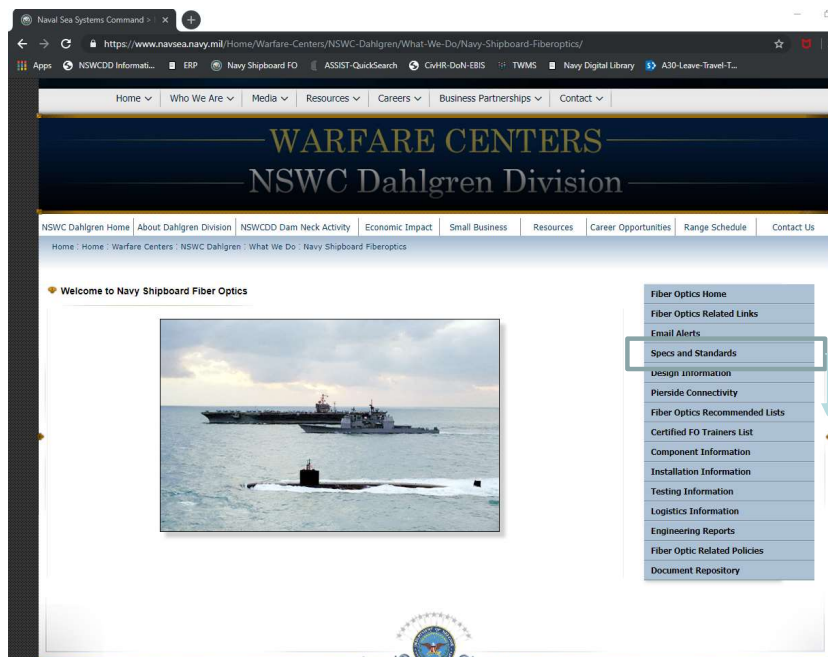




Navy Shipboard Fiber Optics: Specifications/Standards



Source: <https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/What-We-Do/Navy-Shipboard-Fiberoptics/>

Presented By

**Chris Good/ NSWCDD A31
Fiber Optic Chief Engineer
christopher.a.good8.civ@us.navy.mil**

April 03, 2024

Unclassified / Distribution Statement A



Navy Shipboard Website / Specs & Standards



https://quicksearch.dla.mil/qsSearch.aspx

NSWCDD-FO WEB | NAVSEA | NSWCDD | MUSTER | IBPES | PTEM | TWMS | NSWCDD CHENG C... | DLA-VQ

Quick Search ASSIST

Data updated: 15 Nov 2021

Standards to combat COVID-19, please check the Defense Standardization Program website located at https://www.dsp.dla.mil/Specs-Standards/COVID-19-Related-Standards.

Enter search criteria in one or more of three text fields: Document ID, Document Number, Find Term(s). Filter search results by selecting Status or FSC/Area from drop-down lists, or by checking the box and specifying a range of document dates. Click a label for a detailed description and sample search results.

Document ID: Document Number: Status: All

Find Term(s), Term2, ... For: All Terms In: Title or Keywords or Scope

FSC/Area: Select All Document Date: 16-Nov-2020 Through: 16-Nov-2021

[About Quick Search](#) | [Contact Us](#) | [FAQ](#) | [ASSIST](#) | [Privacy and Security](#) | [Section 508 Compliance](#) | [Defense Standardization Program](#)

WARNING: UNAUTHORIZED ACCESS TO THIS UNITED STATES GOVERNMENT COMPUTER SYSTEM AND SOFTWARE IS PROHIBITED BY PUBLIC LAW 99-474 (THE COMPUTER FRAUD AND ABUSE ACT OF 1986) AND CAN RESULT IN ADMINISTRATIVE DISCIPLINARY OR CRIMINAL PROCEEDINGS.

NSWC Dahlgren Home | About Dahlgren Division | NSWCDD Dam Neck Activity | Economic Impact | Small Business | Resources | Career Opportunities | Range Schedule | Contact Us

Home : Home : Warfare Centers : NSWC Dahlgren : What We Do : Navy Shipboard Fiberoptics : Status: Specifications

Navy Shipboard Fiber Optics: Military Detail and Performance Specifications

Cable | Heavy Duty Connectors | Next Generation Heavy Duty Connectors | Light Duty Connectors | Termini
Adhesives & Materials | Interconnection Box | Splices | Fiber

Cable

Document Identifier	Pages/Size	Document Title	Status	Base Date	Amendment Date	Supplement Date
MIL-PRF-85045	44 / 784	Cables, Fiber Optic, (Metric), General Specification For	Active	06/17/2014	-	06/17/2014
MIL-PRF-85045 / 13	5 / 42	Cable, Fiber Optic, Eight Fibers, Cable Configuration Type 2 (OFCC), Application B (Shipboard), Cable Class SM and MM, (Metric)	Cancelled	06/17/2014	-	-
MIL-PRF-85045 / 14	4 / 25	Cable, Fiber Optic, One Fiber, Cable Configuration	Active	09/16/1999	-	-

Fiber Optics Home

Fiber Optics Related Links

Email Alerts

Specs and Standards

Status: Specifications

Status: Standards

Status: Handbooks

Status: QPLs

Design Information

Pierside Connectivity

Fiber Optics Recommended Lists

Certified FO Trainers List

Unclassified / Distribution Statement A

Source: <https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/What-We-Do/Navy-Shipboard-Fiberoptics/Status-Specifications/>
<https://landandmaritimeapps.dla.mil/programs/MILSpec/docsearch.aspx>
<https://quicksearch.dla.mil/qsSearch.aspx>



Specifications & Standards: Fiber Optic Documents



MIL Designation	Title	STATUS	ACTIVITY
MIL-STD-2052A	Fiber Optic System Design	Draft In-process:	-Updates for >10GigTabular/ref approach vs. calculations. add change from GSO408 for .5dB budget gain allowance. Draft parts 1-5 complete. Working part 6 and new appendices.
MIL-STD-2042C, 1-6	Fiber Optic Cable Topology Installation Standard Methods for Naval Ships	Rev C, Published 2016; -New Project FY22 -GIR/SRB release. Q3FY24 -Publication Target: FY24 Q4 - FY25 Q1	-Draft work, adjudicated comments rcvd since last publication (~50, parts 2 & 5) -Pre GIR/SRB work and Tech Editor compliance review completed FY23-FY24. HD methods, ribbon splicing.
MIL-STD-1678, 1-6	Fiber Optic Cabling Systems Requirements and Measurements	-Parts 2-6 published FY22 -Part 1: GIR/SRB Late CY24	-parts 2,3,4,5 6 update published 2022. -Part 1: Permit tailoring of QA/Supervisor training modules, similar to installer
MIL-PRF-85045H & slants	Cables, Fiber Optic, General Specification for	85045revH & slashes: Published Nov '21 -HD projects: rolled flex ribbon, Published '22 -Blowable bundles: GIR/SRB Q4 FY24	-HD specifications: /33-/39, .rolled flexible fiber and high density. FY22/FY23 -Blowable bundles, high density (/27 update, new /38 & /39, 48F and 72F respectively)
MIL-PRF-28876E & slants	Connectors, Fiber Optic, Circular, Plug and Receptacle Style, Multiple Removable Termini, General Specification For	--M28876revF: Published Sept 23 -Slants 4, 9, 14, 28, 29; Published Oct 2023; -28876/32 Published: 25 August 2023	-
MIL-PRF-29504 & slants	Terminus /4, /5 Military Aircraft, /18 & /20 common; /14, /15 Naval Ships; /22, /23 splice-on	/14 & /15 Published January 2021 /4 & /5 Published Feb 2022 /1, /2, /12, /13 Move to Inactive, 2022	- Project MIL-PRF-29504C w/ slants 1-3 and 12-15, JAN 2023 (PIN clarification updates); inactivate /1, /2, /12, /13. 3/20/24: Pending TWH and NSO approvals can be obtained to proceed to publication.
MIL-PRF-24728, & slants	Interconnection Box, Fiber Optic, General Specification for	-M24728 base, /1-/8: Published January 2021	-QPL Sources sought
MIL-PRF-24623	Splice, Fiber Optic Cable, General Specification for	-24623/base and slantes: Updated 2020-2021 -24623/8AMD1 Ribbon Splice, Published -2022 - MIL-PRF-24623/5C W/AMD1 published May 2022	
MIL-PRF-49291 /6C & /7C	Fiber, Optical	-49291 base: validation 2019 -/6 & /7: Published: 2018; Validated 2023	
MIL-DTL-83522 /16C, 17C	Connectors, Fiber Optic, Single Ferrule,	-83522 base Published: 2017/2018 -83522/16: Validated Jan 2023; /17 validated 2021	
CID A-A-59940/1 CID A-A-59799B	Connectors, Fiber Optic, Single Fiber, Small Form Factor, LC Fusion Splicer and Cleaver, Optical Fiber	Published 2021 Published 2022	

Unclassified / Distribution Statement A

Recently Published Documents

Spec Sheet	Component Type	Title/Component Configuration	Latest Doc Date or Preparation & Submission Status
ML-PRF-28876 slants 4, 9, 14, 28, 29 (w/INT AMID 1)	Connector	Connectors, Fiber Optic, Fiber Optic, Circular, Plug and Receptacle Style, Multiple Removable Termini,	Published: 12 October 2023 Revision F Interim Amendment 1 (amendment incorporated); Published Document Date: 12-OCT-2023; Next Review Due: 10-OCT-2028
ML-PRF-28876F w/AMID 2	Connector	Connectors, Fiber Optic, Circular, Plug and Receptacle Style, Multiple Removable Termini, General Specification for	Published: 11 September 2023
ML-PRF-28876 G2	Connector	Connectors, Fiber Optic, Circular, Plug and Receptacle Style, Multiple Removable Termini, Screw Threads, Repositionable Backshell, Straight, 45- and 90-Degree, Environment/Resisting	Published: 25 August 2023
ML-DTL-24728B w/AMID 1	Interconnection Box	Interconnection Box, Fiber Optic, Submersible, Connector Patch Panel Module, Fusion Splice Tray and Tray Holder Module	Published: 24 March 2023
CID A-A-56796B	Fusion Splicer	Fusion Splicer and Cleaver, Optical Fiber	Published: 19 September 2022
85045/33	Cable	CABLE, FIBER OPTIC, ROLLED FLEXIBLE RIBBON, TWELVE FIBER, SINGLE SUBUNIT	Published: 18 May 2022
85045/34	Cable	CABLE, FIBER OPTIC, FOUR SUBUNITS, TWELVE FIBER ROLLED FLEXIBLE RIBBON SUBUNIT	Published: 18 May 2022
85045/35	Cable	CABLE, FIBER OPTIC, EIGHT SUBUNITS, TWELVE FIBER ROLLED FLEXIBLE RIBBON SUBUNIT	Published: 18 May 2022
85045/36	Cable	CABLE, FIBER OPTIC, THIRTY SIX SUBUNITS, TWELVE FIBER ROLLED FLEXIBLE RIBBON SUBUNIT	Published: 18 May 2022
85045/37	Cable	CABLE, FIBER OPTIC, LOOSE TUBE, TWELVE FIBER, SINGLE SUBUNIT	Published: 7 Jan 2022
24623/5	Cable Splice	Splice, Fiber Optic, Cable Housing	Published: 23 May 2022
24623/8	Fusion Splice	Splice, Fusion, Fiber Optic, Twelve Fiber Ribbon, Protector	Published: 28 Jan 2022

1/ GR = Government & Industry Review
2/ <https://landandairtime.dia.mil/Programs/MISpecDocSearch.aspx>

Conventional Cable HD Specifications

85045/33

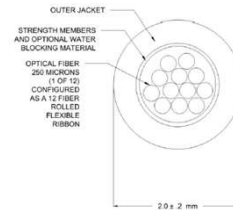


FIGURE 1. 12-fiber rolled flexible ribbon cable (single standalone subunit).

85045/37

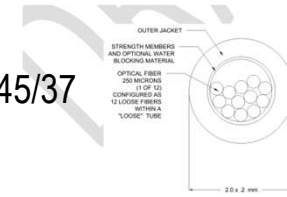


FIGURE 1. Twelve fiber loose tube cable (single standalone subunit).

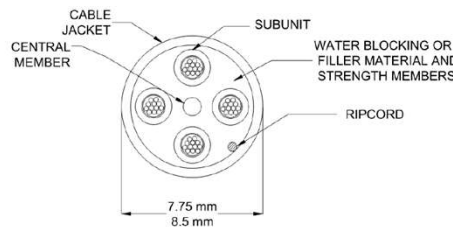


FIGURE 2. Multiple subunit, fiber optic, cable with four subunits.

85045/34

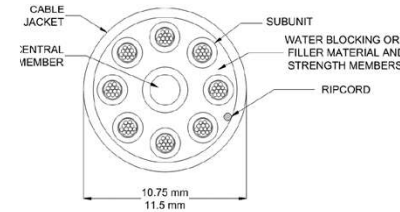


FIGURE 2. Multiple subunit, fiber optic, cable with eight subunits.

85045/35

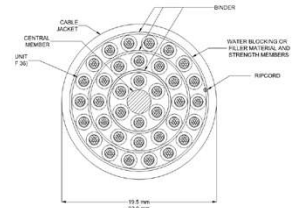
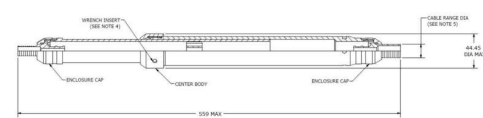
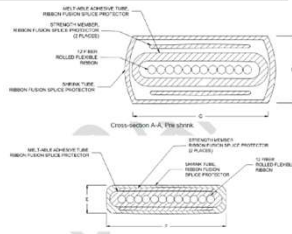


FIGURE 2. Multiple subunit, fiber optic, cable with 36 subunits.

85045/36



24623/5



24623/8

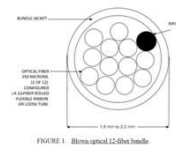


FIGURE 1. Blown optical 12-fiber bundle.

85045/27

Update/New Blown Bundle HD Specifications



85045/38



85045/39



Navy Shipboard Website / Component Specs -> Recommended Lists / Qualification Parts List



https://quicksearch.dla.mil/qsearch.aspx

NAVSEA WARFARE CENTERS DAHLGREN

Quick Search ASSIST

Document Number: Find Terms: Filter search results by selection: Status of FSC/Area from drop-down lists, or by checking the box and specifying search results.

Document ID: Find Terms: Term2... FSC/Area: Select All

NSWC Dahlgren Home About Dahlgren Division NSWC Dahlgren What We Do Navy Shipboard Fiberoptics Status Specifications

Navy Shipboard Fiber Optics: Military Detail and Performance Specifications

Cable | Heavy Duty Connectors | Next Generation Heavy Duty Connectors | Light Duty Connectors | Terminals | Adapters & Materials | Interconnection Box | Splitters | Fiber

Document Identifier	Pages/Size	Document Title	Status	Base Date	Amendment Date	Supploment Date
MIL-PRF-85045	44 / 784	Cables, Fiber Optic, (Metric), General Specification For	Active	06/17/2014	-	06/17/2014
MIL-PRF-85045 / 13	5 / 42	Cable, Fiber Optic, Eight Fibers, Cable Configuration Type 2 (OPFC), Application B (Shipboard), Cable Class SR and RM, (Metric)	Cancelled	06/17/2014	-	-
MIL-PRF-85045 / 14	4 / 25	Cable, Fiber Optic, One Fiber, Cable	Active	09/16/1999	-	-

Design Information: Fiberoptic Connectivity, Fiber Optics Recommended Lists, Certified FO Trainers List

https://qpldocs.dla.mil

Department of Defense QUALIFIED PRODUCTS DATABASE

Main Search Reports Help

About QPD
FAQs
DSP Home

Connecting Buyers To Suppliers

NSWC Dahlgren Division

NSWC Dahlgren Home What We Do Dahlgren Activity Partnerships Resources Career Opportunities Range Schedule Visitor Information Contact Us

Home - Warfare Centers - NSWC Dahlgren - What We Do - Navy Shipboard Fiberoptics - Recommended Parts List

Navy Shipboard Fiber Optics:

Navy Recommended Components Parts List
This list includes those components recently qualified (QPL), those presently being tested with recommended First Article components/materials.
• Cover Letter (2 pgs., 98K)
• Navy Recommended Components Parts List

Navy Recommended Test Equipment List
This list includes fiber optic test equipment that has been recommended for use.
• Navy Recommended Test Equipment

Navy Recommended Tools List
This list includes the fiber optic tools that have been recommended for use.
• Navy Recommended Tools List (13 pgs., 206K)

Last updated: 10/29/2021

Fiber Optics Home
Fiber Optics Related Links
Email Alerts
Status: Specifications
Status: Standards
Status: Handbooks
Status: QPL

Component Information
Installation Information
Testing Information
Qualification Information
Engineering Reports
Fiber Optic Related Policies
Document Repository

OPL and FIRST ARTICLE FIBER OPTIC COMPONENTS

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

COMPONENT	VENDOR
Conventional Cable - Thermoseal (QPL)	Duika
	Sensar
	Metrox
Conventional Cable - Thermoplastic (QPL)	Sensar
	Metrox
Fluor Optical Fiber Cable - Thermoseal (QPL)	Sensar
Single Type Cable, Ribbon Optical Fiber (QPL)	Sensar
ST Connector (QPL)	AFR
	Avic (Mach)
	Avic Cable Corporation
ST-to-ST Adapter (QPL)	AFR
	Avic Cable Corporation
Multimode (M) Heavy Duty Connector (QPL)	Avic (Mach)
	Avic Cable Corporation
Termin (QPL)	Avic
	AFR
	Sensar
Epoxy, Heat Cured (1 st Article)	SystemsScope
	The-Con
	FOSI
Interconnection Box (QPL)	US Phoenix
Optical Fiber - Multimode (QPL)	Corning
	Duika USA
	Sensar Cable
	Avic USA
Optical Fiber - Single mode (QPL)	Corning
	Duika Cable
	Sensar Cable
Index Matching Material (1 st Article)	The Lubliner
Transmitter and Receiver (1 st Article)	Laser Choice
	Formerly NMP.

Last update: 28 March 2022

Unclassified / Distribution Statement A

Source: <https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/What-We-Do/Navy-Shipboard-Fiberoptics/Status-Specifications/>
<https://landandmaritimeapps.dla.mil/programs/qmlqpl/>