

Navy Shipboard Fiber Optic Recommended Components Parts List

COVER LETTER

[Click here to view the Navy Recommended Components Parts List cover letter.](#)

PURPOSE

The purpose of the Navy Recommended Fiber Optic Components Parts List is to provide updated information on the Navy recommended fiber optic components program. This program provides assistance to those involved in the immediate procurement or use of reliable and survivable fiber optic components for shipboard applications and encourages standardization leading to increased and effective logistical support.

The Navy Recommended Fiber Optic Components Parts List includes recommended qualified components (from those listed on the Qualified Products List - QPL), those presently being tested with sufficient results available to be recommended, recommended First Article components/materials, those approved to Commercial Item Descriptions, and recommended COTS fiber optic components.

QUICK REFERENCE BY COMPONENT

[QPL And First Article Fiber Optic Components](#)

[Commercial Fiber Optic Components](#)

[Commercial Blown Optical Fiber Components](#)

[Equipment And Kits For Fiber Optic Components](#)

QUICK REFERENCE BY VENDOR

[Previous Navy Recommended Components Parts List Archive
1 April 1998 \(59 pgs, 169k\)](#)

TABLE OF CONTENTS

<u>Last Updated</u>		<u>Page</u>
27 September 2016	QPL AND FIRST ARTICLE FIBER OPTIC COMPONENTS	3
03 September 2015	COMMERCIAL FIBER OPTIC COMPONENTS	4
08 July 2008	COMMERCIAL BLOWN OPTICAL FIBER COMPONENTS	5
06 November 2015	EQUIPMENT AND KITS FOR FIBER OPTIC COMPONENTS	6
03 September 2015	COMPONENTS BY VENDOR	7
15 December 2016	AFL Telecommunications	10
19 September 2017	Applied Optical Systems (AOS)	12
06 August 2020	CommScope	13
15 July 2009	Connective Solutions	16
25 September 2008	Corning Incorporated	17
09 June 2016	Delphi Connection Systems	18
19 September 2017	Draka USA	20
17 December 2002	Fiber Optics Center, Inc. (FOCI)	21
03 December 2018	Fiber Systems International, Inc. (Amphenol FSI)	22
29 May 2019	General Cable	24
24 March 2011	Glenair	26
26 February 2016	Hubbell	27
15 March 2019	KitCo	28
27 July 2001	Laser Diode, Inc.	29
27 July 2001	Litton Network Access Systems	30
06 August 2020	Marmon Aerospace & Defense LLC	31
27 July 2001	Nye Lubricants, Inc.	32
13 August 2015	OFS Optics	33
18 December 2012	Optical Cable Corporation (OCC)	35
02 December 2019	SMC	36
27 September 2016	STRAN Technologies	37
15 December 2016	Sumitomo	38
27 July 2001	Tra-Con, Inc.	39
06 August 2020	TE Connectivity	40
07 February 2013	US Pioneer	43
20 September 2017	Brady Corporation	44

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 30 January 2020

QPL AND FIRST ARTICLE FIBER OPTIC COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

COMPONENT	VENDOR
Conventional Cable – Thermoset (QPL)	Draka
	General
	Marmon
Conventional Cable –Thermoplastic (QPL)	General
Blown Optical Fiber Cable – Thermoset (QPL)	General
Single Tube Cable, Blown Optical Fiber	General
ST Connector (QPL)	AFSI
	Delphi
	Optical Cable Corporation
ST-to-ST Adapter (QPL)	AFSI
	Optical Cable Corporation
Multiterminus (MT) Heavy Duty Connector (QPL)	Delphi
	AFSI
	Glenair
Termini (QPL)	AOS
	Delphi
	AFSI
	Glenair
Epoxy, Heat Cured (1 st Article)	CommScope
	OFS
	Tra-Con
	FOCI
Interconnection Box (QPL)	US Pioneer ¹
Optical Fiber – Multimode (QPL)	Corning
	Draka USA
	General Cable
Optical Fiber – Single mode (QPL)	Corning
	Draka USA
	General Cable
Index Matching Material (1 st Article)	Nye Lubricants
Transmitter and Receiver (1 st Article)	Laser Diode

¹ Formerly NMP.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 05 June 2020

COMMERCIAL FIBER OPTIC COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

COMPONENT	VENDOR
ST Connector, MM	CommScope
	AFSI
	STRAN
	OFS
	TE Connectivity
ST-to-ST Adapter, MM	CommScope
	AFSI
	STRAN
	OFS
ST Connector, SM	CommScope
	AFSI
	STRAN
	OFS
ST-to-ST Adapter, SM	CommScope
	AFSI
	STRAN
	OFS
SC Connector, MM	TE Connectivity
	CommScope
SC-to-SC Adapter, MM	CommScope
SC Connector, SM	TE Connectivity
	CommScope
SC-to-SC Adapter, SM	CommScope
LC Connector, MM	AFL
	OFS
	TE Connectivity
LC-to-LC Adapter, MM	OFS
LC Connector, SM	AFL
	OFS
	TE Connectivity
LC-to-LC Adapter, SM	OFS
Fast Cure Adhesive, Commercial	CommScope
	FOCI
	OFS
Cable, Commercial	CommScope
	Draka
	General Cable
	Optical Cable Corporation
Optical Bypass Switch (2 X 2)	Litton Network Access Systems
Splice, Fusion Shelf/Tray	Hubbell

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 26 February 2013

COMMERCIAL BLOWN OPTICAL FIBER COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

COMPONENT	VENDOR
Tube Fitting, Blown Optical Fiber (straight tube coupler)	Sumitomo
	SMC
	General Cable
Tube Fitting, Blown Optical Fiber (tube tee coupler)	Sumitomo
	SMC
	General Cable
Tube Fitting, Blown Optical Fiber (tube end cap)	Sumitomo
	SMC
	General Cable
Tube Fitting, Blown Optical Fiber (straight tube coupler reducer)	General Cable
Plug, Tube Fitting, Blown Optical Fiber	SMC
	General Cable
Plug, Tapered Tube, Blown Optical Fiber	Sumitomo
	Connective Solutions
Furcation Unit, Tube, Blown Optical Fiber	Connective Solutions
	Kitco Fiber Optics
Tube, Single, Blown Optical Fiber	General Cable
	Sumitomo

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 09 June 2016

EQUIPMENT AND KITS FOR FIBER OPTIC COMPONENTS [TOP](#)

Click on vendor name to go to detailed information for each component

COMPONENT	VENDOR
ST/SC Connector Termination Kit	KitCo
	AFSI
Rotary Mechanical Splice Termination Kit	KitCo
Multiterminus (MT) Heavy Duty Connector Termination Kit	KitCo
	AFSI
FDDI Connector Tools (Supplement to ST Termination Kit)	KitCo
SC Connector Tools (Supplement to older ST Termination Kit)	KitCo
Submarine Combination ST, SC and MT Termination Kit	KitCo
	AFSI
Fusion Splice Kit	AFL Telecommunications
	Sumitomo
Damage Control Kit	KitCo

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 06 August 2020

COMPONENTS BY VENDOR [TOP](#)

Click on vendor name to go to detailed information for each component

Vendor	Component	Specification/Drawing
AFL Telecommunications	Fusion Splice Kit	A-A-59799
	LC Connector, Commercial	A-A-59940/1
Applied Optical Systems, Inc.	Termini	MIL-PRF-29504
CommScope	ST Connector, Commercial	A-A-59940/3
	ST Connector Adapter, Commercial, Ruggedized	N/A
	SC Connector, Commercial	A-A-59940/2
	SC Connector Adapter, Commercial	N/A
	Epoxy	MIL-PRF-24792
	Fast Cure Adhesive, Commercial	N/A
	Cable, Conventional, Commercial	N/A
Connective Solutions	Furcation Units, Tube, BOF	A-A-59729
	Plug, Tapered Tube, BOF	A-A-59730
Corning	Fiber, Multimode	MIL-PRF-49291/6
	Fiber, Single Mode	MIL-PRF-49291/7
Delphi Connection Systems	Multiterminus (MT) Heavy Duty Connector & Dust Cover	MIL-PRF-28876
	Termini	MIL-PRF-29504
	ST Connector	MIL-C-83522/16
Draka	Cable, Conventional – Thermoset	MIL-PRF-85045
	Cable, Conventional, Commercial	N/A
	Fiber, Multimode	MIL-PRF-49291/6
	Fiber, Single Mode	MIL-PRF-49291/7
	Cable	MIL-PRF-85045/16
Draka Comteq USA, Inc.	Fast Cure Adhesive, Commercial	N/A
FOCI	Epoxy	MIL-PRF-24792
AFSI	ST Connector Adapter	MIL-C-83522/17
	ST Connector, Commercial, Ruggedized	A-A-59940/3
	ST Connector Adapter, Commercial, Ruggedized	N/A
	Multiterminus (MT) Heavy Duty Connector	MIL-PRF-28876
	ST/SC Connector Termination Kit	6872811
	Multiterminus (MT) Heavy Duty Connector Termination Kit	6872813
	Submarine Combination ST, SC, and MT Termination Kit	7085185
	Termini	MIL-PRF-29504

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Vendor	Component	Specification/Drawing
General Cable	Cable, Conventional –Thermoset	MIL-PRF-85045
	Cable, Conventional –Thermoplastic	MIL-PRF-85045
	Cable, Blown Optical Fiber – Thermoset	MIL-PRF-85045
	Cable, Conventional, Commercial	N/A
	Tube fitting (straight coupler), BOF	A-A-59731
	Tube fitting (Tee coupler), BOF	A-A-59731
	Tube Fitting (end cap coupler), BOF	A-A-59731
	Tube Fitting (straight coupler reducer), BOF	A-A-59731
	Plug, tube fitting, BOF	A-A-59728
	Fiber, Multimode	MIL-PRF-49291/6
	Fiber, Single Mode	MIL-PRF-49291/7
Glenair	Termini	MIL-PRF-29504
	Multiterminus (MT) Heavy Duty Connector	MIL-PRF-28876
Hubbell	Splice, Fusion Shelf/Tray	N/A
KitCo	ST/SC Connector Termination Kit	6872811
	Rotary Mechanical Splice Termination Kit	6872812
	Multiterminus (MT) Heavy Duty Connector Termination Kit	6872813
	Submarine Combination ST, SC, and MT Termination Kit	7085185
	Damage Control Kit	7344573
	FDDI Connector Tools	N/A
	SC Connector Tools	N/A
	Furcation Units, Tube, BOF	A-A-59729
	Fusion Splice Protector	MIL-PRF-24623/6
	Fusion Splice Tray	MIL-I-24728/8
	Laser Diode, Inc.	Transmitter
Receiver		MIL-M-24791
Litton Network Access Systems	2X2 Bypass Switch	N/A
Marmon	Cable, Conventional –Thermoset	MIL-PRF-85045
Nye Lubricants, Inc.	Index Matching Gel	MIL-PRF-24794
OFS Optics	ST Connector, Commercial	A-A-59940/3
	ST Connector Adapter, Commercial	N/A
	LC Connector, Commercial	A-A-59940/1
	LC Connector Adapter, Commercial	N/A
	Epoxy	MIL-PRF-24792
	Fast Cure Adhesive, Commercial	N/A
Optical Cable Corporation	Cable, Conventional, Commercial	N/A
	ST Connector	MIL-C-83522/16
	ST Connector Adapter	MIL-C-83522/17
SMC	Plug, Tube Fittings, BOF	A-A-59728
	Tube fitting (Tee coupler), BOF	A-A-59731
	Tube fitting (straight coupler), BOF	A-A-59731
	Tube fitting (end cap coupler), BOF	A-A-59731
STRAN Technologies	ST Connector, Commercial, Ruggedized	A-A-59940/3
	ST Connector Adapter, Commercial, Ruggedized	N/A
Sumitomo	Tube fitting (Tee coupler), BOF	A-A-59731
	Tube fitting (straight coupler), BOF	A-A-59731
	Plug, Tapered Tube, BOF	A-A-59730
	Tube Fitting (end cap coupler), BOF	A-A-59731
	Fusion Splice Kit	A-A-59799

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Vendor	Component	Specification/Drawing
	Type-Q101-CA Splicing Kit	A-A-59799-A
Tra-Con, Inc.	Epoxy	MIL-PRF-24792
TE Connectivity	SC Connector, Commercial	A-A-59940/2
	LC Connector, Commercial	A-A-59940/1
US Pioneer (formerly NMP)	IC Box	MIL-I-24728

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 15 December 2016

ITEM: Fusion Splice Protector, Fusion Splice Kit [TOP](#)

MIL-SPEC: MIL-PRF-24623; CID: A-A-59799-A, A-A-59940

VENDOR: AFL Telecommunications (<http://www.afltele.com/index.asp>)

VENDOR GOV'T. SALES POC: Michael Hetrick (410) 937-8048, FAX: (410) 420-6877

Vendor Address: AFL Telecommunications
170 Ridgeview Center
Duncan, SC 29334

DESCRIPTION	CID P/N	VENDOR P/N
Commercial Item Descriptions:		
FSM-70S w/S70A Sheath Clamp Optical Fiber Fusion Splicer <u>1/</u> , <u>3/</u> Contents:	A-A-59799-A	S015590
1 ea-FSM-70S Fusion Splicer		S015580
1 ea-CT30A Cleaver		S014080
1 ea-ADC-18 AC Adapter		S015585
1 ea-ACC-14 AC Cord		S014536
1 ea-ELCT2-20A Spare Electrodes (pair)		S013532
1 ea-S70C Sheath Clamp		S015586
1 ea-USB Cable		S014777
1 ea-Alcohol Dispenser		
1 ea-Screw Driver		
1 ea-Splicer Carrying Strap		
1 ea-Quick Reference Guide		
1 ea-Instruction Manual		
1 ea-CC30 Transit Case with Carrying Strap		
FSM-60S Kit w/S60B Sheath Clamp <u>1/</u> , <u>3/</u> Contents:	A-A-59799-A	S014578
1 ea - 60S Splicer		S014531
1 ea - CT30A Cleaver		S014080
1 ea - ADC-13 AC Adapter		S014535
1 ea - ACC-14 AC Power Cord		S014536
1 ea - JP-05 J-Plate		S014537
1 pr - Spare Electrodes		S013532
1 ea - Clamp-S60B		S014551
1 ea - USB cable		
1 ea - Splicer Carrying Strap		
1 ea - Quick Reference Guide		
1 ea - Instruction Manual		
1 ea - Transit Case w/ Carrying Strap		
FSM-50S Kit w/Set Plate B Installed <u>1/</u> , <u>2/</u> , <u>3/</u> Contents:	A-A-59799-A	S014490
1 ea - 50S Splicer		S013510
1 ea - CT30A Cleaver		S014080
1 ea - Set Plate B (50S)		S013564
1 ea - AC Adapter/Battery Charger		ADC-11
1 ea - AC Cord		
1 pr - Spare Electrodes		
1 ea - Carrying Strap		
1 ea - Operation Manual		
1 ea - Transit Case		

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Commercial Item Descriptions:	CID P/N	VENDOR P/N
Simplex LC connector, quick connect fusion, commercial, Multimode <u>4/</u> <u>5/</u> <u>7/</u>	A-A-59940/1-211SN	FUSE-LC2M62-6 <u>6/</u>
Simplex LC connector, quick connect fusion, commercial, Single mode <u>4/</u> <u>5/</u> <u>7/</u>	A-A-59940/1-221SN	FUSE-LC2SMU-6 <u>6/</u>

- 1/ This Fusion Splice Kit is not approved for Organizational Level Shipboard Maintenance & Repair.
- 2/ This Fusion Splice Kit has been tech refreshed and is no longer available for purchase.
- 3/ COTS splicing unit contains a coin size lithium battery.
- 4/ For use only with AFL70S IAW CID A-A-59799 with heater settings of 185 deg 75 sec.
- 5/ For use only with MIL-85045/16-01 or MIL-85045/16-02 cable.
- 6/ P/N is for one pack of 6 pieces.
- 7/ SC/LC connectors are not for use with patch panels except as noted below. Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 19 September 2017

ITEM: Termini [TOP](#)

MIL-SPEC: MIL-PRF-29504

VENDOR: Applied Optical Systems, Inc. (AOS a Division of OCC)
(<http://www.appliedopticalsystems.com/>)

VENDOR GOV'T. SALES POC: Lisa Hurley (877) 509-1500 x110
Email: Lisa.Hurley@OCCfiber.com

Vendor Address: Applied Optical Systems, Inc.
1700 Capital Avenue, Suite 50
Plano, TX 75074

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4131C	TC1440CA
Termini, pin, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4141C	TC1440CA
Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4171C	TC1541CA
Termini, socket, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4181C	TC1541CA
Termini, dummy, for MIL-PRF-28876 connectors	M29504/3-4038	TC0339AA

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 6 August 2020

ITEM: ST Connectors, Epoxy, Fast Cure Adhesive, Commercial Cable [TOP](#)

MIL-SPEC: MIL-C-83522, MIL-A-24792

VENDOR: CommScope (formerly Avaya) (<http://www.commscope.com/>)

VENDOR GOV'T. SALES POC: Sean Kerr, email: Sean.Kerr@commscope.com

Vendor Address: CommScope Solutions Inc.
1300 East Lookout Dr., Suite 350
Richardson TX 75082

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
First Article Approved Material:		
Epoxy, two part, fiber optic, room/heat cured, 15 bipacks <u>1/</u>	M24792-A	700 006 109
Commercial Item Description		
CID P/N		
ST connector, 125 micron, MM 4/	A-A-59940/3-111SN	700 004 328
ST connector, 125 micron, SM 4/	A-A-59940/3-121SN	700 011 067
Simplex SC connector, commercial, 125 um, Multimode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u>	A-A-59940/2-111SP	5503948-1
Simplex SC connector, commercial, 125 um, Multimode, for 2.5 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u>	A-A-59940/2-111SP	5504930-1
Simplex SC connector, commercial, 125 um, Multimode, for 2 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u>	A-A-59940/2-111SP	5504931-1
Simplex SC connector, commercial, 126 um, Single Mode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u>	A-A-59940/2-121SP	5504646-1
Simplex SC connector, commercial, 126 um, Single Mode, for 2 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u>	A-A-59940/2-121SP	5504934-2
Duplex SC connector, commercial, 125 um, Multimode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/</u>	A-A-59940/2-111DP	5504657-1
Duplex SC connector, commercial, 125 um, Multimode, for 2.5 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u>	A-A-59940/2-111DP	5504927-1
Duplex SC connector, commercial, 126 um, Single Mode, for 3 mm OD cable, pull proof <u>7/ 8/ 9/ 10/ 11/ 12/</u>	A-A-59940/2-121DP	5504655-1
Approved Commercial Components:		
Fast Cure Adhesive, Fiber Optic <u>2/ 3/</u>	N/A	Adhesive: 700 002 181 Primer: 700 004 146
ST to ST, adapter, MM 4/	N/A	700 004 864
ST to ST, adapter, SM 4/	N/A	700 011 133
ST to ST, adapter, MM (ruggedized) <u>4/ 5/ 12/</u>	N/A	105 777 288
Duplex SC to SC adapters, commercial, pull proof <u>8/</u>	N/A	1-5502776-0
Conventional cable, 2-fiber, commercial LSZH <u>6/ 12/</u> (Systemax Div)	N/A	700 009 889
Conventional cable, 2-fiber, commercial LSZH <u>6/</u> (Uniprise Div)	N/A	9000770 (Z-002-DU-6F-F25BK)

1/ Each bipack contains a pre-measured quantity of resin and hardener separated by a divider. There is 8 gm of resin and hardener per bipack. Expiration date upon ship date: 9 months minimum.

2/ Fast Cure Adhesive Approved for shipboard usage as follows: **Fast cure adhesive is authorized only for administrative applications and is not authorized for use in tactical or mission critical applications.**

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

- 3/ Adhesive: Quantity of one 10 ml bottle. Primer: Quantity of one 1 oz bottle. Expiration date upon ship date, both adhesive and primer: 6 months minimum.
- 4/ Commercial Connectors Approved for shipboard usage as follows:
Tactical Application:
- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
 - Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.
- Non-Tactical Application:
- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
 - Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).
- 5/ Ruggedized components constructed using stainless steel material.
- 6/ Commercial Cable Approved for shipboard usage as follows:
Non-Tactical Application:
- Cable connections within a compartment.
 - Cable connections within an equipment or rack.
- 7/ SC/LC connectors are not for use with patch panels except as noted below. Commercial Connectors Approved for shipboard usage as follows:
Tactical Application:
- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
 - Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.
- Non-Tactical Application:
- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
 - Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).
- 8/ SC connectors are pull proof connectors designed for loose structured cables. However, with proper care and workmanship these connectors can be installed on tight structured cables.
- 9/ Two configurations for LC and SC connectors. LC and SC connectors are provided in both pull proof and non pull proof configurations. The standard commercial configuration is the pull proof one. A pull proof connector is designed to be used with a loose tube cable. In a pull proof configuration, there is no optical discontinuity at the mating connector end faces when the cabling affixed to one of the connectors is pulled. The non pull proof LC and SC connectors are constructed similar to an ST connector and designed to be used with either loose tube or tight buffer cabling. The spring compresses as the cabling exiting the connector is pulled. This compression removes the ferrule from the mating connector end face. The result is a discontinuous optical path (optical discontinuity) for the duration of the pulled cable.

CAUTION

For pull proof connectors, do not completely backfill an LC or SC connector when terminating to tight buffer cabling. A complete backfill of epoxy can result a locked spring (inability of plunger feature to function) and/or bonded fiber (inability of fiber to push back in the tube/jacket).

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

- 10/ Termination precautions, pull proof connector with tight buffer cabling. A pull proof connector can be placed (terminated) onto tight buffer cabling following a slightly modified (really more careful or precise fill during the) epoxy injection process. The key is not to completely backfill the connector barrel cavity. The syringe tip used aids to control this fill. Instead of a dispensing (syringe) tip, twist on, 20 gage, 1 inch long, blunt end, for epoxy injection into all connector types except SC and LC; a dispensing tip, twist on, 18 gage, 0.5 inch long, chamfered end, for epoxy injection into SC and LC connectors is used. The syringe tip is inserted completely (as in standard process). Care must be taken to completely fill the “cone” (front) portion of the cavity, but do not complete the backfill. The SC and LC connectors have a lip internal to the barrel cavity. An 18 gage syringe tip can be inserted only to this lip. When using proper syringe tip, this restricted insertion allows an epoxy fill up to the lip (filling the front cone or chamfered area) and into/through the ferrule hole. Pressure on the syringe plunger is applied until an epoxy bead appears on the ferrule end face. The correct volume of epoxy is injected once the epoxy bead appears. Withdraw the syringe tip without further injection of epoxy (i.e., without further pressure applied to the syringe plunger).
- 11/ Application affects pull proof connector failure rates. Backfilling of epoxy in a pull proof connector further restricts the degree of fiber flexing. When two connectors are mated through an adapter (such as a LC-to-LC adapter), the plunging movement in each connector is halved. This results in the fiber needing to flex to a lesser degree in the back end of each connector. At a fixed interface (such as at a network interface card or NIC), the connector plunges back further. This results in the fiber needing to flex more. When the termination is not done properly (see note 10/), fiber breakage at the back of the connector can occur. A higher failure rate is more likely at a fixed interface. Also, improperly terminated connectors may fail after surviving the first few times mated.
- 12/ Manufacturer has provided notice of deactivation. (dtd Aug 2020)

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 15 July 2009

ITEM: BOF Tube Furcation Unit [TOP](#)

VENDOR: Connective Solutions (<http://www.connectivesol.com/>)

VENDOR GOV'T. SALES POC: John Haney (1 800) 241-2792

Vendor Address: Connective Solutions
 P.O. Box 333
 Quaker Hill, CT 06375

DESCRIPTION	MIL-SPEC or CID P/N	VENDOR P/N
Commercial Item Descriptions:		
Furcation Units, Tube, blown optical fiber (BOF) 2-18 fibers	A-A-59729	TFUxx-y.ySR*
Plug, Tapered Tube, BOF, 6-fiber bundle or up to 8 fibers, 8mm	A-A-59730-TTP-2	TTP06-2.0R
Plug, Tapered Tube, BOF, 12- or 18- fiber bundles or 9 to 12 fibers BOF, 8mm	A-A-59730-TTP-3	TTP06-3.0R
Approved Commercial Components:		
Plug, Tapered Tube, BOF, up to 12 fibers, 5mm	N/A	TTP03-2.0R

* xx = strand count (2 to 18)
 y.y = fanout length in meters (1 to 40)

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 25 September 2008

ITEM: Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-49291

VENDOR: Corning Incorporated (<http://www.corningfiber.com/>)

VENDOR GOV'T SALES POC: Sharon Bois (607) 974-7758, FAX: (607) 974-4829

Vendor Address: Corning Incorporated
One Riverfront Plaza
MP HQ 02-W29
Corning, NY 14831

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Optical fiber, multimode	M49291/6-03	LNF™ 62.5/125umCPC6; 3.0/0.7; 160/500; 100kpsi
Optical fiber, single mode	M49291/7-01	SMF28™ CPC6; 0.4/0.3; 100kpsi

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 09 June 2016

ITEM: Multiterminus (MT) Heavy Duty Connector, Termini, ST Connectors [TOP](#)

MIL-SPEC: MIL-PRF-28876, MIL-PRF-29504, MIL-C-83522

VENDOR: Delphi Connection Systems (formerly Packard-Hughes Interconnect)
(<http://www.delphi.com/products/connect/da/>)

VENDOR GOV'T SALES POC: Scott Christian (949) 458 3157

Vendor Address: Delphi Connection Systems
1 Vanderbilt
Irvine, CA 92618

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4131C	M29504/14-4131C
Termini, pin, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4141C	M29504/14-4141C
Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4171C	M29504/15-4171C
Termini, socket, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4181C	M29504/15-4181C
Termini, dummy, for MIL-PRF-28876 connectors	M29504/3-4038	M29504/3-4038
Connector, four termini, receptacle, wall mount, with insert retention nut	M28876/1B1S1	M28876/1B1S1
Connector, eight termini, receptacle, wall mount, with insert retention nut	M28876/1C1S1	M28876/1C1S1
Connector, four termini, plug, no strain relief, with insert retention nut	M28876/6B1P1	M28876/6B1P1
Connector, eight termini, plug, no strain relief, with insert retention nut	M28876/6C1P1	M28876/6C1P1
Connector, four termini, plug, no strain relief, no insert retention nut	M28876/6B1P1N	M28876/6B1P1N
Connector, eight termini, plug, no strain relief, no insert retention nut	M28876/6C1P1N	M28876/6C1P1N
Connector, four termini, plug, straight backshell with strain relief for four fiber cable	M28876/7B12P1	M28876/7B12P1
Connector, eight termini, plug, straight backshell with strain relief for eight fiber cable	M28876/7C11P1	M28876/7C11P1
Connector, four termini, plug, 45° backshell with strain relief for four fiber cable	M28876/8B12P1	M28876/8B12P1
Connector, eight termini, plug, 45° backshell with strain relief for eight fiber cable	M28876/8C11P1	M28876/8C11P1
Connector, four termini, plug, 90° backshell with strain relief for four fiber cable	M28876/9B12P1	M28876/9B12P1
Connector, eight termini, plug, 90° backshell with strain relief for eight fiber cable	M28876/9C11P1	M28876/9C11P1
Connector, four termini, receptacle, jamnut mount, with insert retention nut	M28876/11B1S1	M28876/11B1S1
Connector, eight termini, receptacle, jamnut mount, with insert retention nut	M28876/11C1S1	M28876/11C1S1
Connector, eighteen termini, receptacle, wall mount, with insert retention nut	M28876/1F2XSZ ^{1/}	M28876/1F2XSZ
Connector, eighteen termini, plug, no strain relief, with insert retention nut	M28876/6F2XPZ ^{1/}	M28876/6F2XPZ
Connector, eighteen termini, plug, no strain relief, no insert retention nut	M28876/6F2XPZN ^{1/}	M28876/6F2XPZN
Connector, eighteen termini, plug, straight backshell with strain relief for eighteen fiber cable	M28876/7F2XPZ ^{1/}	M28876/7F2XPZ
Connector, eighteen, plug, 45° backshell with strain relief for eighteen fiber cable	M28876/8F2XPZ ^{1/}	M28876/8F2XPZ
Connector, eighteen, plug, 90° backshell with strain relief for eighteen fiber cable	M28876/9F2XPZ ^{1/}	M28876/9F2XPZ
Connector, eighteen, receptacle, jamnut mount, with insert retention nut	M28876/11F2XSZ ^{1/}	M28876/11F2XSZ
Connector, eighteen, receptacle, jamnut mount, no insert retention nut	M28876/11F2XSZN ^{1/}	M28876/11F2XSZN

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Connector, thirty-one termini, receptacle, wall mount, with insert retention nut	M28876/1F1XSZ ^{1/}	M28876/1F1XSZ
Connector, thirty-one termini, plug, no strain relief, with insert retention nut	M28876/6F1XPZ ^{1/}	M28876/6F1XPZ
Connector, thirty-one termini, plug, no strain relief, no insert retention nut	M28876/6F1XPZN ^{1/}	M28876/6F1XPZN
Connector, thirty-one termini, plug, straight backshell with strain relief for thirty-six fiber cable	M28876/7F1XPZ ^{1/}	M28876/7F1XPZ
Connector, thirty-one, plug, 45° backshell with strain relief for thirty-six fiber cable	M28876/8F1XPZ ^{1/}	M28876/8F1XPZ
Connector, thirty-one, plug, 90° backshell with strain relief for thirty-six fiber cable	M28876/9F1XPZ ^{1/}	M28876/9F1XPZ
Connector, thirty-one, receptacle, jamnut mount, with insert retention nut	M28876/11F1XSZ ^{1/}	M28876/11F1XSZ
Connector, thirty-one, receptacle, jamnut mount, with insert retention nut	M28876/11F1XSZN ^{1/}	M28876/11F1XSZN
Backshell, straight, split, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable	M28876/27B2	M28876/27B2
Backshell, 45°, split, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable	M28876/28B2	M28876/28B2
Backshell, 90°, split, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable	M28876/29B2	M28876/29B2
ST connector, nonlocking boot, 125 micron, MM	M83522/16-DNX	1021690-3C
ST connector, nonlocking boot, 125 micron, SM/MM	M83522/16-DNY	1021341
Special Application Components:		
ST connector, QPL, locking boot, 125 micron, MM	M83522/16-ANX	1021689-3C
ST connector, QPL, locking boot, 125 micron, SM/MM	M83522/16-ANY	1021689

^{1/} X = Backshell Designator (1 through 3), Z = Keying Arrangement Designator (1 through 6)

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 19 September 2017

ITEM: Cable, Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-85045, MIL-PRF-49291

VENDOR: Draka (<http://www.drakausa.com/>)

VENDOR GOV'T SALES POC: Kevin Hamilton (508) 513-2347, FAX: (774) 235-2031

Vendor Address: Draka
22 Joseph E. Warner Blvd.
North Dighton, MA 02764

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Four fiber, thermoset (cross linked), MM, 500 MHz BW, high pressure	M85045/18-01P	S454T-04-62G
Eight fiber, thermoset (cross linked), MM, 500 MHz BW, high pressure	M85045/17-01P	S454T-08-62G
Four fiber, thermoset (cross linked), SM, 500 MHz BW, high pressure	M85045/18-02P	S454T-04-010N
Eight fiber, thermoset (cross linked), SM, 500 MHz BW, high pressure	M85045/17-02P	S454T-08-010N
Optical fiber, multimode	M49291/6-03	459
Optical fiber, single mode	M49291/7-01	269
One fiber, OFCC, MM, 500 MHz BW	M85045/16-01	S458T-01-62G
One fiber, OFCC, SM	M85045/16-02	S458T-01-010N
Approved Commercial Components:		
Conventional cable, 2-fiber, commercial LSZH <u>1/</u>	N/A	LSZH30-02F-62X LSZH25-02R-62X

1/ Commercial Cable Approved for shipboard usage as follows:

Non-Tactical Application:

- Cable connections within a compartment.
- Cable connections within an equipment or rack.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 17 December 2002

ITEM: Adhesive and Fast Cure Adhesive [TOP](#)

MIL-SPEC: MIL-PRF-24792

VENDOR: Fiber Optics Center, Inc. (FOCI) (<http://www.focenter.com/>)

VENDOR GOV'T. SALES POC: Barry Siroka (617) 916-1550, FAX: (603) 452-7960

Vendor Address: Fiber Optics Center, Inc.
23 Centre Street
New Bedford, MA 02740-6322

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
First Article Approved Material:		
Epoxy, two part, fiber optic, heat cured, 6 bipacks <u>1/</u>	M24792-A	AB-9112
Approved Commercial Components:		
Fast Cure Adhesive, Fiber Optic <u>2/ 3/</u>	N/A	AB-202

- 1/ Each bipack contains a pre-measured quantity of resin and hardener separated by a divider.
Expiration date upon ship date: 9 months minimum.
- 2/ Adhesive: Expiration date upon ship date, both adhesive and primer: 6 months minimum.
- 3/ Fast Cure Adhesive Approved for shipboard usage as follows: **Fast cure adhesive is authorized only for administrative applications and is not authorized for use in tactical or mission critical applications.**

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 03 December 2018

ITEM: ST Connectors, ST Connector Adapters, Multiterminus (MT) Heavy Duty Connector TOP

MIL-SPEC: MIL-PRF-83522, MIL-PRF-29504, MIL-PRF-28876

CID: A-A-59940

VENDOR: Fiber Systems International, Inc. (Amphenol) (<http://www.fibersystems.com/>)

VENDOR GOV'T. SALES POC: Alan Sherman (214) 547-2477

Email: asherman@fibersystems.com

Vendor Address: Amphenol Fiber Systems International
1300 Central Expressway North
Allen, TX 75013

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
ST connector, nonlocking boot, 125 micron, MM	M83522/16-DNX	MSTC1000
ST connector, nonlocking boot, 125 micron, SM	M83522/16-DNY	MSTC2000
ST to ST adapter, SM	M83522/17-NY	MSTA2000
Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4131C	M29504/14- 4131C
Termini, pin, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4141C	M29504/14- 4141C
Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4171C	M29504/15- 4171C
Termini, socket, long length, ceramic guide bushing, SM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4181C	M29504/15- 4181C
Termini, dummy, for MIL-PRF-28876 connectors	M29504/3-4038	M29504/3-4038
Connector, four termini, receptacle, wall mount, with insert retention nut	M28876/1B1S1	M28876/1-B1S1
Connector, eight termini, receptacle, wall mount, with insert retention nut	M28876/1C1S1	M28876/1C1S1
Connector, four termini, plug, no strain relief, with insert retention nut	M28876/6B1P1	M28876/6B1P1
Connector, eight termini, plug, no strain relief, with insert retention nut	M28876/6C1P1	M28876/6C1P1
Connector, four termini, plug, no strain relief, no insert retention nut	M28876/6B1P1N	M28876/6B1P1N
Connector, eight termini, plug, no strain relief, no insert retention nut	M28876/6C1P1N	M28876/6C1P1N
Connector, four termini, plug, straight backshell with strain relief for four fiber cable	M28876/7B12P1	M28876/7B12P1
Connector, eight termini, plug, straight backshell with strain relief for eight fiber cable	M28876/7C11P1	M28876/7C11P1
Connector, four termini, plug, 45° backshell with strain relief for four fiber cable	M28876/8B12P1	M28876/8B12P1
Connector, eight termini, plug, 45° backshell with strain relief for eight fiber cable	M28876/8C11P1	M28876/8C11P1
Connector, four termini, plug, 90° backshell with strain relief for four fiber cable	M28876/9B12P1	M28876/9B12P1
Connector, eight termini, plug, 90° backshell with strain relief for eight fiber cable	M28876/9C11P1	M28876/9C11P1
Connector, four termini, receptacle, jamnut mount, with insert retention nut	M28876/11B1S1	M28876/11B1S1
Connector, eight termini, receptacle, jamnut mount, with insert retention nut	M28876/11C1S1	M28876/11C1S1

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Connector, eighteen, plug, 45° backshell with strain relief for eighteen fiber cable	M28876/8F2XPZ ^{2/}	M28876/8F2XPZ
Connector, eighteen, plug, 90° backshell with strain relief for eighteen fiber cable	M28876/9F2XPZ ^{2/}	M28876/9F2XPZ
Backshell, straight, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable	M28876/27B2	M28876/27B2
Backshell, straight, long length, with strain relief for MIL-PRF-28876/1, /6 and /11 eight termini connectors for eight fiber cable (O.D. range: 0.424 to 0.465 in.)	M28876/27C3	M28876/27C3
Backshell, 45°, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for Four fiber cable	M28876/28B2	M28876/28B2
Backshell, 45°, long length, with strain relief for MIL-PRF-28876/1, /6 and /11 eight termini connectors for eight fiber cable (O.D. range: 0.424 to 0.465 in.)	M28876/28C3	M28876/28C3
Backshell, 90°, regular length, with strain relief for MIL-PRF-28876/1, /6 and /11 four termini connectors for four fiber cable	M28876/29B2	M28876/29B2
Backshell, 90°, long length, with strain relief for MIL-PRF-28876/1, /6 and /11 eight termini connectors for eight fiber cable (O.D. range: 0.424 to 0.465 in.)	M28876/29C3	M28876/29C3
Commercial Item Description:		
	CID P/N	
ST connector, ruggedized, 125 micron, MM <u>1/</u>	A-A-59940/3-111SN	MSTC1100 MSTC1110 MSTB1400
ST connector, ruggedized, 125 micron, SM <u>1/</u>	A-A-59940/3-121SN	MSTC2100 MSTB2400
Approved Commercial Components:		
ST to ST adapter, MM <u>1/</u>	N/A	MSTA1300 MSTA1250
ST to ST adapter, SM <u>1/</u>	N/A	MSTA2300 MSTA2200
Approved Termination Kits:		
ST/SC termination kit	6872811	FKIT002
Multiterminus (MT) heavy duty connector termination kit	6872813	FKIT001
Submarine Combination ST, SC, and MT Termination Kit	7085185	FKIT007

1/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of “shock isolated” cabinets.

Non-Tactical Application:

- Connections in outlet boxes (drop boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

2/ X = Backshell Designator (1 through 3), Z = Keying Arrangement Designator (1 through 6)

* Contact Vendor for ordering information

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 29 May 2019

ITEM: Cable, Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-85045, MIL-PRF-49291

CID: A-A-59728, A-A-59731

VENDOR: General Cable (Formerly BICC Brand-Rex Company) (<http://www.generalcable.com/>)

VENDOR GOV'T SALES POC: Cedric Lindsay (859) 572-8737, FAX: (859) 572-8470

Vendor Address: General Cable
4 Tesseneer Drive
Highland Heights, KY 41076

DESCRIPTION	MIL-SPEC or CID P/N	VENDOR P/N
Qualified QPL Components:		
One fiber, OFCC, MM, 500 MHz BW	M85045/16-01	OC-1468
Four fiber, thermoset (cross linked), MM, 500 MHz BW	M85045/18-01P	OC-1417P
Eight fiber, thermoset (cross linked), MM, 500 MHz BW	M85045/17-01P	OC-1434P
36 fiber, thermoset (cross linked), MM	M85045/20-01M	OC-1540
18 fiber, thermoplastic, MM 500 MHz BW	M85045/22-01	OC-1680
90 fiber, thermoset, MM 500 MHz BW	M85045/24-01	OC-1682
8 fiber, outboard, MM	M85045/21-01	OC-1651
18 fiber, outboard, MM	M85045/23-01	OC-1681
One fiber, OFCC, SM	M85045/16-02	OC-1571
Four fiber, thermoset, SM	M85045/18-02P	OC-1578P
Eight fiber, thermoset, SM	M85045/17-02P	OC-1462P
18 fiber, thermoplastic, SM	M85045/22-02	OC-1652
36 fiber, thermoset, SM	M85045/20-02M	OC-1673
90 fiber, thermoset, SM	M85045/24-02	OC-1654
8 fiber, outboard, SM	M85045/21-02	OC-1679
18 fiber, outboard, SM	M85045/23-02	OC-1653
7 tube cable, blown optical fiber (BOF) (Black) Enhanced	M85045/25-01E	OC-1598
7 tube cable, blown optical fiber (BOF) (Light Blue) Enhanced	M85045/25-01E	OC-1715
Single tube cable, blown optical fiber (BOF) (Black) Enhanced	M85045/26-01E	OC-1597
Single tube cable, blown optical fiber (BOF) (Light Blue) Enhanced	M85045/26-01E	OC-1717
7 tube cable, blown optical fiber (BOF) (Black) Standard	M85045/25-01S	OC-1701
7 tube cable, blown optical fiber (BOF) (Light Blue) Standard	M85045/25-01S	OC-1716
Single tube cable, blown optical fiber (BOF) (Black) Standard	M85045/26-01S	OC-1704
Single tube cable, blown optical fiber (BOF) (Light Blue) Standard	M85045/26-01S	OC-1718
Optical fiber, multimode <u>1/</u>	M49291/6-05BF	OC-062H-BF-XXXX(QPL)
Optical fiber, single mode <u>1/</u>	M49291/7-02BF	OC-009S-BF-XXXX(QPL)
Commercial Item Description:		
Plug, Tube Fitting, blown optical fiber (BOF) Duct 8mm Connector Plug	A-A-59728-TFP-8	77-7231
Tube Fitting, blown optical fiber (BOF) Duct 8mm Straight Connector	A-A-59731-U-8E	77-7225
Tube Fitting, blown optical fiber (BOF) Duct 8mm Tee Connector	A-A-59731-TS-8E	77-7229
Tube Fitting, blown optical fiber (BOF) End Cap Coupler	A-A-59731-EC-8E	705620
Tube Fitting, blown optical fiber (BOF) Duct 5mm Straight Coupler	A-A-59731-U-5E	77-7224
Tube Fitting, blown optical fiber (BOF) Duct 8mm-5mm Reducer, Straight Coupler	A-A-59731-R-E	77-7227

Continued on next page

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Approved Commercial Components:		
Conventional cable, 2-fiber, commercial <u>2/</u>	N/A	OC-1613
Conventional Loose structure cable, 2 fiber 62.5/125 zipcord with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u>	N/A	OC-1731
Conventional Loose structure cable, simplex 62.5/125 with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u>	N/A	OC-1732
Conventional Loose structure cable, 2 fiber 9/125 zipcord with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u>	N/A	OC-1737
Conventional Loose structure cable, simplex 9/125 with 600 micron buffered fiber LSZH (2.0mm) <u>3/</u>	N/A	OC-1736
Single Tube, blown optical fiber (BOF), used for interconnection inside of the tube routing boxes (TRB) (8mm) <u>4/</u>	N/A	423380
Single Tube, blown optical fiber (BOF), used for interconnection inside of the tube routing boxes (TRB) (5mm) <u>4/</u>	N/A	423400
Cable, Fiber Optic, 18 Fibers, Enhanced Performance, Configuration Type 2 (OFCC), Application B (Shipboard), Class MM/SM Mixed	NAVSEA Drawing 8479606A	437970

1/ For Blown Optical Fiber (BOF) applications. XXXX indicates blowable coating color

2/ Commercial Cable Approved for shipboard usage as follows:

Non-Tactical Application:

- Cable connections within a compartment.
- Cable connections within an equipment or rack.

3/ Approved for use with the currently approved pull proof style SC and LC connectors.

4/ Subcomponent of Qualified part 85045/25 & /26.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 24 March 2011

ITEM: Multiterminus (MT) Heavy Duty Connector and Termini [TOP](#)

MIL-SPEC: MIL-PRF-28876, MIL-PRF-29504

VENDOR: Glenair, Inc (<http://www.glenair.com/>)

VENDOR GOV'T. SALES POC: Bea Martin (818) 247-6000

Email: bmartin@glenair.com

Vendor Address: Glenair, Inc.
1211 Air Way
Glendale, CA 91201-2497

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Termini, pin, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/14-4131C	181-039-1260C
Termini, socket, long length, ceramic guide bushing, MM, w/ crimp sleeve, for MIL-PRF-28876 connectors	M29504/15-4171C	181-040-1260C
Termini, dummy, for MIL-PRF-28876 connectors	M29504/3-4038	181-051
Connector, four termini, receptacle, wall mount, with insert retention nut	M28876/1B1S1	M28876/1B1S1
Connector, eight termini, receptacle, wall mount, with insert retention nut	M28876/1C1S1	M28876/1C1S1
Connector, four termini, plug, no strain relief, with insert retention nut	M28876/6B1P1	M28876/6B1P1
Connector, eight termini, plug, no strain relief, with insert retention nut	M28876/6C1P1	M28876/6C1P1
Connector, four termini, plug, no strain relief, no insert retention nut	M28876/6B1P1N	M28876/6B1P1N
Connector, eight termini, plug, no strain relief, no insert retention nut	M28876/6C1P1N	M28876/6C1P1N
Connector, four termini, plug, straight backshell with strain relief for four fiber cable	M28876/7B12P1	M28876/7B12P1
Connector, eight termini, plug, straight backshell with strain relief for eight fiber cable	M28876/7C11P1	M28876/7C11P1
Connector, four termini, plug, 45° backshell with strain relief for four fiber cable	M28876/8B12P1	M28876/8B12P1
Connector, eight termini, plug, 45° backshell with strain relief for eight fiber cable	M28876/8C11P1	M28876/8C11P1
Connector, four termini, plug, 90° backshell with strain relief for four fiber cable	M28876/9B12P1	M28876/9B12P1
Connector, eight termini, plug, 90° backshell with strain relief for eight fiber cable	M28876/9C11P1	M28876/9C11P1
Connector, four termini, receptacle, jamnut mount, with insert retention nut	M28876/11B1S1	M28876/11B1S1
Connector, eight termini, receptacle, jamnut mount, with insert retention nut	M28876/11C1S1	M28876/11C1S1

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 26 February 2016

ITEM: Splice, Fusion Shelf and Tray [TOP](#)

VENDOR: Hubbell (<http://ecatalog.hubbell-premise.com/>)

VENDOR GOV'T SALES POC: E.J. McCue (860)608-3984, FAX: (203)783-9230

Vendor Address: Hubbel Premise Wiring
 26B Spithead Road
 Waterford, CT 06385

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Approved Commercial Components:		
Splice, Fusion Shelf <u>1/</u> <u>3/</u>		FSS01A
Splice, Fusion Tray, 10" <u>2/</u> <u>3/</u>		STRAY24MIL
Splice, Tray Cover, 10"		FSS01A10TC
Splice, Tray Cover, 7"		FSS01A7TC

1/ A tray cover is required and the cover shall be compatible with splice tray in use.

2/ A 7" splice tray (MIL-24728/8-51) is also available.

3/ Commercial Fusion Splice Shelf and Tray approved for usage as follows: Storage of MIL-24623 Fusion Splices within a "shock isolated" equipment or rack".

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 15 March 2019

ITEM: Interconnection Box, Fusion Splice Protector, BOF Tube Furcation Unit, Termination Kits

TOP

MIL-SPEC: MIL-I-24728, MIL-PRF-24623; CID: A-A-59729

VENDOR: KitCo (<http://www.kitcofo.com/>)

VENDOR GOV'T. SALES POC: Dan Morris (757) 216-2220, FAX: (757) 518-9700

Vendor Address: KitCo
5269 Cleveland St.
Virginia Beach, VA 23462

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Fusion splice tray – for use in 24728/8-50	M24728/8-051	0732-1106
Fusion splice protector	M24623/6-1	0703-3775
Commercial Item Descriptions:		
	NAVSEA DWG Or CID P/N	
Furcation Units, Tube, blown optical fiber (BOF) 12 fibers	A-A-59729	0705-8040
Furcation Units, Tube, blown optical fiber (BOF) 4 fibers	A-A-59729	0705-8120
Furcation Units, Tube, blown optical fiber (BOF) 8 fibers	A-A-59729	0705-8130
Approved Termination Kits:		
ST/SC termination kit	6872811	0800-8010
Multiterminus (MT) heavy duty connector termination kit	6872813	0801-8000
MIL-S-24623/4 rotary mechanical splice termination kit	6872812	0801-8020
Submarine combination ST, SC & MT kit	7085185	0801-8030
FDDI connector tool supplement <u>1/</u>	N/A	0801-8040
SC upgrade kit <u>1/</u> <u>2/</u>	N/A	0801-8080
Polishing puck, ST & SC connector compatible <u>2/</u>	N/A	0700-1750
Damage Control Kit, Optical Fiber, Naval Shipboard	7344573	0701-8000
Approved Commercial Components:		
Jumper, duplex, LSZH, (MM) 100 feet, with 106 812 274 COTS connectors <u>3/</u>	7344573-14	0705-8012
Jumper, duplex, LSZH, (SM) 100 feet, with 106 812 258 COTS connectors <u>3/</u>	7344573-15	0705-8015

1/ Must be used with ST connector termination kit.

2/ Only necessary for ST termination kits procured before September 1997.

3/ Only used with Damage Control Kit

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Transmitter and Receiver [TOP](#)

MIL-SPEC: MIL-M-24791

VENDOR: Laser Diode, Inc. (<http://www.laserdiode.com/>)

VENDOR GOV'T. SALES POC: Ken Miller (908) 549-9001, FAX (908) 906-1559

Vendor Address: Laser Diode, Inc.
4 Olden Avenue
Edison, NJ 08820

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
First Article Approved Components:		
Transmitter, 1300 nm, LED, 16 pin DIP, MM pigtail, 125 Megabits, high power	M24791/1-HP	TS 2143C
Receiver, long wavelength digital, 16 pin DIP, MM pigtail, 125 Megabits, high sensitivity	M24791/2-HS	RT 2714C
Receiver, long wavelength digital, 16 pin DIP, MM pigtail, 125 Megabits, low sensitivity	M24791/2-LS	RT 2714C

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Switch [TOP](#)

MIL-SPEC: MIL-S-24725

VENDOR: Litton Network Access Systems (<http://www.litton-ps.com/>)

VENDOR GOV'T SALES POC: Jay Muscatello (540) 552-3011 X230

Vendor Address: Litton Network Access Systems
1213 North Main Street
Blacksburg, VA 24060

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Following Components Are Not Qualified To Date:		
Switch, hard mounted, electrical, nonlatching, MM cable, 2x2 bypass, optical pigtailed entering on opposing sides.	M24725/1-01T	FO4663R-B300-100C-N
Switch, hard mounted, electrical, nonlatching, MM cable, 2 x 2 bypass, optical pigtailed entering on one side.	M24725/1-01S	N/A*
Switch, non-hard mounted, electrical, nonlatching, MM cable, 2 x 2 bypass, optical pigtailed entering on opposing sides.	M24725/2-01T	FO4663R-B300-100C-N
Switch, non-hard mounted, electrical, nonlatching, MM cable, 2 x 2 bypass, optical pigtailed entering on one side.	M24725/2-01S	N/A*

* Not applicable

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 06 August 2020

ITEM: Cable, Optical Fiber [TOP](#)

MIL-SPEC: MIL-PRF-85045

VENDOR: Marmon Aerospace & Defense LLC (<http://www.marmon-ad.com/>)

VENDOR GOV'T SALES POC: Janice Welch (603) 518-1721, FAX: (800) 639-5701

Vendor Address: Marmon Aerospace & Defense LLC
680 Hayward St
Manchester, NH 03103-4420

DESCRIPTION	MIL-SPEC or CID P/N	VENDOR P/N
Qualified QPL Components:		
Eight fiber, thermoset (cross linked), MM, 500 MHz BW	M85045/17-01P	AD85045/17-01P
One fiber, OFCC, MM, 500 MHz BW	M85045/16-01	AD85045/16-01
Four fiber, thermoset (cross linked), MM, 500 MHz BW	M85045/18-01P	AD85045/18-01P

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Index Matching Material [TOP](#)

MIL-SPEC: MIL-PRF-24794

VENDOR: Nye Lubricants, Inc. (<http://www.nyeoptical.com/>)

VENDOR GOV'T SALES POC: Paul Bessette (508) 996-6721, FAX: (508) 997-5285

Vendor Address: Nye Lubricants, Inc.
12 Howland Rd.
Fairhaven, MA 02719

ALTERNATE SOURCE: Jay Weikel (704) 587-9447, FAX: (704) 587-9566

Source Address: Nye Lubricants, Inc. - Southeast Engineering Office
10660 York Road, Suite 9
Charlotte, NC 28273

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
First Article Approved Material:		
Index matching material, fiber optic, one part, 1 cc syringe*	M24794-1	OC-432/1 cc syringe
Index matching material, fiber optic, one part, 10 cc syringe*	M24794-1	OC-432/10 cc syringe
Index matching material, fiber optic, one part, 2 ounce glass jar*	M24794-1	OC-432/2 ounce glass jar
Index matching material, fiber optic, one part, 6 ounce Semco cartridge*	M24794-1	OC-432/6 Semco cartridges

*Two-year shelf life specified from date of shipment. Shelf life is indefinite if stored properly. There is no active ingredient in the index matching material to cause deterioration. Material can be returned to Nye Lubricants, Inc. to be re-qualified if shelf life is exceeded.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 13 August 2015

ITEM: ST, SC and LC Connectors; Epoxy; Fast Cure Adhesive [TOP](#)

MIL-SPEC: MIL-PRF-24792

CID: A-A-59940

VENDOR: OFS Optics (<http://www.ofsoptics.com/>)

VENDOR GOV'T. SALES POC: Jim Ford (770) 838-5215, FAX: (770) 838-5442

Email: jford@ofsoptics.com

Vendor Address: OFS Optics
1 Brightwave Blvd
Carrollton, GA 30117

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
First Article Approved Material:		
Epoxy, two part, fiber optic, heat cured, 15 bipacks <u>1/</u>	M24792-A	105 489 355
Commercial Item Description:		
CID P/N		
ST connector, 125 micron, MM <u>5/</u>	A-A-59940/3-111SN	106 812 274
ST connector, 125 micron, SM <u>5/</u>	A-A-59940/3-121SN	106 812 258
LC connector, 125 micron, MM, simplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u>	A-A-59940/1-111SP	108 064 445
LC connector, 125 micron, SM, simplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u>	A-A-59940/1-121SP	109 154 559
LC connector, 125 micron, MM, duplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u>	A-A-59940/1-111DP	108 138 678
LC connector, 125 micron, SM, duplex jumper connector, pull proof <u>5/ 6/ 7/ 8/ 9/ 10/</u>	A-A-59940/1-121DP	108 137 605
Approved Commercial Components:		
Fast cure adhesive, fiber optic <u>3/ 4/</u>	N/A	Adhesive: 106 730 856 Primer: 106 730 849
ST to ST, adapter, MM <u>5/</u>	N/A	104 148 028
ST to ST, adapter, SM <u>5/</u>	N/A	105 271 142
LC-to-LC adapter, MM, duplex adapter, plastic alignment sleeve <u>5/</u>		108 072 497
LC-to-LC adapter, SM, duplex adapter, ceramic alignment sleeve <u>5/</u>		108 072 489

1/ Each bipack contains a pre-measured quantity of resin and hardener separated by a divider. There is 8 gm of resin and hardener per bipack. Expiration date upon ship date: 9 months minimum.

3/ Fast Cure Adhesive Approved for shipboard usage as follows: **Fast cure adhesive is authorized only for administrative applications and is not authorized for use in tactical or mission critical applications.**

4/ Adhesive: Quantity of one 10 ml bottle. Primer: Quantity of one 1 oz bottle. Expiration date upon ship date, both adhesive and primer: 6 months minimum.

5/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes next page plastic adapters on commercial interface cards including Network Interface Cards).

6/ zirconia ferrule, 1.5 & 2 mm cables

7/ LC connectors are pull proof connectors designed for loose structured cables. However, with proper care and workmanship these connectors can be installed on tight structured cables.

8/ Two configurations for LC connector. LC connector is provided in both pull proof and non pull proof configurations (but OFS only provides the pull proof configuration). The standard commercial configuration is the pull proof one. A pull proof connector is designed to be used with a loose tube cable. In a pull proof configuration, there is no optical discontinuity at the mating connector end faces when the cabling affixed to one of the connectors is pulled. The non pull proof LC connector is constructed similar to an ST connector and designed to be used with either loose tube or tight buffer cabling. The spring compresses as the cabling exiting the connector is pulled. This compression removes the ferrule from the mating connector end face. The result is a discontinuous optical path (optical discontinuity) for the duration of the pulled cable.

CAUTION

For pull proof connectors, do not completely backfill an LC connector when terminating to tight buffer cabling. A complete backfill of epoxy can result a locked spring (inability of plunger feature to function) and/or bonded fiber (inability of fiber to push back in the tube/jacket).

9/ Termination precautions, pull proof connector with tight buffer cabling. A pull proof connector can be placed (terminated) onto tight buffer cabling following a slightly modified (really more careful or precise fill during the) epoxy injection process. The key is not to completely backfill the connector barrel cavity. The syringe tip used aids to control this fill. Instead of a dispensing (syringe) tip, twist on, 20 gage, 1 inch long, blunt end, for epoxy injection into all connector types except SC and LC; a dispensing tip, twist on, 18 gage, 0.5 inch long, chamfered end, for epoxy injection into SC and LC connectors is used. The syringe tip is inserted completely (as in standard process). Care must be taken to completely fill the "cone" (front) portion of the cavity, but do not complete the backfill. The SC and LC connectors have a lip internal to the barrel cavity. An 18 gage syringe tip can be inserted only to this lip. When using proper syringe tip, this restricted insertion allows an epoxy fill up to the lip (filling the front cone or chamfered area) and into/through the ferrule hole. Pressure on the syringe plunger is applied until an epoxy bead appears on the ferrule end face. The correct volume of epoxy is injected once the epoxy bead appears. Withdraw the syringe tip without further injection of epoxy (i.e., without further pressure applied to the syringe plunger).

10/ Application affect pull proof connector failure rates. Backfilling of epoxy in a pull proof connector further restricts the degree of fiber flexing. When two connectors are mated through an adapter (such as a LC-to-LC adapter), the plunging movement in each connector is halved. This results in the fiber needing to flex to a lesser degree in the back end of each connector. At a fixed interface (such as at a network interface card or NIC), the connector plunges back further. This results in the fiber needing to flex more. When the termination is not done properly (see note 9/), fiber breakage at the back of the connector can occur. A higher failure rate is more likely at a fixed interface. Also, improperly terminated connectors may fail after surviving the first few times mated.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 18 December 2012

ITEM: ST Connectors, Commercial Cable [TOP](#)

MIL-SPEC: MIL-C-83522

VENDOR: Optical Cable Corporation (OCC) (<http://www.occfiber.com/>)

VENDOR GOV'T. SALES POC: (800) 622-7711, FAX: (540) 265-0724

Vendor Address: Optical Cable Corporation
 5290 Concourse Drive
 PO Box 11967
 Roanoke, VA 24022-1967

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
ST to ST adapter, 125 micron, SM/MM <u>1/</u>	M83522/17-NY	M83522/17-NY-S M83522/17-NY-B
ST connector, nonlocking boot, 125 micron, MM <u>1/</u>	M83522/16-DNX	M83522/16-DNX-S M83522/16-DNX-B
ST connector, nonlocking boot, 125 micron, SM/MM <u>1/</u>	M83522/16-DNY	M83522/16-DNY-S M83522/16-DNY-B
Special Application Components:		
ST connector, QPL, locking boot, 125 micron, MM	M83522/16-ANX	M83522/16-ANX-B
ST connector, QPL, locking boot, 125 micron, SM/MM	M83522/16-ANY	M83622/16-ANY-B
Approved Commercial Components:		
Conventional cable, commercial LSZH <u>2/</u>	N/A	AC002ZWLS90Z

1/ Components constructed using stainless steel (-S) or nickel plated brass (-B) material.

2/ Commercial Cable Approved for shipboard usage as follows:

Non-Tactical Application:

- Cable connections within a compartment.
- Cable connections within an equipment or rack.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 02 December 2019

ITEM: Tube Fittings, Plug, Tube Fitting BOF [TOP](#)

CID: A-A-59731, A-A-59728

VENDOR: SMC (<http://www.smcusa.com/>)

VENDOR GOV'T. SALES POC: David Smith (804) 527-0500, FAX: (804) 527-2100

Vendor Address: SMC Corporation of America
4701 Cox Road, Suite 105
Glen Allen, VA 23060

DESCRIPTION	CID P/N	VENDOR P/N
Commercial Item Descriptions:		
Tube Fitting, BOF – straight coupler	A-A-59731-U-8E	KRH08-00
		KQH08-00
		KQ2H08-00
Tube Fitting, BOF – straight coupler	A-A-59731-U-5	KQ2H05-00
Tube Fitting, BOF - Tee coupler	A-A-59731-T-8E	KRT08-00
		KQT08-00
		KQ2T08-00
End cap coupler	A-A-59731-EC-8E	KQ2C08-00
Plug, Tube Fitting, BOF	A-A-59728-TFP-8	KRP-08

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 September 2016

ITEM: ST Connector [TOP](#)

CID: A-A-59940

VENDOR: STRAN Technologies (<http://www.strantech.com/>)

VENDOR GOV'T. SALES POC: Bob Rubino (203) 729-2572, FAX: (203) 729-2689

Email: brubino@strantech.com

Vendor Address: STRAN Technologies
39 Great Hill Road
Naugatuck, CT 06770-0222

DESCRIPTION	CID P/N	VENDOR P/N
Commercial Item Description:		
ST connector, commercial-ruggedized, nonlocking boot, 125 um, MM <u>1/</u>	A-A-59940/3-111SN	900-0328-02
ST connector, commercial-ruggedized, nonlocking boot, 125 um, SM <u>1/</u>	A-A-59940/3-121SN	900-0328-01
Approved Commercial Components:		
ST-to-ST adapter, commercial, Multimode <u>1/</u>	N/A	900-0329
ST-to-ST adapter, commercial, Single mode <u>1/</u>	N/A	900-0329

1/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 15 December 2016

ITEM: Interconnection Box, Tube Fittings, Tapered Tube Plug BOF, BOF Bundle Cable TOP

MIL-SPEC: MIL-I-24728, MIL-PRF-85045

VENDOR: Sumitomo (<http://www.sumitomoelectric.com/>)

VENDOR GOV'T. SALES POC: Keith Quistorff (919) 541-8186, FAX: (919) 541-8267

Vendor Address: Sumitomo
78 Alexander Dr.
P.O. Box 13445
Research Triangle Park, NC 27709

DESCRIPTION	CID P/N	VENDOR P/N
Commercial Item Descriptions:		
Plug, Tapered Tube, BOF, 6-fiber bundle or up to 8 fibers, 8mm	A-A-59730-TTP-2	FT2MFB
Tapered Tube Plug, BOF, 12- or 18- fiber bundles or 9 to 12 fibers BOF, 8mm	A-A-59730-TTP-3	FT3MFB
Tube fitting, BOF: Straight coupler	A-A-59731- U-8E	DE08MC2
Tube fitting, BOF, Tee coupler	A-A-59731-T-8E	DE08MT
Tube fitting, BOF, End cap coupler	A-A-59731-EC-8E	DE08MA
Type-Q101-CA Splicing Kit Contents:	A-A-59799-A	Type Q101-KIT-G
1 ea – Type Q101-CA Quantum Splicer		
1 ea – Fiber Cleaver w/Scrap Catcher		FC-6RM
1 ea – AC Cord/Adapter PC-Q101/TQ101		ADC1240
1 pr – Spare Electrode		ER-10
1 ea – Operation Manual		
1 ea – Transit Case		
Type-39 Splicing Kit Contents:	A-A-59799-A	Type-39-KIT-G
1 ea - Type-39 Fusion Splicer		
1 ea - Fiber Cleaver w/Scrap Catcher		FC-6M-C
1 ea - AC Cord		PC-AC2
1 pr - Spare Electrodes		ER-10
1 ea - Operation Manual		
1 ea - Transit Case		
1 ea - Adapter/Battery Charger		
Approved Commercial Components:		
Single Tube, blown optical fiber (BOF), used for inter-connection inside of the tube routing boxes (TRB) (8mm) <u>1/</u>	N/A	TC01NAL

1/ Subcomponent of Qualified part 85045/25 & /26.

NOTE: This Fusion Splice Kit is not approved for Organizational Level Shipboard Maintenance & Repair.

NOTE: COTS splicing unit contains a coin size lithium battery.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 27 July 2001

ITEM: Epoxy, Heat Cured [TOP](#)

MIL-SPEC: MIL-A-24792

VENDOR: Tra-Con, Inc. (<http://www.tra-con.com/>)

VENDOR GOV'T. SALES POC: Amy Nelson (781) 275-6363 X1111

Vendor Address: Tra-Con, Inc.
Resin Systems Division
55 North Street
Medford, MA 02155

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
First Article Approved Material:		
Epoxy, two part, fiber optic, room/heat cured, quantity: 1 packet, 2 gm bipax *	M24792-A	BA-F112
Epoxy, two part, fiber optic, room/heat cured, quantity: 1 packet, 7 gm bipax *	M24792-A	BB- F112
Epoxy, two part, fiber optic, room/heat cured, quantity: 1 packet, 28 gm bipax *	M24792-A	BC- F112
Epoxy, two part, fiber optic, room/heat cured, quantity: six -1 gm packets (minipaxs) on a strip *	M24792-A	BY- F112

* Each bipax contains a pre-measured quantity of resin and hardener separated by a divider. F112 has a 9-month shelf life from date of shipment.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 06 August 2020

ITEM: Commercial SC and LC Connectors [TOP](#)

CID: A-A-55917, A-A-59940

VENDOR: TE Connectivity (Tyco Electronics) (<http://www.amp.com/>)

VENDOR GOV'T. SALES POC: Contact the local Tyco commercial products representative or distributor

Vendor Address: TE Connectivity
PO Box 3608
Harrisburg, PA 17105-3608

DESCRIPTION	MIL SPEC OR CID P/N	VENDOR P/N
Commercial Item Descriptions:		
Simplex SC connector, commercial, Multimode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/2-111SN	6828099-1
Simplex SC connector, commercial, Single Mode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/2-121SN	6828100-1
Duplex SC connector, commercial, Multimode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/2-111DN	1828574-1
Duplex SC connector, commercial, Single Mode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/2-121DN	1828573-1
Simplex SC connector, commercial, Multimode, for 1.6-2.0 mm, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/2-111SN	6828099-1
Simplex LC connector, 125 micron, MM, simplex jumper connector, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/1-111SN	6828094-1 (GEN I)
Simplex LC connector, 125 micron, SM, simplex jumper connector, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/1-121SN	6828095-1 (GEN I)
Duplex LC, connector, 125 micron, MM, duplex jumper connector, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/1-111DN	6828129-1 (GEN I)
Duplex LC, connector, 125 micron, SM, duplex jumper connector, non-pull proof <u>1/ 3/ 6/</u>	A-A-59940/1-121DN	6828130-1 (GEN I)
Simplex ST connector, quick connect, commercial, Multimode <u>4/ 5/</u>	A-A-59940/3-311SN	2064757-1
Duplex LC connector, commercial, MM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u>	: A-A 59940/1-111DN	2123524-1 (GEN II)
Duplex LC connector, commercial, SM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u>	A-A 59940/1-121DN	2123524-2 (GEN II)
Simplex LC connector, commercial, MM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u>	A-A 59940/1-111SN	2123265-1 (GEN II)
Simplex LC connector, commercial, SM, for 1.6-2.0mm, non-pull proof <u>1/ 3/ 6/ 10/ 11/</u>	A-A 59940/1-121SN	2123265-2 (GEN II)
Approved Commercial Components:		
Simplex SC to SC adapters, commercial, pull proof <u>2/</u>	N/A	1-5502632-0
TMS-SCE-1/2-2.0-9 heat shrink marker	N/A	5061850001
Sealant tape for use with blown fibers IAW MIL-STD-2042-2 (equivalent to Raychem SFTS-1)	N/A	S1278-01

1/ SC/LC connectors are not for use with patch panels except as noted below. Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Continued on next page

NAVY SHIPBOARD FIBER OPTIC RECOMMENDED COMPONENTS PARTS LIST

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

2/ SC connectors are pull proof connectors designed for loose structured cables. However, with proper care and workmanship these connectors can be installed on tight structured cables.

3/ SC/LC connectors are non pull proof connectors designed for loose and tight structured cables.

4/ Commercial Connectors Approved for shipboard usage as follows:

Tactical Application:

- Mate with plastic adapters on commercial interface cards (including Network Interface Cards (NIC cards)).
- Mate with equipment and patch panels mounted to the interior of "shock isolated" cabinets.

Non-Tactical Application:

- Connections in Outlet Boxes (Drop Boxes) for non-tactical applications.
- Mate with equipment and patch panels mounted to the interior of cabinets (includes plastic adapters on commercial interface cards including Network Interface Cards).

5/ ST LightCrimp PLUS toolkit (2064764-1) is required for Navy termination (includes precision cleaver, cable clamp, and 3 position strip tool).

6/ Two configurations for LC and SC connectors. LC and SC connectors are provided in both pull proof and non pull proof configurations. The standard commercial configuration is the pull proof one. A pull proof connector is designed to be used with a loose tube cable. In a pull proof configuration, there is no optical discontinuity at the mating connector end faces when the cabling affixed to one of the connectors is pulled. The non pull proof LC and SC connectors are constructed similar to an ST connector and designed to be used with either loose tube or tight buffer cabling. The spring compresses as the cabling exiting the connector is pulled. This compression removes the ferrule from the mating connector end face. The result is a discontinuous optical path (optical discontinuity) for the duration of the pulled cable.

CAUTION

For pull proof connectors, do not completely backfill an LC or SC connector when terminating to tight buffer cabling. A complete backfill of epoxy can result a locked spring (inability of plunger feature to function) and/or bonded fiber (inability of fiber to push back in the tube/jacket).

7/ Termination precautions, pull proof connector with tight buffer cabling. A pull proof connector can be placed (terminated) onto tight buffer cabling following a slightly modified (really more careful or precise fill during the) epoxy injection process. The key is not to completely backfill the connector barrel cavity. The syringe tip used aids to control this fill. Instead of a dispensing (syringe) tip, twist on, 20 gage, 1 inch long, blunt end, for epoxy injection into all connector types except SC and LC; a dispensing tip, twist on, 18 gage, 0.5 inch long, chamfered end, for epoxy injection into SC and LC connectors is used. The syringe tip is inserted completely (as in standard process). Care must be taken to completely fill the "cone" (front) portion of the cavity, but do not complete the backfill. The SC and LC connectors have a lip internal to the barrel cavity. An 18 gage syringe tip can be inserted only to this lip. When using proper syringe tip, this restricted insertion allows an epoxy fill up to the lip (filling the front cone or chamfered area) and into/through the ferrule hole. Pressure on the syringe plunger is applied until an epoxy bead appears on the ferrule end face. The correct volume of epoxy is injected once the epoxy bead appears. Withdraw the syringe tip without further injection of epoxy (i.e., without further pressure applied to the syringe plunger).

Continued on next page

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

- 8/ Application affects pull proof connector failure rates. Backfilling of epoxy in a pull proof connector further restricts the degree of fiber flexing. When two connectors are mated through an adapter (such as a LC-to-LC adapter), the plunging movement in each connector is halved. This results in the fiber needing to flex to a lesser degree in the back end of each connector. At a fixed interface (such as at a network interface card or NIC), the connector plunges back further. This results in the fiber needing to flex more. When the termination is not done properly (see note 7/), fiber breakage at the back of the connector can occur. A higher failure rate is more likely at a fixed interface. Also, improperly terminated connectors may fail after surviving the first few times mated.
- 9/ Deleted.
- 10/ For LC Gen II, strip template shall be per manufacturer instructions.
- 11/ LC exceeds max length requirement of 55mm per CID A-A 59940/1. Length from tip of ferrule to rear of boot is 56.3mm.

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 07 February 2013

ITEM: Interconnection Box [TOP](#)

MIL-SPEC: MIL-I-24728

VENDOR: US Pioneer (formerly NMP Corp.) (<http://www.uspioneer.net/>)

VENDOR GOV'T SALES POC: Les Lapidus (918) 252-0481, FAX: (918) 252-0486

Vendor Address: US Pioneer Inc.
P.O. Box 472065
4450 S. 70th E. Avenue
Tulsa, OK 74147-2965

DESCRIPTION	MIL-SPEC P/N	VENDOR P/N
Qualified QPL Components:		
Box, sized for one 48 adapter patch panel, with cable entrance	M24728/1-005	11401-101
Box, sized for one 48 adapter patch panel, without cable entrance	M24728/1-006	11401-104
Box, sized for two 48 adapter patch panels, with cable entrance	M24728/2-005	10913-101
Box, sized for two 48 adapter patch panels, without cable entrance	M24728/2-006	10913-104
Box, sized for three 48 adapter patch panels, with cable entrances	M24728/3-001	11112-101
Box, sized for three 48 adapter patch panels, without cable entrances	M24728/3-004	11112-104
Box, sized for one 8 adapter patch panel, without cable entrance	M24728/4-001	11166-101
Box, sized for one 16 adapter patch panel, without cable entrance	M24728/5-001	11164-101
48 adapter patch panel (for ST connectors)	M24728/6-001	11254-101
8 adapter patch panel (for ST connectors)	M24728/4-002 (comes /w box)	11406-101
16 adapter patch panel (for ST connectors)	M24728/5-002 (comes w/ box)	11407-101
Splice tray holder – Mechanical for 24623/4	M24728/7-001	10427-101
Aluminum mounting plate for 48 adapter patch panel / splice tray holder	comes with box	11210-101
Wedge pack for cable entrance configuration	comes with box	11228-1
4 Splice tray holder – for four splice trays (24728/8-51)	M24728/8-050	12485-101
Box, sized for cable routing and four 4 or 8 splice tray holders, spray tight, 711.2 x 1371.6 mm	M24728/09-001	12619-101
Box, sized for cable routing and four 4 or 8 splice tray holders, spray tight, 711.2 x 1016.0 mm	M24728/10-001	12631-101
8 Splice tray holder – for eight splice trays (24728/8-51)	M24728/11-001	12630-101

**NAVY SHIPBOARD FIBER OPTIC
RECOMMENDED COMPONENTS PARTS LIST**

Last update: 19 September 2017

ITEM: Commercial Heat Shrink Marker [TOP](#)

CID:

VENDOR: Brady (<http://www.bradyid.com/>)

VENDOR GOV'T. SALES POC: Contact the local Brady commercial products representative or distributor

Vendor Address: Brady Corporation
6555 W. Good Hope Road
PO Box 571
Milwaukee, WI 53201-0571

DESCRIPTION	MIL SPEC OR CID P/N	VENDOR P/N
Commercial Item Descriptions:		
Approved Commercial Components:		
Brady B342 series heat shrink labels for use with 2mm cable: 1/8" ^{1/}	N/A	3PS-125-2-WT
Brady B342 series heat shrink labels for use with 5mm BOF Tube: 1/4" ^{1/}	N/A	3PS-250-2-WT
Brady B342 series heat shrink labels for use with 8mm BOF Tube: 3/8" ^{1/}	N/A	3PS-500-2-WT

^{1/} For NO Heat Shrink Application: MIL-STD-2042 Method 6H1 compliance, is only applicable to MIL-STD-2042 use. The heat shrink label shall not be shrunk around cable or BOF tubes.