connection system

Qualified MIL-PRF-28876 fiber optic connectors and MIL-PRF-29504 termini—Navy approved, in stock, and ready for immediate shipment



- Connectors qualified to the complete requirements of MIL-PRF-28876 including plugs, wall-mount receptacles, jam-nut mount receptacles and in-line receptacles
- Multiple shell sizes and insert arrangements, including 2, 4, 6, 8, 18 and 31 channel layouts
- Backshells in straight, 45° and 90° configurations
- Corrosion-resistant and environmentally sealed
- Qualified MIL-PRF-29504/14 and /15 pin and socket termini and /03 dummy terminus
- Connectors, backshells and protective covers available for immediate, same-day shipment



M28876/11 jam nut receptacle



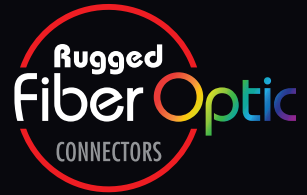
M28876/7 plug with backshell



M28876/2 receptacle with backshell

QPL AND COMMERCIAL MIL-PRF-28876

Fiber optic connection system



Connector/Backshell Types			
Connector Type	Backshell Type	MIL-Spec	Commercial Connector Type Code
Wall Mount Receptacle	None	M28876/1	03
	Straight	M28876/2	13
	45°	M28876/3	23
	90°	M28876/4	33
In-Line Receptacle	Straight	M28876/5	15
Plug	None	M28876/6	06
	Straight	M28876/7	16
	45°	M28876/8	26
	90°	M28876/9	36
Jam Nut Receptacle	None	M28876/11	04
	Straight	M28876/12	14
	45°	M28876/13	24
	90°	M28876/14	34



Qualified QPL-29504 pin and socket termini

Qualified Fiber Optic Termini			
Type	Military Part Number	A Dia (Microns)	Typical Fiber Type
Pin Termini	M29504/14-4131C	126.0	Multi Mode
	M29504/14-4132C	127.0	Multi Mode
	M29504/14-4135C	142.0	Multi Mode
Socket Termini	M29504/15-4171C	126.0	Multi Mode
	M29504/15-4172C	127.0	Multi Mode
	M29504/15-4175C	142.0	Multi Mode
Dummy Terminus	M29504/03-4038		

Crimp sleeve is supplied with terminus assembly and may be ordered separately (see Table II). For terminus less crimp sleeve, omit **C** from end of part number. Consult factory for additional sizes.

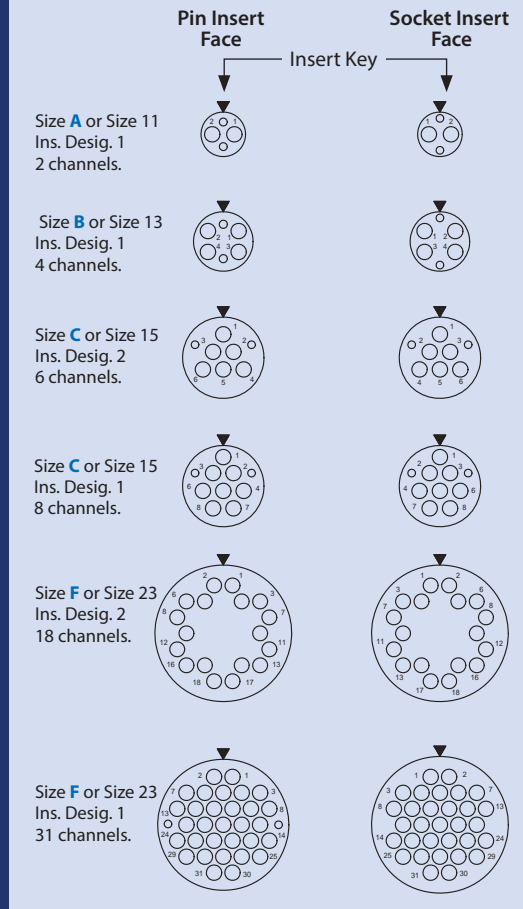


Terminated and tested MIL-PRF-28876 fiber optic cable assembly

Test Description	Performance Requirements/Specifications
Optical Insertion Loss, Multimode	-0.3 dB Typical (62.5/125)
Optical Insertion Loss, Singlemode	-0.3 dB Typical (9/125)
Optical Back Reflection, Singlemode	Better than -40 dB - PC Polish • Better than -50 dB - Enhanced PC Polish
Operating Temperature	-28°C to +65°C (MIL-Spec Epoxy and Cable) -55°C to +125°C (alternative Epoxy and Cable)
Temperature (Thermal) Shock	-40°C to +70°C, 5 Cycles
Temperature Cycling	-28°C to +65°C, 5 Cycles
Temperature/Humidity Cycling	-10°C to +65°C, 10 Cycles, 240 hours, 98% RH
Temperature Life Aging	+110°C, 240 hours, Dry Air
Mating Durability	500 cycles
Vibration - Sinusoidal	10 g Peak, 5-500 Hz sin./10.2 g RMS, 50-2000 Hz random
Impact	8 Drops from 8 feet
Crush Resistance	281 lbs, 7 Cycles
Cable Pull Out Force - Termini	Termini: 22 lbs min for 1 minute Connector: 162 lbs min for 10 minutes
Fluid Immersion	Turbine Fuel, Isopropyl Alcohol, Hydraulic Fluid, Lubricating Oil, Coolant, Tap- and seawater, 24 hrs
Water Pressure	32 feet for 48 hours at +10°C to +35°C
Mechanical Shock (High Impact)	MIL-S-901, Grade A, Type B, Class I
Corrosion Resistance (Salt Spray)	500 hours
Sand and Dust	12 hours
Flammability	0.75 inch flame for 10 sec. mated, 1.50 inch flame for 60 sec. unmated

*Performance Specifications/Requirements based on the use of MIL-PRF-24792 Epoxy and MIL-PRF-85045 Simplex and Breakout Shipboard Optical Fiber.

Insert Arrangements





FIBER OPTIC CONNECTION SYSTEM

Next Generation High-Density (NGCON) Sea and Air

The Glenair Next Generation MIL-PRF-64266 (NGCON) fiber optic connection system is a high-performance solution for air, sea, and space applications. Developed with the NGCON design consortium, the system combines proven technology from standard MIL-PRF-28876 and MIL-DTL-38999 Series III designs with new innovations including rear-release genderless contacts, high-density packaging, and removable alignment sleeve retainers (ASR).

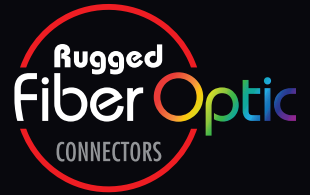


NGCON fiber optic connectors in a non-environmental "inside-the-box" cable assembly, terminated to commercial fiber optic connectors

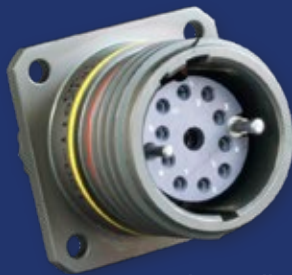
- Conforms to MIL-PRF-64266 (NGCON) military standard.
- M28876 Double-start ACME mating threads, D38999 Series III style rear accessory threads.
- Multimode and singlemode capable
- Removable alignment sleeve retainer (ASR) for easy maintenance
- Rear release precision genderless termini, IAW MIL-PRF-29504/18, /19, /20
- 1.25 mm diameter ceramic ferrules and alignment sleeves
- Environmental o-ring sealing on terminus
- Receptacles compatible with M28876 panel cutouts
- Anti-decoupling (ratchet) mechanism on plug connector
- Keyed connectors and termini available for singlemode APC

MIL-PRF-64266 COMPLIANT NGCON Next Generation

Fiber optic connection system



Rear-release precision genderless terminus IAW MIL-PRF-29504 with integral environmental O-ring



Plug, wall-mount, and jam-nut receptacle configurations

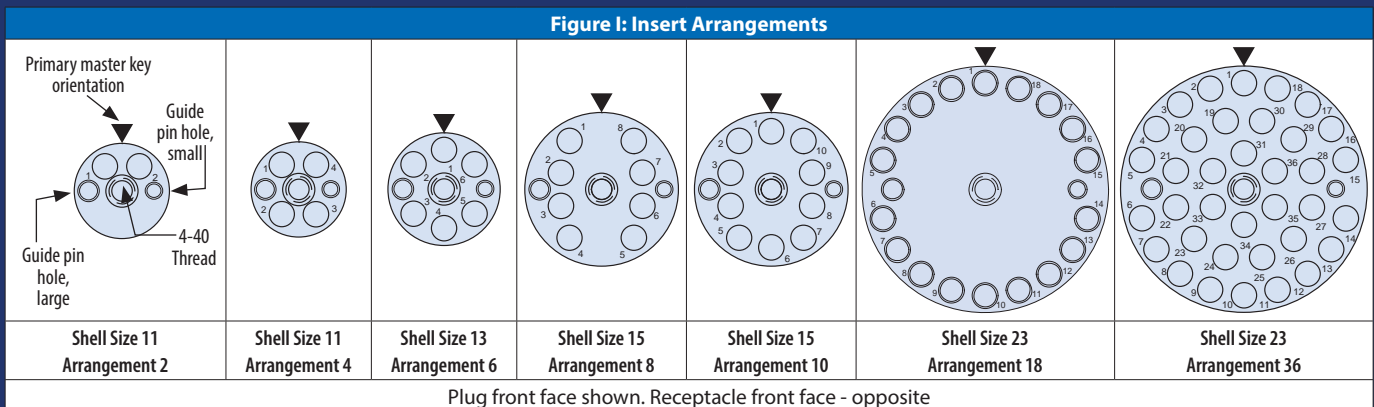


Removable alignment sleeve retainer (ASR) for easy maintenance with integrated guide pins for superior axial alignment

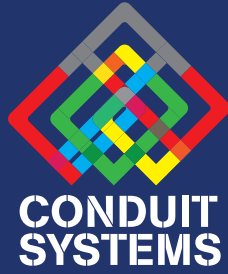
Genderless Termini IAW MIL-PRF-29504 and Supported Fiber Media						
P/N Non-Keyed	P/N Keyed	ØA (Micron)	Typical Fiber Type	Typ. Fiber Size (Core/Cladding/Coating) [Micron]	Ref. M29504/18 Non-Keyed	Ref. M29504/20 Keyed
181-043-1250C	181-043K-1250C	125.0	SM	9/125	M29504/18-01Y	M29504/20-01Y
181-043-1255C	181-043K-1255C	125.5	SM	9/125	M29504/18-02Y	M29504/20-02Y
181-043-1265C	181-043K-1265C	126.0	SM/MM	9/125, 50/125, 62.5/125	M29504/18-03Y	M29504/20-03Y
181-043-126C	181-043K-126C	126.0	MM	50/125, 62.5/125	M29504/18-26Y	M29504/20-26Y
181-043-127C	181-043K-127C	127.0	MM	50/125, 62.5/125	M29504/18-27Y	M29504/20-27Y
181-043-142C	181-043K-142C	142.0	MM	100/140	M29504/18-42Y	M29504/20-42Y
181-043-145C	181-043K-145C	145.0	MM	100/140	M29504/18-45Y	M29504/20-45Y
181-043-156C	181-043K-156C	156.0	MM	62.5/125/155	M29504/18-56Y	M29504/20-56Y
181-043-157C	181-043K-157C	157.0	MM	62.5/125/155	M29504/18-57Y	M29504/20-57Y
181-043-173C	181-043K-173C	173.0	MM	100/140/172	M29504/18-73Y	M29504/20-73Y
181-043-175C	181-043K-175C	175.0	MM	100/140/172	M29504/18-75Y	M29504/20-75Y

NGCON Materials and Finishes		
Code	Material	Description
ME	Aluminum Alloy	Electroless Nickel
MT		Nickel-PTFE, Grey
ZN		Zinc-Nickel, Olive Drab
ZR		Zinc-Nickel, Black
Z1	Stainless Steel	Passivate

NGCON Connector Sizes, Insert Arrangements, Thread Specifications				
Shell Size	Shell Size Code (Ref)	Insert Arrangement	AA Thread	BB Thread
11	B	2 or 4	M15 x 1.0-6g 0.100R	.7500-.1P-.2L-DS
13	C	6	M18 x 1.0-6g 0.100R	.8750-.1P-.2L-DS
15	D	8 or 10	M22 x 1.0-6g 0.100R	1.0625-.1P-.2L-DS
23	H	18 or 36	M34 x 1.0-6g 0.100R	1.5000-.1P-.2L-DS



MISSION-CRITICAL
NAVY, SHIPBOARD,
AND UNDERWATER
INTERCONNECTS



US Navy Qualified Helical
Metal-Core Conduit for
Above- and Below-Deck
Shipboard Wire Routing
Applications



Improved sealing and shielding: the ultimate in highly flexible, crush-proof EMI/EMP wire protection

- Hermetically sealed, flexible metal-core conduit for shipboard wire interconnect applications
- UV-resistant "BlueJacket" jacketing over Brass, Stainless Steel, or Nickel Iron Alloy conduit
- Turnkey, factory-terminated assemblies for fast-turnaround dockside maintenance cycles
- All materials deliver superior EMC performance as well as crush resistance and environmental sealing compared to legacy systems

Glenair
SIGNATURE SERIES



Part Number
750-098



Select for superior crush resistance and corrosion protection

Highly flexible crush-proof metal conduit in stainless steel with Viton, Neoprene, or Bluejacket protective covering

Part Number
750-192



Select for low-frequency EMC protection in and around motors and control equipment

Nickel-iron conduit material plus shielding and jacketing

MIL-PRF-24758A NAVSEA-APPROVED Metal-Core Conduit Wire Protection Systems

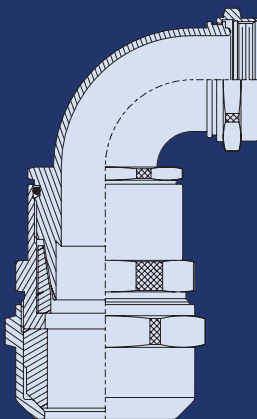


US Navy Qualified Brass, CRES, and Nickel-Iron, with
Glenair Signature "BlueJacket" jacketing

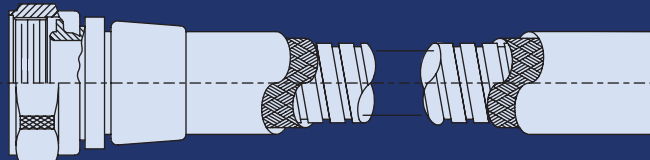


- Qualified to MIL-PRF-24758A(SH)
- User-installable and factory terminated configurations
- Innovative fitting design with advanced environmental sealing, EMI shield termination and rotatable coupling nut
- Adapters for all shipboard interfaces—fully compatible with legacy MIL-C-24758 conduit system components

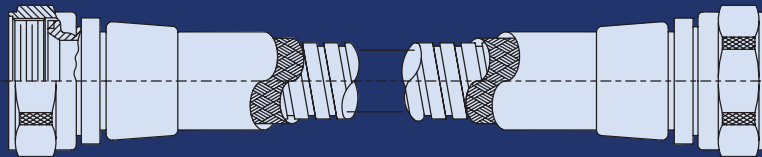
Do it once, do it right with Glenair Signature MIL-PRF-24758A wire protection conduit systems



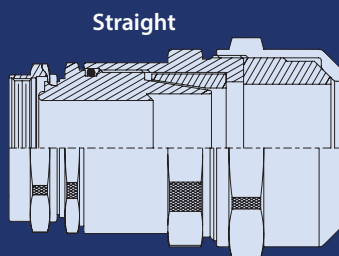
90°



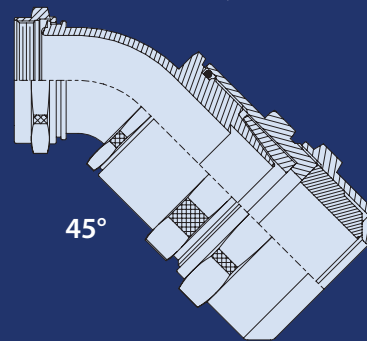
Single Ended Assembly



Double Ended Assembly



Straight



45°



MIL-PRF-24758A
Configuration Options:
Choose from high-performance user-installable fittings or lighter-weight factory terminated assemblies

FITTINGS AND ADAPTERS FOR USER-INSTALLED APPLICATIONS



Composite
conduit splice
fitting



Stainless steel
conduit feed-thru
fitting



Low-Profile
RP Plus
System

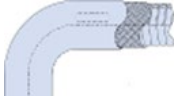










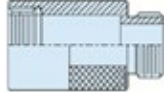






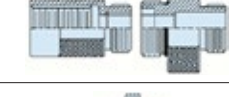



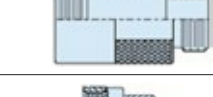


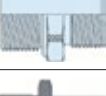








Heavy-duty
environmental
conduit-to-panel
fitting



Heavy-duty
environmental
conduit-to-connector
fitting

AVAILABLE M24758 CONDUIT, FITTINGS, AND ADAPTERS—IN-STOCK FOR IMMEDIATE SHIPMENT

	MIL-PRF-24758-*	EMI/EMP Shielding Conduit with Glenair BlueJacket		MIL-PRF-24758-17	Adapter for Tapered Pipe Thread
	MIL-PRF-24758-2	Straight Conduit Fitting		MIL-PRF-24758-18	Adapter for Straight Pipe Thread
	MIL-PRF-24758-3	45° Conduit Fitting		MIL-PRF-24758-19	Adapter for Panel Termination
	MIL-PRF-24758-4	90° Conduit Fitting		MIL-PRF-24758-20	Adapter for MIL-DTL-38999 Connectors
	MIL-PRF-24758-5	Straight Conduit to Panel Fitting		MIL-PRF-24758-21	Adapter for MIL-DTL-22992 Connectors
	MIL-PRF-24758-6	Straight Conduit to Tapered Pipe Thread Fitting		MIL-PRF-24758-22	For Glenair 22 Series Adapters
	MIL-PRF-24758-7	Straight Conduit to Stuffing Tube		MIL-PRF-24758-23	Union Fitting
	MIL-PRF-24758-8	Straight Conduit-to-Conduit Fitting		MIL-PRF-24758-24	Individual Termination Adapter
	MIL-PRF-24758-9	Adapter for MS3100 Series MIL-DTL-5015 Connectors		MIL-PRF-24758-25	Adapter for Panel Termination
	MIL-PRF-24758-10	Adapter for Triaxial Connectors		MIL-PRF-24758-26	Adapter for Panel Termination
	MIL-PRF-24758-11	Adapter for Coaxial Connectors		MIL-PRF-24758-27	90° Adapter for Tapered Pipe Thread
	MIL-PRF-24758-12	Adapter for MIL-C-26482 Solder Type Series I Connectors		MIL-PRF-24758-28	Straight Conduit Fitting to PEEK Conduit
	MIL-PRF-24758-13	Adapter for MS-3155 Type Connectors		MIL-PRF-24758-29	Adapter for Miscellaneous Termination
	MIL-PRF-24758-14	Adapter for MIL-DTL-28840 Connectors		MIL-PRF-24758-30	90° Elbow for MIL-S-24235 Stuffing Tubes
	MIL-PRF-24758-15	Adapter for MIL-S-24235 Stuffing Tubes		MIL-PRF-24758-31	Adapter for PG Thread
	MIL-PRF-24758-16	Adapter for Miscellaneous Fittings		MIL-PRF-24758-32	90° Transition

AVAILABLE M24758 CONDUIT, FITTINGS, AND ADAPTERS—IN-STOCK FOR IMMEDIATE SHIPMENT

	MIL-PRF-24758-33	90° Elbow for Panel Termination		MIL-PRF-24758-49	User Installable Backshell with Band Termination Porch to MIL-PRF-24758 Conduit
	MIL-PRF-24758-34	45° Transition		MIL-PRF-24758-50	Cable Shield Grounding Adapter
	MIL-PRF-24758-35	90° Elbow for Connectors Listed in Table I		MIL-PRF-24758-51	Adapter for Tapered Pipe Thread
	MIL-PRF-24758-36	45° Elbow for Connectors Listed in Table I		MIL-PRF-24758-52	Adapter for MIL-C-22992 Connectors User Installable for Glenair MIL-PRF-25758 Conduit
	MIL-PRF-24758-37	Adapter for VG94234 Reverse Bayonet Connector		MIL-PRF-24758-53	Adapter for MIL-C-26482 Series I Connectors User Installable for Glenair MIL-PRF-25758 Conduit
	MIL-PRF-24758-38	Straight MIL-S-24235 Stuffing Tube Adapter to NPT Pipe Thread		MIL-PRF-24758-54	Adapter for MIL-C-28840 Connectors User Installable for Glenair MIL-PRF-25758 Conduit
	MIL-PRF-24758-39	45° Elbow • Conduit to Stuffing Tube		MIL-PRF-24758-55	Straight, 90° or 45° Adapter for Tapered Pipe Thread
	MIL-PRF-24758-40	90° Elbow • Conduit to Stuffing Tube		MIL-PRF-24758-56	90° Adapter for MIL-C-26482 Series I Connectors EMI/RFI to Glenair MIL-PRF-25758-* Conduit
	MIL-PRF-24758-41	90°, 45° or Straight User Installable Connector Adapters for Glenair MIL-PRF-24758 Series Conduit		MIL-PRF-24758-57	90° Adapter for MIL-C-26482 Series I Connectors Per Table I, EMI/RFI to M24758-* Conduit
	MIL-PRF-24758-42	Straight Adapter for Metric Thread		MIL-PRF-24758-58	Adapter for Series 80 Mighty Mouse Connectors To M24758-2, -3, or -4 Conduit Fittings
	MIL-PRF-24758-43	Straight Adapter • Conduit to Panel Termination		MIL-PRF-24758-59	Adapter for Series 802 AquaMouse Connectors To M24758-2, -3, or -4 Conduit Fittings
	MIL-PRF-24758-44	45° Elbow • Conduit To Panel Termination		MIL-PRF-24758-60	Adapter with EMI/RFI Shield Termination Drop-In for MS-3155 Type Connectors and MIL-DTL-38999 Series III and Series IV Connectors
	MIL-PRF-24758-45	90° Elbow • Conduit To Panel Termination		MIL-PRF-24758-61	Environmental Adapter for MIL-C-28876 Connectors for coupling with M24758-2, -3, or -4 fittings
	MIL-PRF-24758-46	45° Elbow • Conduit to Tapered Pipe Thread		759-840	Conduit Assembly
	MIL-PRF-24758-47	90° Elbow • Conduit to Tapered Pipe Thread		759-861	Connector-to-Connector Factory-Terminated Conduit Assembly
	MIL-PRF-24758-48	Mighty Mouse Connector Adapter User Installable for Glenair MIL-PRF-25758 Conduit		759-862	Connector-to-Adapter Factory-Terminated Conduit Assembly



SUPERSEAL™ M28840

Ruggedized USB and RJ45 Connectors

Optimized for Naval applications

MIL-DTL-28840 type connectors available with USB or RJ45 inserts offer superior IP67 sealing in both mated and unmated condition compared to other shipboard connectors of this type. In addition, the series offers superior EMI/RFI shielding and grounding, as well as a broader range of wire and contact termination options. Corrosion resistant shells—made from aluminum, stainless steel and marine bronze—and popular finishes including cadmium olive drab over electroless nickel, black cadmium over nickel, Nickel-PTFE, and RoHS-compliant Tin-Zinc are available to meet the requirements of your specific application. Connectors are available in shell size 15 for USB and size 15 or 17 for RJ12 and size 15 or 17 for RJ45.



Rugged, shielded, and sealed RJ45 and USB designs deliver increased life cycle and rugged vibration and shock performance

- Mating and backshell interface IAW MIL-DTL-28840
- Rugged shipboard connector series incorporating commercial USB, RJ12, and RJ45 connectors
- Advanced shielding and grounding performance
- Multiple wire termination options
- IP67 sealing, unmated condition (USB, RJ12, and RJ45 receptacles) and IP68 in mated condition
- RoHS-compliant plating options including Nickel-PTFE
- -40°C to +120°C operating temperature
- Shielded/grounded RJ45 coupler designs in both plug and receptacle connectors
- Crimp-removable contacts conform to M39029/58-360 (RJ45)
- Crimp removable contacts conform to M39029/56-348



RJ12, RJ45, AND USB 2.0 TYPE A SuperSeal™ M28840 Type Connectors



SuperSeal™ Coupler with Accessory Threads and RJ12 Plug-to-Jack (Plug) or Jack-to-Jack (Receptacle).



SuperSeal™ Coupler with Accessory Threads and RJ45 Plug-to-Jack (Plug) or Jack-to-Jack (Receptacle).



SuperSeal™ Connector with Accessory Threads and RJ45 Plug (Plug) or Jack (Receptacle) to Crimp Removable Contacts.



SuperSeal™ Coupler with Accessory Threads and USB Male-to-Female (Plug) or Female-to-Female (Receptacle).



SuperSeal™ Connector with Accessory Threads and USB Male (Plug) or Female (Receptacle) to Crimp Removable Contacts.



MARINE BRONZE Seacrow Connectors

For harsh-environment above deck and port facility applications

In addition to NAVSEA-qualified solutions, Glenair manufactures connectors qualified to NATO VG96929, VG95234 and VG95328 standards. These connectors are mostly used in harsh-environment military applications with systemic exposure to salt spray. These Marine Bronze series connectors may be successfully used in all severe environment navy port installations, as well as on commercial above-deck fleet maintenance ships and offshore platforms.



- Marine bronze alloy for superior corrosion resistance in seawater and other harsh environments
- Ideal for both shipboard and port facility applications
- Available in Series ITS (5015 reverse-bayonet), Series IPT (26482), Series IGE (Single-pole high-power VG96929) and Series IT (5015 threaded)
- IP67 environmental sealing in mated condition; IP68 available
- Hundreds of available contact arrangements for both power and signal as well as hybrid applications



SEACROW MARINE BRONZE Topside / Shipboard Environmental Connectors

Series overview

ITS-MB MIL-C-5015 TYPE REVERSE-BAYONET CONNECTORS



VG95234 Equivalent Marine Bronze Series

ITS-MB connectors are compliant with VG95234, using all the same insert arrangements available in the standard ITS Reverse Bayonet Connectors catalog. Typically they are used for power and signal transmission, with wires from 26 AWG to 4/0. A wide variety of backshells allow the ITS-MB to accept jacketed cables, single or multi-poles, with or without RFI/EMI shielding, conduits with PG or metric thread. IP67 protection is the standard performance. IP68 on request.

IT-MB MIL-C-5015G TYPE THREADED CONNECTORS



MIL-C-5015 Compliant Marine Bronze Series

IT-MB is a threaded connector compliant with the MIL-DTL-5015 standard. All the electrical characteristics are available in the IT standard catalog. IT-MB family is a threaded version mostly used for power and signal, with IP67 standard performance sealing.

IPT-MB MIL-DTL-26482 TYPE HIGH DENSITY BAYONET CONNECTORS



VG95328 Equivalent Marine Bronze Series

IPT-MB connectors are the choice for reliability when 20-16 AWG signal cables are used. The insert arrangements as well as the electrical characteristics are detailed in the IPT IPT-SE catalog. Backshells suitable for EMI shield terminations and heat shrink boots are also available.

The receptacle is also available with PCB contacts. IP67 protection is the standard performance. IP68 on request.

IGE-MB MIL-C-5015 TYPE REVERSE-BAYONET SINGLE-POLE POWER CONNECTORS



VG96929 Equivalent Marine Bronze Series

IGE-MB High Power Single Pole Connectors are used with cables from 16 to 240 mm². These connectors achieve high-performance working current and peak current, and are ideal for engines, power supplies, and power distribution boxes. Several backshells are available, either straight or 90° elbows for the most reliable cable accommodation. See the VG96929 catalog for detailed electrical characteristics. IP67 protection is the standard performance. IP68 on request.



NAVSEA-Approved Navy / Shipboard Corrosion-Free Junction Boxes



Durable, lightweight corrosion-free EMI/RFI shielded composite junction boxes NAVSEA standard drawing 803-6983506 Rev. B

- Over a dozen different tooled sizes and shapes.
- Extremely durable, corrosion-free, high temperature engineering composite thermoplastic
- Tested and qualified to U.S. Navy, UK MOD and hundreds of commercial aircraft and marine applications

Series 316 stainless steel hardware provides long-term durability

Unlimited corrosion resistance compared to metal junction boxes reduces repair and maintenance costs.

Glass reinforced composite thermoplastic material is strong and durable, yet extremely lightweight.



IP67 rated seals and gaskets protect equipment from moisture and dust

- ◀ Example box shown: one of a series of NAVSEA-approved signal, switch, sound power, control boxes designed to eliminate corrosion damage and reduce maintenance cost on Navy ships

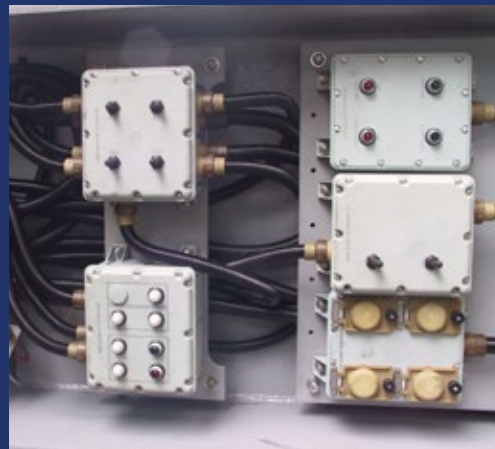
NAVSEA-APPROVED
Composite Junction Boxes
 for Naval applications



TESTED AND QUALIFIED THROUGHOUT THE FLEET: GLENAIR CORROSION-FREE COMPOSITE BOXES



Broad range of sizes and shapes



Complex installations fully supported with feed-thru fittings and wire protection conduit



Discrete components or turnkey wired and connectorized systems

Glenair Composite Box Product Specifications		
Description/Test Report	Requirement	Procedure
Plating Adhesion <i>Glenair #9-44-18/TN94-159</i>	Should not exhibit any blistering, peeling or other separation of the units plating.	Tested IAW MIL-DTL-38999.
Vibration <i>NTS #973-7369-2</i>	Should not exhibit loosening of component parts or evidence of damage.	Tested IAW MIL-STD-167 Type 1 for box units and MIL-STD-1344, Method 2004 Condition II for fittings and accessories.
Shock <i>MOD #BR8470 Grade C and F</i>	There shall be no loosening of parts or evidence of damage.	Tested IAW MOD BR 8470 Grade C and F.
Salt Spray <i>Glenair #9-44-18/TN94-159</i>	Should exhibit no exposure of underplate or base material.	Tested IAW MIL-STD-1344, Method 1001.
Dust <i>NTS #973-7369-1</i>	Should conform to required torque limits and functional requirement within 25%.	Tested IAW MIL-STD-202.
UV Light Resistance <i>GE RDM88050255-6042</i>	No degradation of the mechanical properties defined in the specification after testing.	Tested IAW ASTM D2565.
Impact <i>MIL-STD-1344, Method 2018</i>	No evidence of breaking or cracking of components or other damage that could affect the product performance.	Tested IAW MIL-STD-1344, Method 2018.
Temperature Cycling <i>NTS #575-9249</i>	No cracking, peeling or separation of plating or other functional damage.	Tested IAW MIL-STD-1344, Method 1003 at -65°C to 200°C.
Hydrolytic Stability <i>NTS #878-536</i>	No evidence of increased weight greater than 1% and no evidence of cracking, breaking or loosening of component parts.	Tested IAW ASTM D570-81.
Flammability <i>MIL-STD-1344, Method 1012, Smoke Index, NES 711 Issue 2, NES 713 Issue 3 and ISO 4589</i>	The item flame and after flow extinguishing time shall not exceed the defined limits.	Tested IAW Table II of MIL-STD-1344, Method 1012, Smoke Index, NES 711 Issue 2, NES 713 Issue 3. Burning behavior by Oxygen Index, ISO 4589.
Water Tightness <i>EA #OC13513-039514</i>	Water tightness and internal pressurization is maintained.	Tested IAW EA #OC13513-039514.
Outgassing <i>JPL #081892</i>	Maximum allowable weight loss is 10%.	Tested IAW ASTM E 595.
Electromagnetic Shielding <i>TRW/ABQ-55C-1186-0</i>	Should demonstrate shielding effectiveness and transfer impedance conforming to military industry standards and specific customer requirements.	Tested IAW TRW/ABQ-55C-1186-0.



BacNav OFS repositionable backshell for harsh-environmental applications plus QPL feedthroughs and boots



Designed for use in rugged shipboard applications as well as military ground systems such as armored vehicles, the Glenair BacNav OFS delivers outstanding mechanical, electrical, and environmental performance. The innovative design incorporates an environmentally-sealed, EMI shielded core with a locking pivot that facilitates cable routing and eliminates the need to stock discrete straight, 45° and 90° variants of standard wire sealing, strain relief, and EMI shield termination backshells. Built to withstand the handling abuse that topside and below-deck electrical and fiber optic interconnect systems are routinely subjected to by ham-fisted sailors and marines, the BacNav OFS is purpose-designed to deliver life-of-ship and life-of-system performance and durability. Available for the broad range of power, signal, and fiber optic connector systems—including MIL-PRF-28876 and MIL-PRF-64266 (fiber optics) to MIL-DTL-28840, AS50151, and more—BacNav OFS meets every current requirement for backshell-equipped connectorized cabling.



Designed for above and below deck shipboard use and other harsh environmental applications, BacNav OFS delivers submersible environmental protection for electrical and fiber optic interconnect systems.

- **Easy repositioning from straight, 45° and 90° cable-exit orientations**
- **Submersible performance without the need for shrink boots**
- **Durable, flexible EMI/RFI and environmentally-sealed core with locking-pivot Swing-Arm™ frame**
- **Accommodates power, signal and fiber optic jacketed cables**
- **Reposition terminated cables with no impact on signal integrity or system performance**
- **Easy repeatable assembly process using standard tools**

SERIES 390

BacNav OFS repositionable harsh-environment backshell

Outstanding, flexible performance

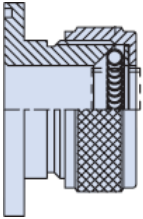
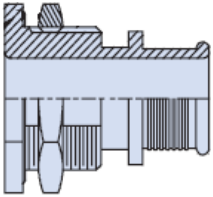
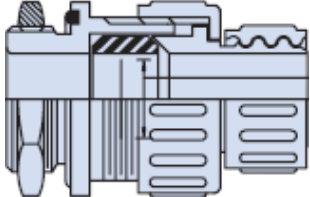



BacNav OFS is the only fully-sealed EMI/RFI backshell and strain relief device that delivers fast and easy cable angle configuration in the field—using a common 7/64" hex wrench, and without decoupling from the connector and/or cable. The sealed, flexible connector backshell adjusts to straight, 45° and 90° cable angles with zero impact on signal integrity or system performance.

PERFORMANCE DATA		
DESCRIPTION	REQUIREMENT	STANDARD
Magnetic permeability	Less than 2.0μ	EIA-364-54
Shell conductivity	< 2.5 milliohms ⁽²⁾	EIA 364-83
Salt spray (corrosion)	No exposure of basis material as defined in AIR4789 for 500 hours ⁽²⁾	EIA 364-26
Vibration	CIT <0.5dB No discontinuities ⁽¹⁾ No damage	MIL-STD-167-1A (SHIPS), paragraph 5.1.2.4.6 (endurance test)
Shock	CIT <0.5dB No discontinuities ⁽¹⁾ No damage	MIL-S-901D, grade A, Class 1
Water pressure	10 meters for 48 hours (IP68)	QTP-384
Cable pullout	No slippage exceeding 1/8" CIT <0.5dB ⁽¹⁾	EIA 364-38 TIA-455-6
Coupling thread strength	No damage at 3X magnification	AS85049 (Heavy Duty)
External bending moment	300-750 in-lbs (size dependant)	AS85049 (Heavy Duty) QTP-384
Fluid immersion	No changes detrimental to performance ⁽²⁾	EIA 364-10
Insertion loss	MIL-STD-1678-2 Appendix C, Table 2101 C-I	TIA-455-34 Method A
Cable seal flexing	100 cycles/axis	TIA-455-1
Twist	50 cycles • No damage/leaks	TIA-455-36
Impact	8 drops • No damage detrimental to performance	TIA-455-2 Method B
Crush	7 cycles 1,250 N (281 lbs)	TIA-455-26
Thermal Shock	5 cycles -40°C to +85°C (-40°F to +185°F)	TIA-455-71
Temp/humidity cycling	No damage detrimental to performance	TIA-455-5 Method B
Temperature cycling	No damage detrimental to performance	TIA-455-3
Life Aging	10 cycles	QTP-384-F
Freezing water immersion	No damage detrimental to performance	TIA-455-98
Sand and dust	No damage detrimental to performance	TIA-455-35
Modified SO2/salt spray	240 hours • No damage detrimental to performance ⁽²⁾	ASTM G85 + Annex A4

⁽¹⁾ Tested with MIL-PRF-28876 Multi-mode Fiber-Optic connectors ⁽²⁾ Tested with Cadmium/Olive-Drab finish option (code NF)

NAVSEA-QUALIFIED SHIPBOARD WIRE AND CABLE FEED-THRU AND ZERO-HALOGEN BOOTS

			
Electrical and Fiber Optic Bulkhead Feed-Thru Fittings	Band Adapter Feed-Thru Fittings	Composite Conduit and Shrink Boot Feed-Thru Adapters	NAVSEA Heavy-Wall Zero-Halogen Polyolefin Shrink Boot



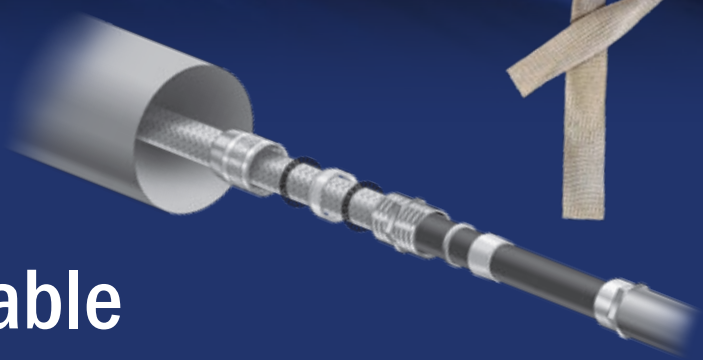
CSGA

NAVSEA-Qualified Cable Shield Grounding Assemblies and **ARMORLITE™** Lightweight Braided EMI/RFI Shielding

Glenair Cable Shield Grounding Assemblies are available in male, female and split versions and provide completely reliable 360° grounding of shielded cables to above-deck stuffing tubes and swage tubes.

Glenair's CSGA are designed to ensure both reliable EMI/EMP shielding as well as strict environmental protection. Glenair's CSGA meet MIL-STD 1310 grounding requirements and NAVSEA 803-5001-27 sealing requirements. Glenair CSGA are available in 18 sizes to accommodate stuffing tube sizes A through V.

Supplied in kit form, each CSGA includes the complete grounding assembly as well as an adhesive-coated heat shrinkable sleeve and Permatex 133A antisieze compound. Products meet NAVSEA requirements.



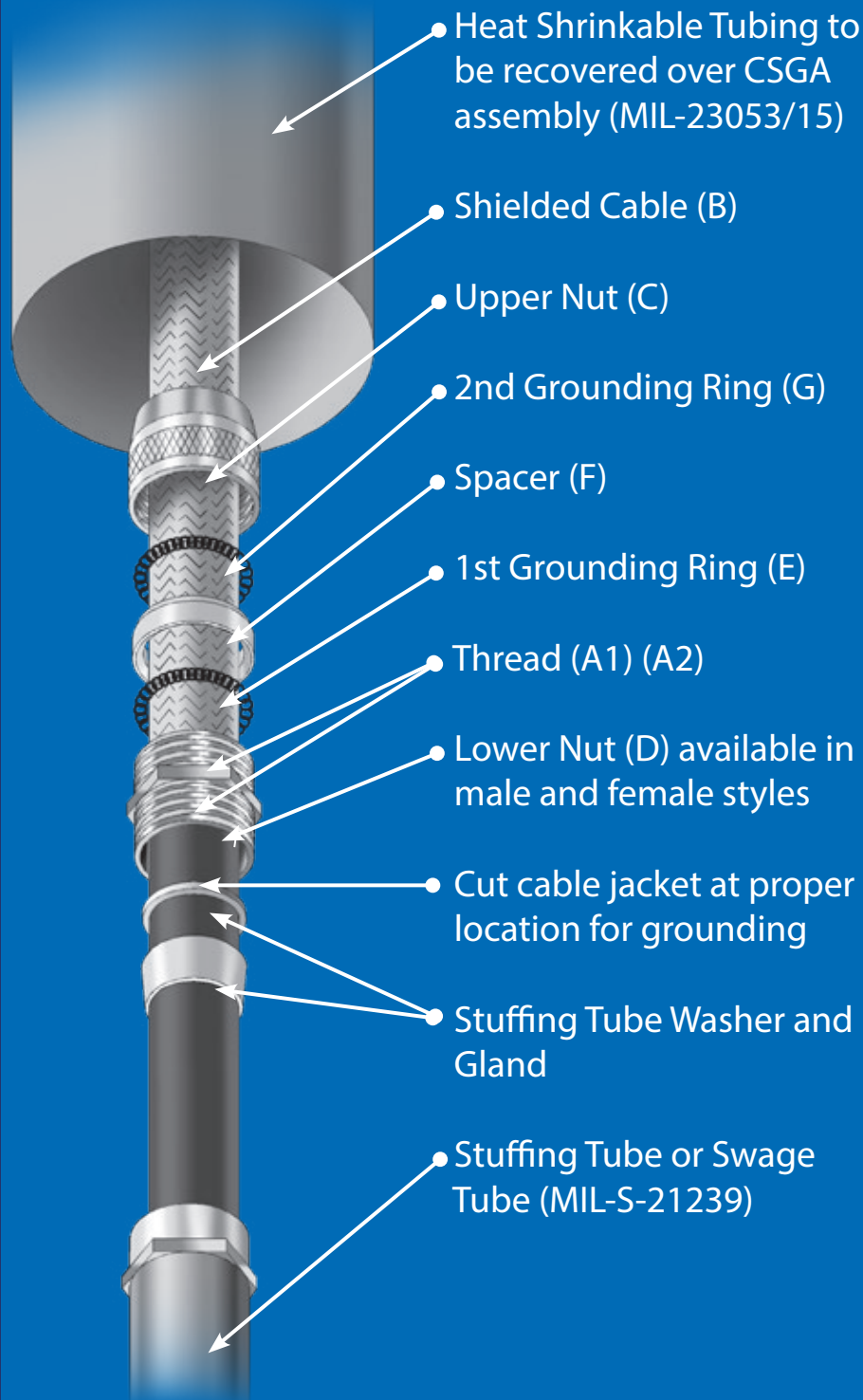
CSGA FEATURES

- Reliable 360° EMI/EMP grounding
- Temperature rating: -55°C to 90°C
- Minimum shrink temperature: 121°C
- CSGA Material: 6061-T6 Aluminum with electroless nickel finish, or passivated stainless steel
- Supplied adhesive shrink boots meet NAVSEA 803-5001-27 sealing requirements

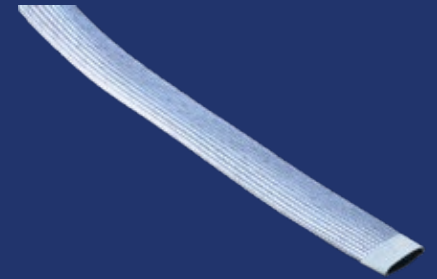
CSGA

Cable Shield Grounding Assemblies and Lightweight EMI/RFI Cable Shielding

CSGA EXPLODED-VIEW DIAGRAM



ARMORLITE™ CF



103-126 ARMORLITE™ CF MICROFILAMENT BRAID

ArmorLite™ microfilament stainless steel braid saves pounds compared to standard QQ-B-575/A-A-59569 EMI/RFI shielding. ArmorLite™ is an expandable, flexible, high-strength, conductive stainless steel microfilament braid material designed for use as EMI/RFI shielding in high-performance wire interconnect systems. ArmorLite CF is a special corrosion-free configuration, ideally suited for use in shipboard applications.

- **ArmorLite™ CF lightweight, corrosion-free, temperature-tolerant EMI/RFI braided shielding**
- **Stainless steel over copper configuration**
- **Broad temperature tolerance, -80°C to +300°C**
- **Corrosion / harsh environment resistant**
- **1000 hour salt spray testing completed**
- **70% reduced weight vs. standard braid**
- **Superb electrical resistance and shielding performance**

MISSION-CRITICAL
NAVY, SHIPBOARD,
AND UNDERWATER
INTERCONNECTS

ARMORLITE™

Braided Ground Straps: Glenair Signature
and QPL Solutions for ESD, Lightning
Strike, and Electrical Power Applications

From ultra
low-resistance
ESD bonds to
large form-factor
power distribution
busbars—Glenair
does it all

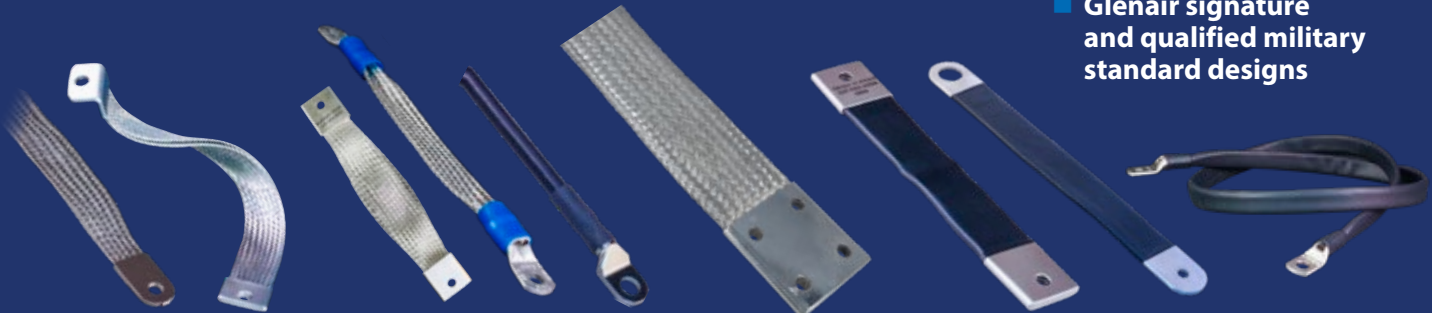
Glenair flexible braided straps are critical components in harsh sea, air, and space environments. They are used to establish reliable ground path connections, dissipate lightning strike energy, and prevent the build-up of electrostatic discharge. Special large form-factor straps are also employed in busbar applications for electrical power distribution up to 1000 Amps.

Glenair supplies a complete range of lugged flexible braided bonding, grounding, and power distribution solutions with lightweight ArmorLite microfilament material as well as low-resistance plated copper. In addition to high-availability catalog designs, we are also able to supply custom solutions in virtually any form factor, wire gauge, amperage, resistance, and mounting-lug configuration. Straps may also be supplied with and without insulation jacketing in wire rope (jumper) and flat profiles. Mil-qualified (QPL) straps are available for both topside and submarine applications.



PRODUCT LINE OFFERINGS

- Durable, low-resistance ground straps with highly conductive or dissipative performance
- Lightweight, low-resistance flexible bond straps for ESD dissipation
- Heavy-duty variants for low-voltage, high-current power distribution busbar applications
- Glenair signature and qualified military standard designs



Ultra flexible, lightweight
ArmorLite microfilament
ground straps and bonds

Flat and round
cross-section straps,
plus wire rope jumpers

High current
AC and DC flexible
busbars and shunts

Harsh-environment insulation and jacketing
available for enhanced user safety
and short-circuit prevention

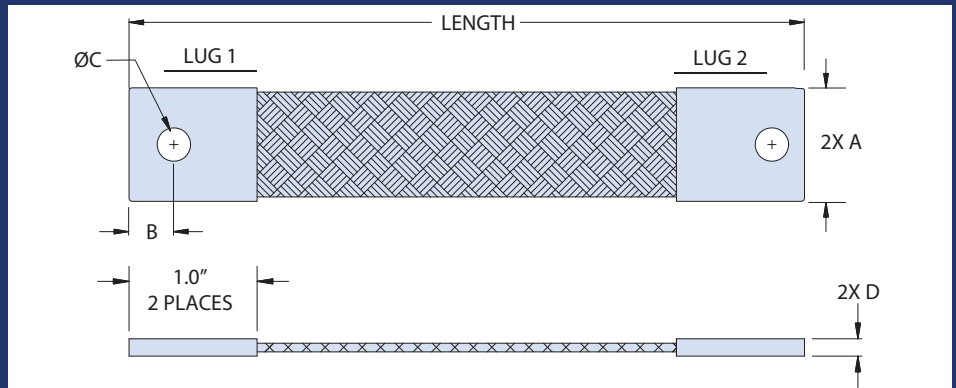
SERIES 107 Braided Ground Straps



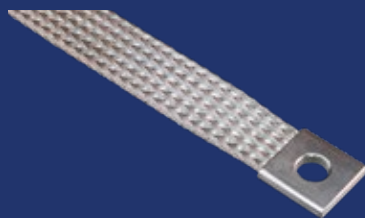
Mil-spec and Glenair Signature lightweight designs

107-086 GROUND STRAPS FOR SUBMARINE APPLICATIONS

- Materials and design in accordance with Commercial Item Description A-A-59569 for grounding bonds
- Low-profile nickel-plated copper lugs with configurable mounting hole size options
- Nickel-plated copper braid material conforms to ASTM B355

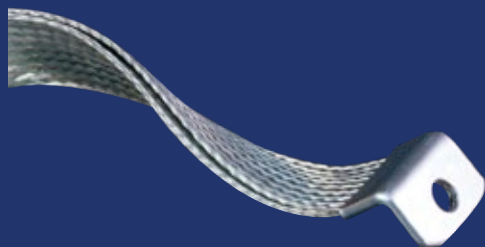


M24749 TYPE IV MIL-SPEC AND GLENAIR SIGNATURE "BETTER THAN QPL" CONFIGURATIONS



- Meets the rigorous specifications of MIL-DTL-24749 Rev. C with width, length, and lug configuration options beyond standard mil-spec straps
- Tested to survive 1000 hours salt spray
- Unique Stainless Steel/Nickel hybrid braid
- Lightweight, durable, configurable crimp lugs: square, radiused, straight, single- and double-right-angle versions

VARIABLE LUG / HOLE / STRAP CONFIGURATION OPTIONS AVAILABLE ON ALL STYLES



Choose single-layer straps or dual-layer for strength and electrical performance.



Available black or clear sleeving over strap. Square or radiused lugs and variable hole sizes.



Straight, single right-angle, and dual right-angle configurable lugs.

GROUND CONTROL EARTH BOND SYSTEM



The Ground Control Earth Bonding system is an efficient, easy-to-use method to create an electrical bond between structures and equipment for the secure passage of high intensity current in case of electrical short circuit.

How To Order	
600-120	Hydraulic Setting Tool for 1/4" Earth Bonds
600-123	Hydraulic Setting Tool for 3/8" Earth Bonds
600-124	Hydraulic Setting Tool for M6 Earth Bonds
600-125	Hydraulic Setting Tool for M10 Earth Bonds

The tools feature one hand operation and ram retract mechanism actuated by release trigger. Consult factory for control gauges and earth bond part numbers for each material type and size.



turboflex

THE ULTRA FLEXIBLE RUGGED POWER CABLE

TurboFlex™ power distribution cables are constructed from highly flexible conductors and high-performance insulation to produce cables ideally suited for applications where flexibility, durability, and weight reduction are required. Amazingly durable and flexible—especially in cold weather—the 16 AWG to 450 MCM TurboFlex cable features high strand count rope lay inner conductors made with tin-, nickel- and silver-plated copper. TurboFlex is jacketed with Glenair’s unique Duraelectric™ compound that provides outstanding flexibility and resistance to environmental and chemical exposure. Duraelectric is also low smoke, zero halogen.

Long life and performance are critical in power distribution applications. TurboFlex, with its flexible conductors and durable jacket delivers both.



Ultra flexible rope lay construction



Available in a broad range of gages, 16 AWG to 450 MCM



◀ Duraelectric™ is the high-performance TurboFlex™ jacketing material perfectly suited for immersion, chemical or caustic fluid exposure, temperature extremes, UV radiation and more—available in a broad range of colors including safety orange



Many sizes In-stock and available for immediate, same-day shipment. No minimums!

TURBOFLEX CABLE WITH

DURAELECTRIC™ High-Performance Jacketing

Duraelectric® is high-performance elastomeric material for use as wire insulation, cable jacketing, conduit jacketing, cable/conduit overmolding, and molded boots. Perfectly suited for immersion, chemical or caustic fluid exposure, temperature extremes, UV radiation and more.

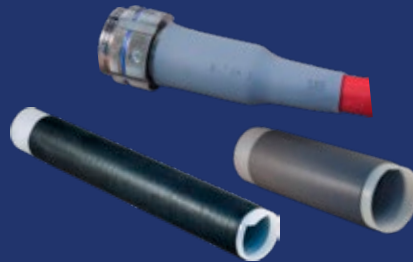
NOTABLE ATTRIBUTES

- Service temperature range: -65°C to 225°C
- Duraelectric K (Kelvin) range: -110° to 225°C
- Fire-resistant, Low Smoke-Zero Halogen (LSZH)
- Mil-aero and industrial fluid-resistant
- Accelerated UV/sunlight resistant, 53 year equivalent exposure
- Ozone resistant IAW ASTM D518
- Moldable and extrudable

DURAELECTRIC® APPLICATION SHOWCASE



Bulk jacketed Duraelectric® cable for harsh-environment power applications



Duraelectric® Autoshrink™ employed in environmental boots and sleeves



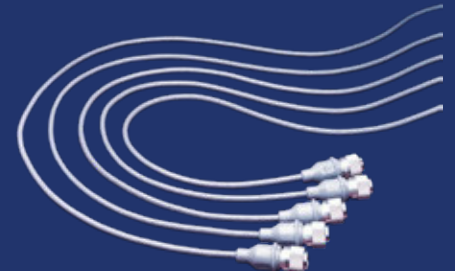
Duraelectric jacketing employed as conduit covering in topside naval applications



Aerospace overmolded cable assembly with rugged Duraelectric® jacketing



Shipboard application with Duraelectric® jacketing and overmolding



Duraelectric® jacketing employed in environmental commercial application



TurboFlex® with Duraelectric® jacketing ideally suited for equipment grounding

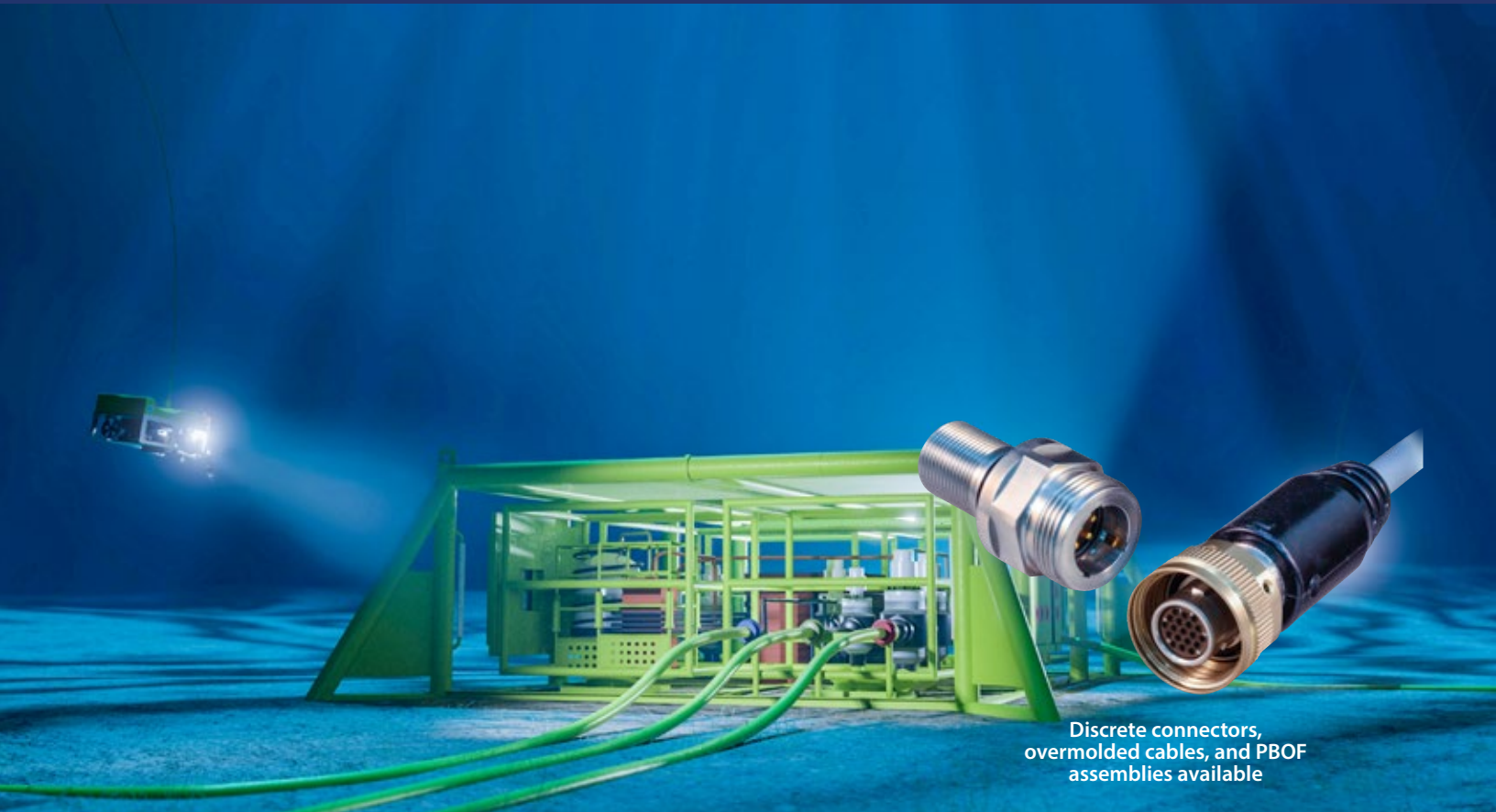


Turboflex® power pylon cable assembly with Duraelectric® jacketing

MISSION-CRITICAL
NAVY, SHIPBOARD,
AND UNDERWATER
INTERCONNECTS



SeaKing™ 700 Dry-Mate Underwater Connectors and Mil-Qualified / MCOTS Cable Assemblies



Discrete connectors,
overmolded cables, and PBOF
assemblies available

SeaKing 700 is an innovative 10K PSI open-face rated underwater connector series that eliminates a broad range of mechanical design weaknesses found in many of today's high-pressure subsea connector families. From its double O-ring seals and retractable engaging nut, to its multi-keyed mating interface, the SeaKing underwater connector represents a far more reliable approach to subsea power and signal connectivity.

- High density, small form-factor connector
- Dual O-ring seals ensure high-pressure performance for every leak path
- Signal, power, RF, and optical insert arrangements
- Stainless steel or titanium with anti-galling marine bronze engaging nut or cathodic delamination-free PEEK
- Full-mate inspection ports
- Easy O-ring replacement
- Key and keyway polarization

10K PSI / 700 BAR OPEN-FACE RATING SeaKing™ High-Pressure Subsea Connectors



Electrical · Optical · Power · Turnkey Cables

Retractable engaging nut retention ring for easy O-ring inspection/replacement.

Optional overmold delamination ring accessory

Engaging nut set screw (3 places)

Wrench flats

SeaKing Flange Connector Receptacles feature a removable spoked body and indexable flange.

Indexable flange

Disengage flange to rotate body for multiple locking positions.

Available in both metal and PEEK

Accessory thread and overmold features

Multiple PBOF backshell indexing points

Full-mate inspection port

Dual O-rings

Dual O-rings

Replaceable Nitrile or Buna-N (NBR) O-ring seals facilitate fast and trouble-free field replacement.

Available pressure-balanced oil filled (PBOF) back end for use with oil-filled cables.

BCR with keyway-assisted mating, polarization keys, and wrench flats for secure attachment to pressure bulkheads.

SeaKing™ 700 overmolded and pigtail "HotShot" cable assemblies are available from the factory with accelerated lead times as short as two weeks.

Revolutionary PBOF swivel assembly with kink-proof hose swivel, straight, 45° and 90° routing, and superfast assembly.

SEAKING PEEK, SEAKING POWER, AND SEAKING FIBER OPTIC CONFIGURATIONS



MISSION-CRITICAL
NAVY, SHIPBOARD,
AND UNDERWATER
INTERCONNECTS



Composite Thermoplastic SeaKing™ PEEK for use in anti-cathodic delamination applications



Discrete connectors,
overmolded cables, and
PBOF assemblies available

SeaKing 700 is an innovative underwater connector series that eliminates a broad range of mechanical design weaknesses found in many of today's high-pressure subsea connector families. From its double O-ring seals and retractable engaging nut, to its multi-keyed mating interface, the SeaKing underwater connector represents a far more reliable approach to subsea power and signal connectivity. The series is available in stainless steel or titanium, as well as PEEK fiber-

reinforced composite thermoplastic. PEEK shell material is electrically non-conductive and galvanically inert for superior corrosion resistance and immunity from cathodic delamination even in mixed-material configurations. SeaKing PEEK composite thermoplastic shares all the same insert arrangements, wire support, cabling, and PBOF capabilities as metal versions.

- **Non-conductive. Superior corrosion resistance, durability, and immunity from cathodic delamination**
- **Same high-pressure performance as stainless steel**
- **Lighter weight with lower deployment costs**
- **Low magnetic signature**
- **Galvanically compatible with all metal materials**
- **Full range of SeaKing 700 series insert arrangements: power, signal, and high-speed**



SERIES 700 10K PSI / 700 BAR / 7000 M SeaKing™ PEEK Composite Connectors



700 Series with non-metallic PEEK shells

SEAKING™ PEEK



Corrosion-free / cathodic-delamination free SeaKing PEEK connectors utilize an innovative indexable flange and rugged overmolding for optimized cable routing in complex installations such as on the next-generation Remote Operated Vehicle shown below. These Glenair signature connectors are constructed with a glass-filled polymer composite that delivers the same high-pressure performance as stainless steel but at a fraction of the weight. A lighter-weight system allows operators to reduce deployment costs.



ABOUT GLENAIR 100% MOLDED PEEK COMPOSITE THERMOPLASTIC CONNECTORS

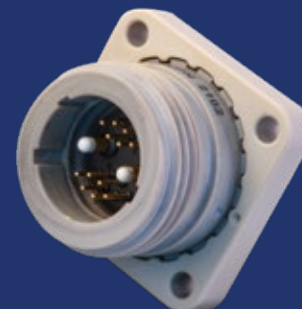
For applications subject to cathodic delamination, Glenair produces its 10K psi open-faced seal SeaKing in a composite thermoplastic configuration called SeaKing PEEK. SeaKing PEEK is made from a 30% glass-filled polymer composite material that delivers the same high-pressure performance as stainless steel, with superior corrosion protection, life-of-system durability, and complete immunity from cathodic delamination—a common failure mechanism in polymer-to-metal bonds in cathodically-polarized subsea equipment.

Metal-connector overmolded cable assemblies that have been deployed subsea for more than 3 to 5 years routinely suffer delamination between the overmold and the conductive metal shell, resulting in cable failure. An additional advantage of SeaKing PEEK is lighter weight, which allows for a smaller deployment infrastructure (operations jargon for a smaller boat)—translating to reduced deployment costs—a critical concern considering deployment can be as much as 50%-60% of the overall cost of the system.

In military/defense applications, such as sonar-based underwater detection and tracking systems, the replacement of metal connectors with composite plastic offers the critical benefit of a reduced magnetic signature, rendering equipment invisible to sensors that easily detect metallic equipment. Importantly, PEEK material is galvanically compatible with metal housing materials including aluminum, SST, titanium, and bronze, eliminating the need to galvanically match SeaKing PEEK with other components in the system.



700-201 cable connector plug (CCP), PEEK



700-206 Glass reinforced epoxy or glass Hermetic seal insert, flange connector receptacles (FCR), PEEK



700-207 Glass reinforced epoxy or glass-to-metal seal insert, bulkhead connector receptacle (BCR), PEEK

MISSION-CRITICAL
NAVY, SHIPBOARD,
AND UNDERWATER
INTERCONNECTS



1–6.6kV connector designs
for deep sea Oil & Gas
primary power junctions

Blow Out Preventer
(BOP) Photo: Bureau of
Safety and Environmental
Enforcement



SeaKing Power connector designs are rated up to 10K psi in open-face or mated condition. These bespoke high-voltage (1–6.6kV) and high-amperage (up to 50 Amps) solder-cup and crimp-contact connectors are ideally suited for deployment in PBOF and umbilical termination cable configurations for primary power junction applications. SeaKing Power is a signature Glenair capability—with design and application engineering geared to meet exact customer requirements.

AVAILABLE SEAKING POWER DESIGN FEATURES

- Fully redundant dual O-ring sealing
- Indexable flange or threaded bulkhead designs
- Keyed mating interface for mismatch prevention
- Cable Connector Plug (CCP), Flange Connector Receptacle (FCR), and Bulkhead Connector Receptacle (BCR) configurations
- Sealed PBOF cable interface

HIGH VOLTAGE SUBSEA SeaKing™ Power Connectors



Example configurations and features

CABLE CONNECTOR PLUG (CCP)



SeaKing™ Power
Cable Connector Plug (CCP)

- PBOF-compatible cable connector plug designs
- Super duplex stainless steel or titanium construction with glass-reinforced thermoplastic insulator
- Backshell accessory attachment interface
- Aggressive coupling nut knurling for easy field mating
- Spanner wrench holes and coupling nut lock set screws for foolproof resistance to mechanical force decoupling
- Available conductor sealing boots protect solder cup and crimp wire-to-contact terminations in select insert arrangements in the event of a flooded hose
- Industry-standard power cable accommodation

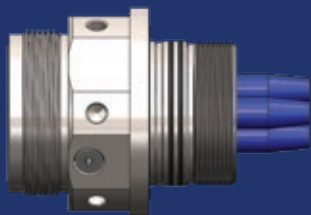
FLANGE CONNECTOR RECEPTACLE (FCR)



SeaKing™ Power
Flange Connector Receptacle (FCR)

- FCR delivers up to 10K psi sealing in both mated and open-face condition
- Indexable flange allows receptacle shell rotation for 360° routing flexibility of right-angle-mating cable plugs
- Super duplex stainless steel or titanium shells for complete compatibility with mating CCP
- Available wire sealing boots ensure reliable environmental protection of cable-to-connector interface
- Custom insert arrangements

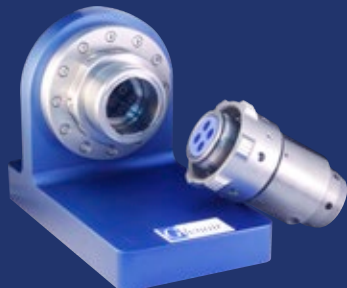
BULKHEAD CONNECTOR RECEPTACLE (BCR)



SeaKing™ Power
Bulkhead Connector Receptacle
(BCR)

- BCR is designed for direct threaded bulkhead mounting
- Supplied washer, mounting nut, and bulkhead-mate O-ring seals ensure secure sealing and grounding to equipment housing
- BCR shell equipped with both wrench flats and spanner wrench holes for convenient installation regardless of tool choice
- Custom insert arrangements
- Threaded backshell accessory interface

AVAILABLE HYDROSTATIC TEST LAB REPORTS

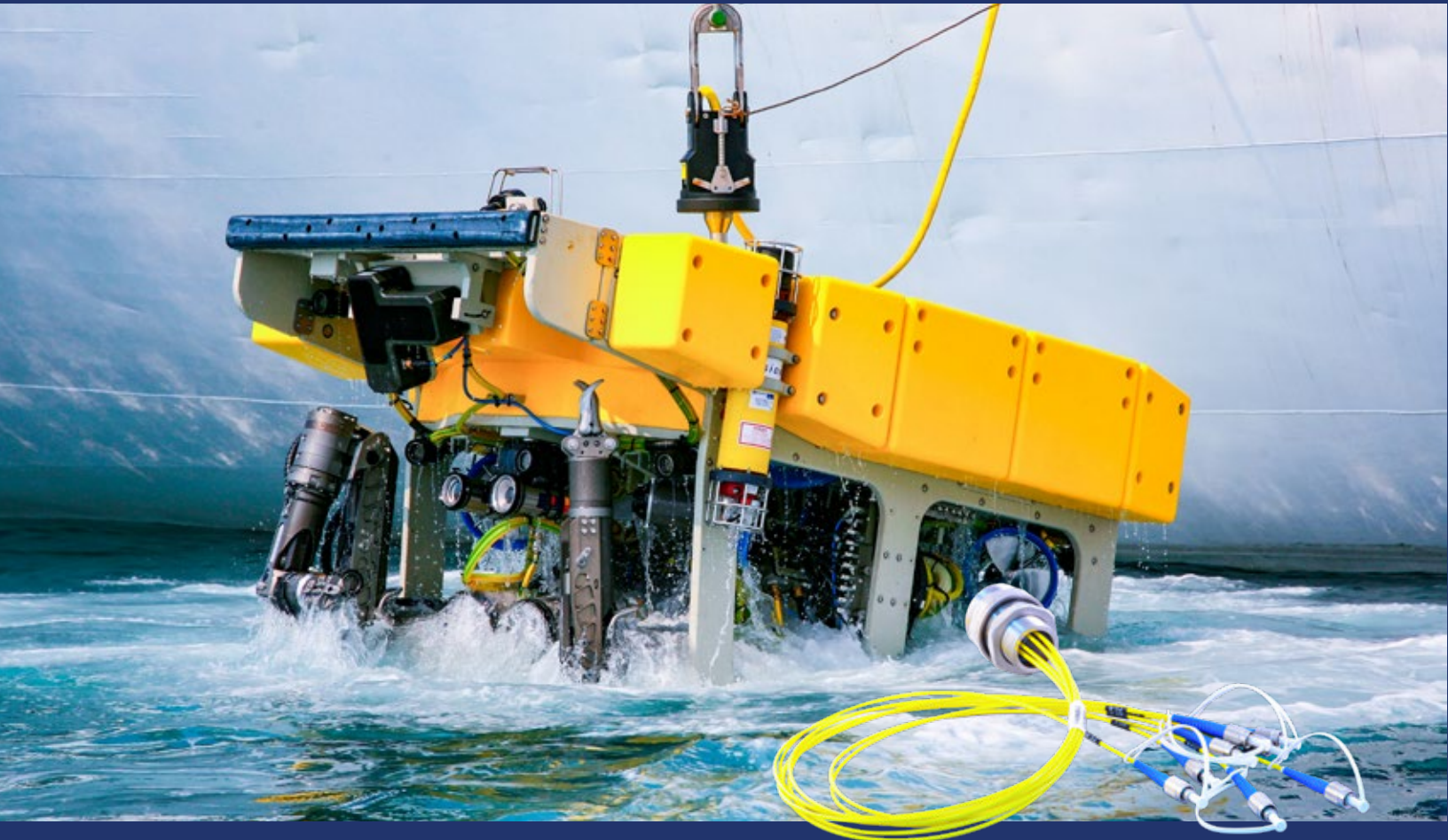


Glenair maintains one of the Subsea Oil & Gas industry's premier hydrostatic test labs here in our Southern California factory. All SeaKing Power designs as well as production parts for customer use are subjected to rigorous pressure testing up to and beyond rated 10K psi. Test reports are available for existing SeaKing Power type products and may also be supplied for new customer-bespoke designs.

MISSION-CRITICAL
NAVY, SHIPBOARD,
AND UNDERWATER
INTERCONNECTS



Open-face pressure rated
fiber optic connectors,
cables and jumpers—
singlemode and multimode
with low dB data loss



Data-intensive applications such as towed array sonar systems, well logging and monitoring equipment, digital seismic streamers, as well as magnetic flux leakage and ultrasonic inspection sensors used in intelligent pipeline inspection are ideally suited for ruggedized high-pressure fiber optics. Fiber optic interconnect systems deliver ultra-high data bandwidth, immunity from RFI and other forms of electromagnetic interference, as well as reduced size and weight compared to high-speed copper. Glenair SeaKing™ Fiber Optic solutions include harsh-environment overmolded cable assemblies, multibranch inside-the-box jumpers, as well as Glenair signature pressure-balanced oil-filled (PBOF) cable assemblies with fiber optic media optimized for deep sea applications.

- **Environmental overmolded, pigtail, and PBOF butt-joint assemblies**
- **Full hydrostatic qualification test report available**
- **Wide range of fiber and hybrid fiber/electric layouts**
- **Singlemode and multimode**
- **Optical performance: <1.0dB insertion loss per mated connection when measured @ 1310nm wavelength**



DEEP WATER SeaKing™ Fiber Optic Interconnects



Open-face pressure-rated fiber optic connectors and cables

ENVIRONMENTAL OVERMOLDED FIBER OPTIC JUMPERS

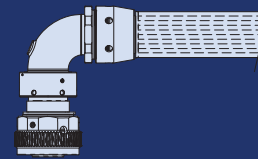
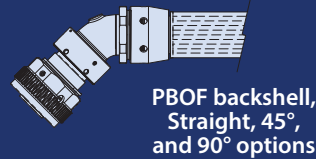
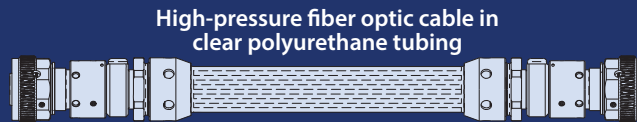


Straight and right-angle cable routing

High-pressure fiber optic cable

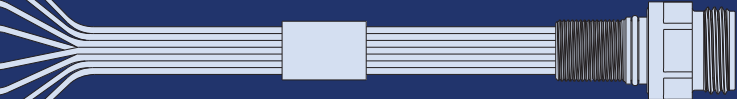
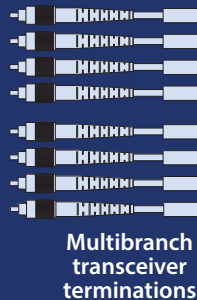
Chemical-resistant Viton® or polyurethane overmolding

PRESSURE-BALANCED OIL-FILLED (PBOF) HIGH-PRESSURE FIBER OPTIC ASSEMBLIES



10K psi high-pressure open face SeaKing Fiber connector

SEAKING™ BCR OR FCR TO COMMERCIAL FIBER OPTIC PIGTAIL ASSEMBLY FOR I/O-TO-BOARD MODULE APPLICATIONS



Glenair singlemode or multimode fiber optic cable

10K psi high-pressure open face SeaKing Fiber connector

ABOUT SEAKING FIBER PRESSURE RATINGS



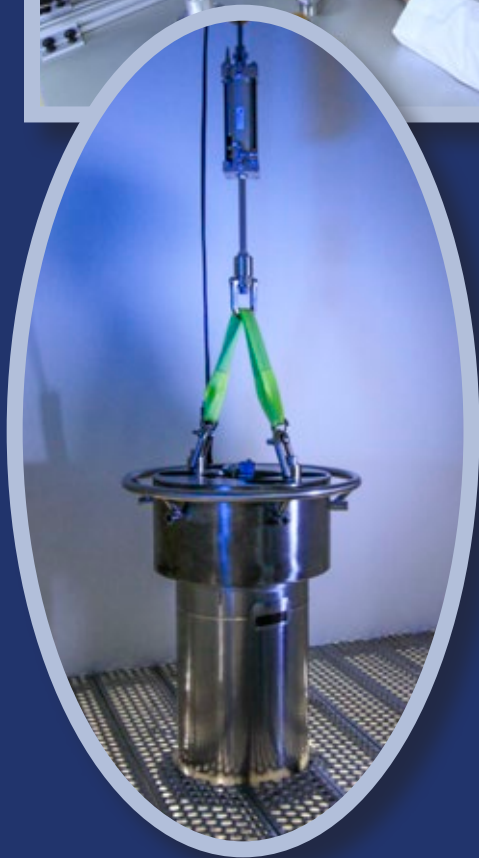
SeaKing Fiber connector hardware is rated for 10K psi, but actual pressure rating is dependent on cable configuration (PBOF versus overmolded), bulk fiber optic wire type, and termination style. Generally, SeaKing Fiber connectors deliver up to 3K psi performance for molded assemblies, and 10K psi for PBOF assemblies. The factory is able to provide exact pressure ratings for each unique SeaKing Fiber application.

HYDROSTATIC TEST LAB GLENDALE, CALIFORNIA:

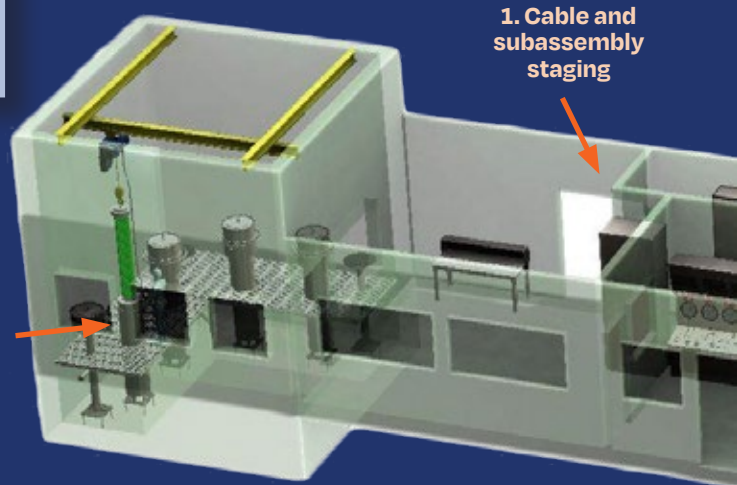
Manufacturing harsh-environment military, nuclear, and aerospace interconnect technologies for power, high-speed Ethernet, and hermetic seal applications.



DISCRETE CONNECTOR TESTING:
All Glenair high-pressure interconnects are subjected to 100% inspection and test



LARGE PRESSURE VESSELS: Built to accommodate complete cable assemblies, mated connectors, and customer-supplied subassemblies



1. Cable and subassembly staging

2. Large cable and subassembly pressure test bunker



TECHNICAL STAFF: Knowledgeable and trained subsea specialists perform both in-house product qualification testing, as well as customer subassembly testing.

SAFETY MOMENT: This technician is in the early, non-pressurized stage of a complex test setup so we will cut him some slack. Otherwise, I think we can all agree, safety glasses should always be worn in the lab.

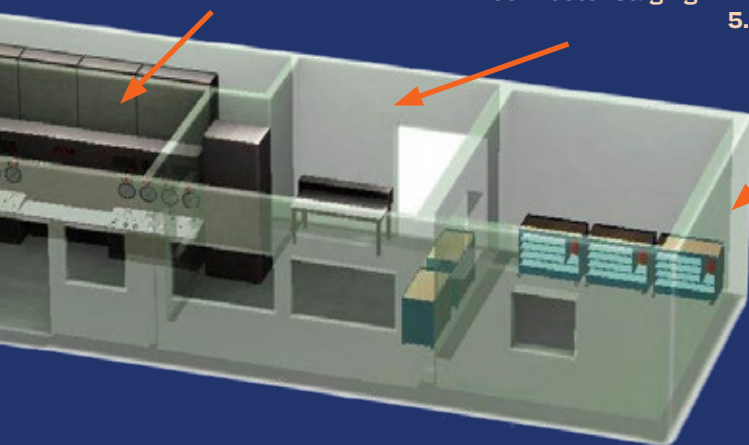
CONTROL ROOM: The modular consoles in the control room provide for up to 8 pressure circuits, operating in manual mode or automated. Each circuit is capable of a maximum of 16.5K psi. Monitors display: automated test profiles, data acquisition, remote viewing of test rooms and more. System is network connected for access to profiles and distribution of test reports.



3. Hydrostatic test lab control room

4. Production connector staging

5. Small connector pressure test bunker



SeaKing™ and SuperG55™ QUALIFICATION TESTING: Both Glenair Series 70 SeaKing and SuperG55 rugged dry-mate subsea connectors have been tested and qualified to their 10K psi pressure rating—open-face and mated—in Glenair's state-of-the-art hydrostatic test lab. Additional testing included mating cycles, salt spray, and electrical continuity.

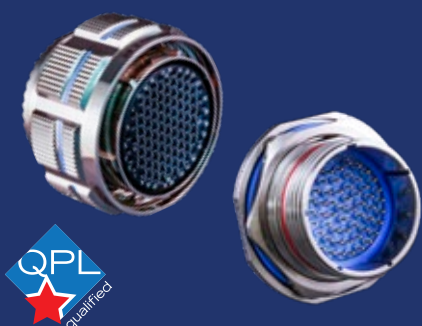


Glenair Hydrostatic Test Lab Technical Specifications and Pressure Test Standards	
Pressure test profiles	Automated or manual
Maximum test pressure	16.5K psi
Data acquisition types	Pressure, time, temperature, and electrical performance
Performance monitoring under pressure	I/R, continuity, insertion loss, and backreflection (optical)
Industry profiles	All major Oil & Gas standards
Custom profiles	Yes, including customer-supplied subassemblies
Capacity (large pressure vessels)	Working volume = 12" diameter x 72" depth; Test specimen weight up to 1500 lbs.

Glenair Mil-Spec Interconnect Technologies



Qualified Products: Glenair is a Mil-Aero connector supplier. Our product quality begins in engineering (the largest team in the high-performance interconnect business) and is realized in our “made in the USA” vertically-integrated manufacturing cells. One of the key ways we ensure both areas are functioning smoothly is to submit designs and manufactured specimens into the military QPL process administered by NAVSEA and the Defense Logistic Agency of the US government. These certification exercises are multi-year activities that test every aspect of an interconnect component’s performance.



MIL-DTL-38999 Series III Environmental Connectors



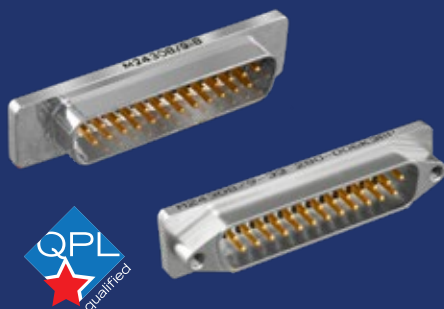
MIL-DTL-38999 Series IV Environmental Connectors



MIL-DTL-28840 Shipboard Connectors and Accessories



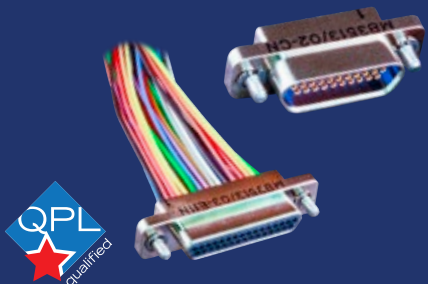
MIL-DTL-38999 Series I, II, III, and IV Hermetic Connectors



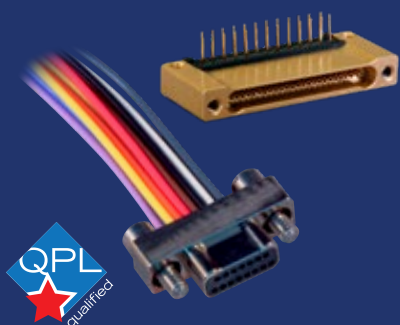
MIL-DTL-24308 Hermetic Connectors



MIL-DTL-28876 Shipboard Fiber Optic



MIL-DTL-83513 Micro-D Connectors and Accessories



MIL-DTL-32139 Nanominiature Connectors and Accessories



MIL-DTL-29504 Fiber Optic Termini and AS39029 Electrical Contacts



MIL-DTL-55116 Radio / Audio Connectors



807 NW Nett Warrior Qualified Tactical Connectors



STAR-PAN Power / Data Hubs and Tactical Cordsets



M85049 (AS85049) Backshells and Connector Accessories



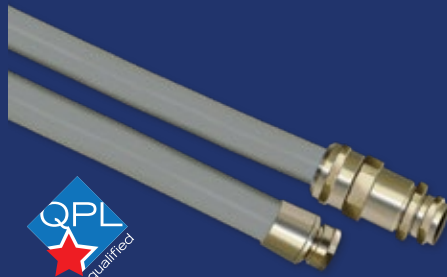
MIL-DTL-83723 Backshells and Connector Accessories



M81511 (AS81511) Protective Covers and Connector Accessories



M85049/140 TACOM-Approved and Navy-Qualified 5617649 Shrink Boots



MIL-PRF-24758 NAVSEA-Qualified Conduit and Fittings



M85049 Composite Backshells and Covers for MIL-DTL-38999

GLENAIR'S COMMITMENT TO QUALITY

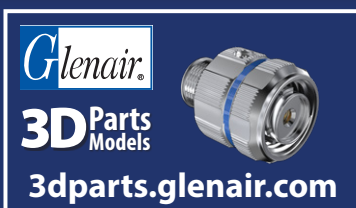
Glenair is proud of the quality and reliability we build into our broad range of mission-critical interconnect solutions—from discrete connectors to complex cable assemblies and embedded systems. Glenair is the biggest “made in the USA” interconnect supplier in the high-reliability industry, but we also operate factories in the UK, Italy, and Germany to serve the unique requirements of those markets. Glenair’s Worldwide Quality System is ISO 9001 and AS9100 certified and registered. We also hold many discrete product and operations certifications for specialty, high-performance markets including space, nuclear power, and rail. In addition to world-class quality, we are laser-focused on customer service and committed to being the easiest manufacturer in our industry to do business with. Here are just some of our key customer service principles:



- Lightning-fast turnarounds on quotes and special orders
- Worldwide sales and technical support in every major market
- Full-spectrum, “no gap” product lines
- No dollar or quantity minimums
- ISO 9001 and AS9100 certified
- Huge same-day shipment inventory
- Generous NRE, RMA, and sample request policies
- Abundant engineering and technical support
- No attitudinal constraints when it comes to customer convenience and service



MISSION-CRITICAL INTERCONNECT SOLUTIONS



Glenair, Inc.

1211 Air Way • Glendale, California • 91201-2497
Telephone: 818-247-6000 • Fax: 818-500-9912
sales@glenair.com • www.glenair.com

Glenair East

20 Sterling Drive
Wallingford, CT
06492

Telephone:
203-741-1115
Fax:
203-741-0053
sales@glenair.com

Glenair UK Ltd

40 Lower Oakham Way
Oakham Business Park
Mansfield, Notts
NG18 5BY England

Telephone:
+44-1623-638100
sales@glenair.co.uk

Glenair Microway Systems

7000 North Lawndale Avenue
Lincolnwood, IL
60712

Telephone:
847-679-8833
Fax:
847-679-8849

Glenair Nordic AB

Gustav III:s Boulevard 42
SE-169 27 Solna
Sweden

Telephone:
+46-8-50550000
sales@glenair.se

Glenair GmbH

Schaberweg 28
61348 Bad Homburg
Germany

Telephone:
06172 / 68 16 0
Fax:
06172 / 68 16 90
info@glenair.de

Glenair Iberica S.L.

Av. De Manoteras, 24 – 2º
28050 Madrid
Spain

Telephone:
+34 915 562 687
sales@glenair.es

Glenair Italia S.p.A.

Via Del Lavoro, 7
40057 Quarto Inferiore –
Granarolo dell'Emilia
Bologna, Italy

Telephone:
+39-051-782811
Fax:
+39-051-782259
info@glenair.it

Glenair France SARL

7, Avenue Parmentier
Immeuble Central Parc #2
31200 Toulouse
France

Telephone:
+33-5-34-40-97-40
Fax:
+33-5-61-47-86-10
sales@glenair.fr

Glenair Korea

6-21Tapsil-ro 58beon-gil
Giheung-gu, Yongin-si
Gyeonggi-do
Republic of Korea

Telephone:
+82-07-5067-2437
Fax:
+82-504-375-4549
sales@glenair.kr

Glenair Japan

40F, Nagoya Lucent Tower,
6-1, Ushijima-cho,
Nishi-ku, Nagoya, 451-6040
Japan

Telephone:
+81-52-569-2521
Fax:
+81-52-569-2523
sales@glenair.jp