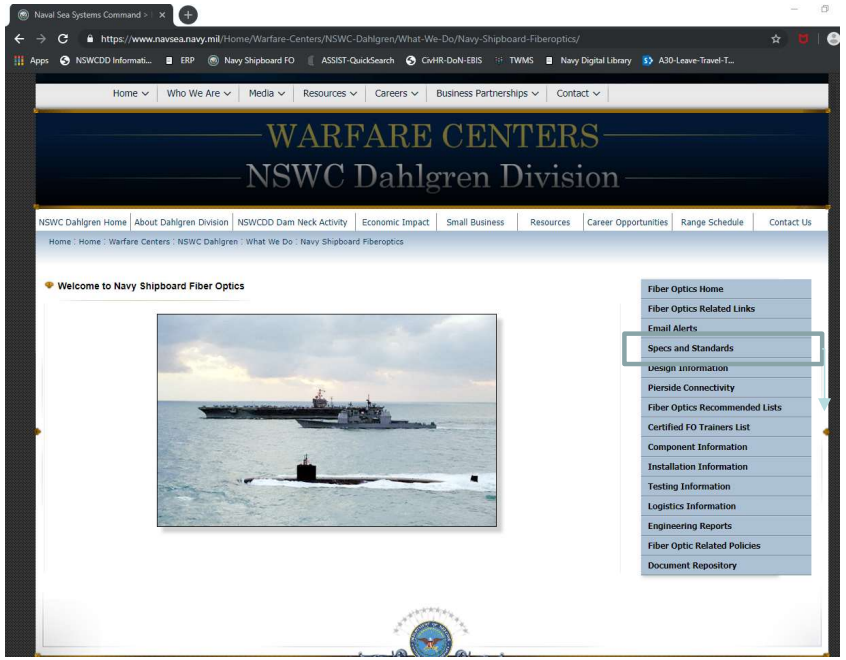
Navy Shipboard Fiber Optics: Specifications/Standards



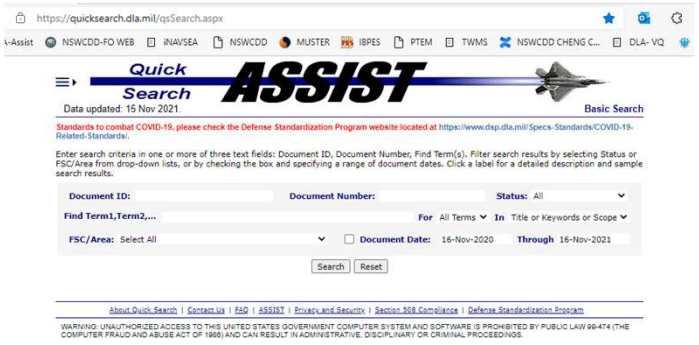
Source: https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Dahlgren/What-We-Do/Navy-Shipboard-Fiberoptics/

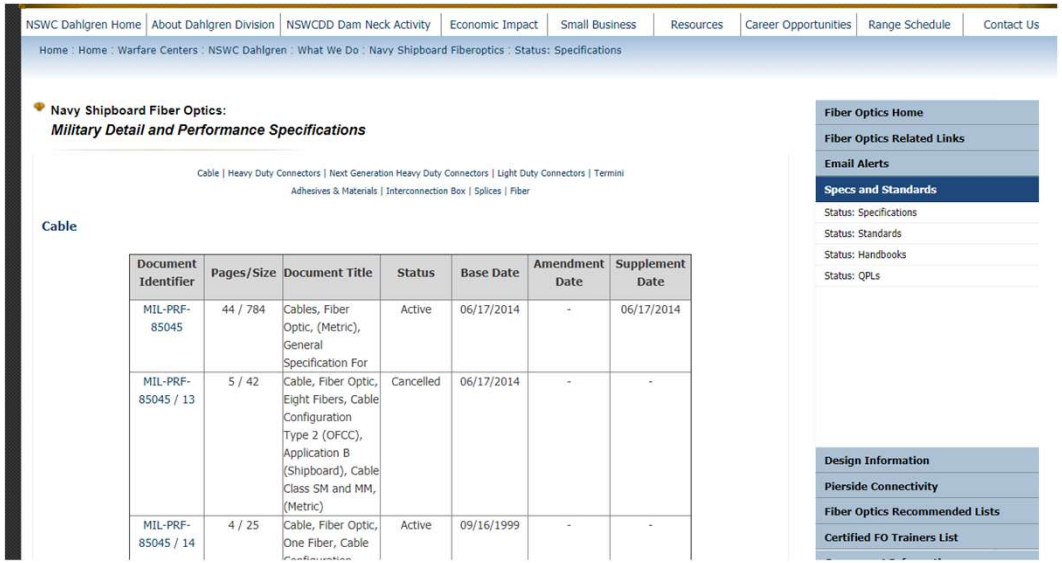
Presented By

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

April 03, 2024

Navy Shipboard Website / Specs & Standards





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	Active	09/16/1999	-	-

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	

Recently Published Documents

Spec Sheet	Component Type	Title: Component Configuration	Latest Doc Date or Preparation & Submission Status
MIL-PRF-28876 slants 4, 9, 14, 28, 29 (w/INT AMD 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
MIL-PRF-28876F w/AMD 2	Connector	Connectors, Fiber Optic, Circular, Plug and Receptacle Style, Multiple Removable Termini, General Specification for	Published: 11 September 2023
MIL-PRF-28876/32	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
MIL-DTL-24728B w/AMD 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-59799B	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/ GIR = Government & Industry Review
2/ https://landandmaritime.dla.mil/Programs/MilSpecDocSearch.aspx

Conventional Cable HD Specifications

85045/33

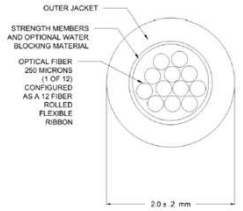


FIGURE 1. 12-fiber rolled flexible ribbon cable (single standalone subunit).

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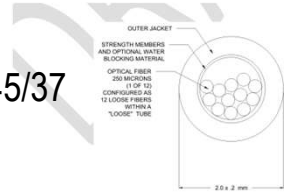

FIGURE 1. Twelve fiber loose tube cable (single standalone subunit).

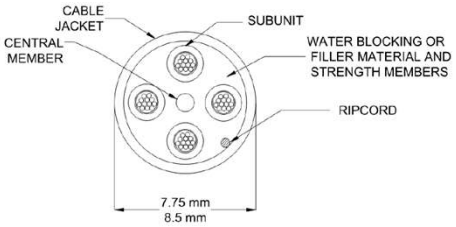

FIGURE 2. Multiple subunit, fiber optic, cable with four subunits.

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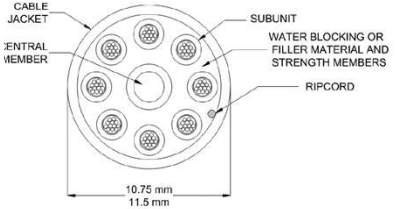

FIGURE 2. Multiple subunit, fiber optic, cable with eight subunits.

85045/35

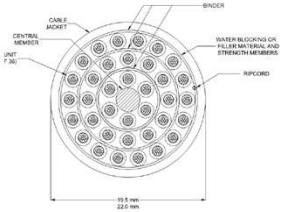

FIGURE 2. Multiple subunit, fiber optic, cable with 36 subunits.

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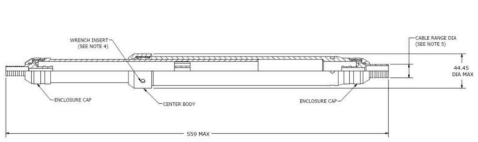
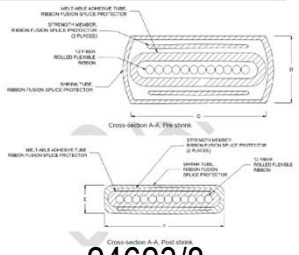
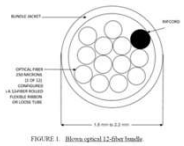


24623/5

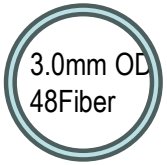


24623/8

Update/New Blown Bundle HD Specifications



85045/27



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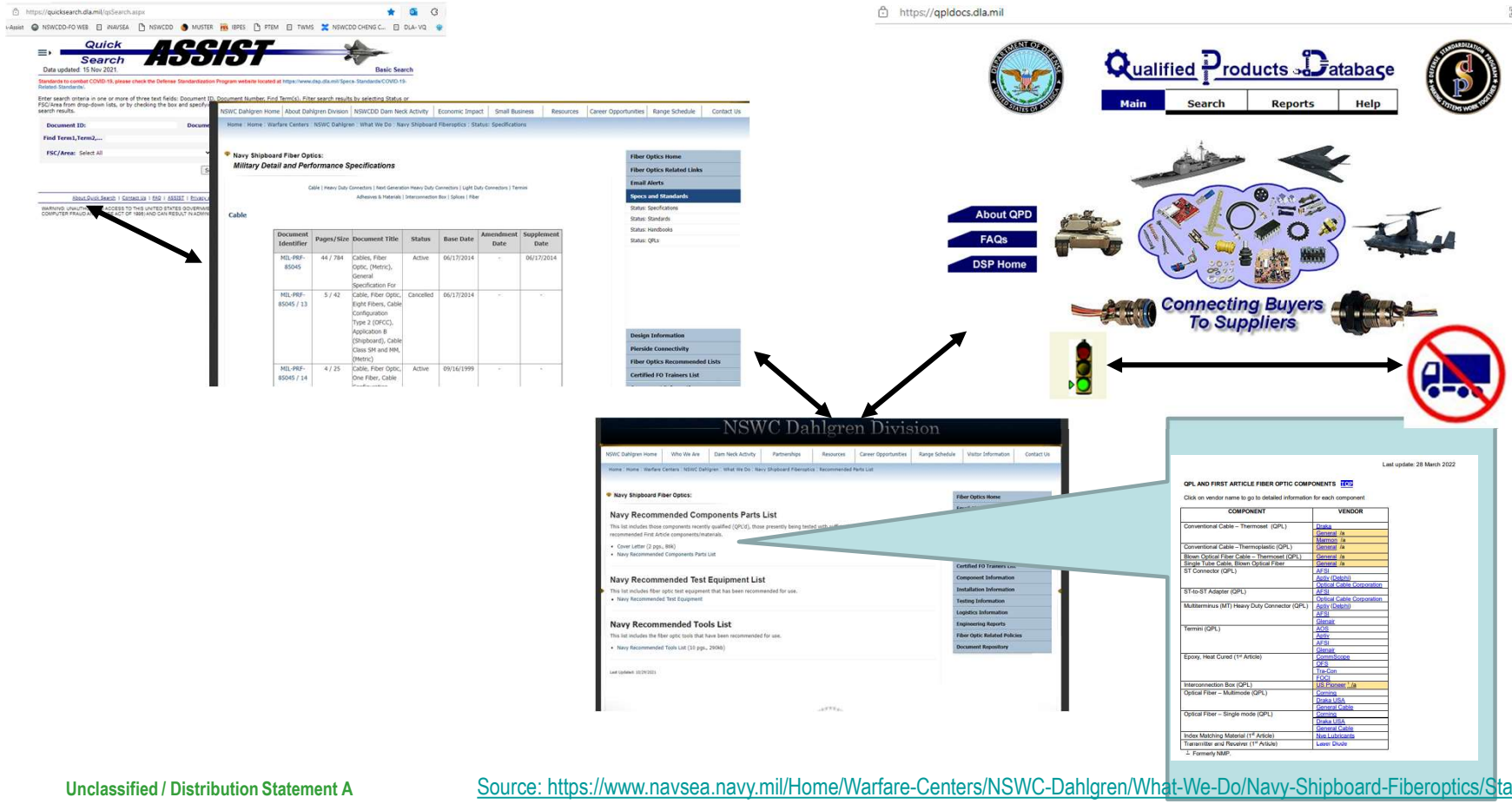
85045/39

Unclassified / Distribution Statement A

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