



# Draka

## LSZH Fiber Optic Shipboard Cable

low smoke / zero halogen MIL-PRF-85045 / 1, 4 and 8 singlemode or multimode fibers



### Applications

Shipboard LSZH Fiber Optic Cables use a tight buffered, water blocked construction with low smoke, zero-halogen (LSZH) jacketing materials. Adhering to the United States Department of Defense MIL-PRF-85045 specification document, Draka offers these cables in one, four and eight fiber configurations.

The optical fiber cable component (OFCC) consists of an optical fiber with a 900 micron diameter tight buffer, reinforced with aramid yarn and encased in a 2.0 mm flexible zero-halogen jacket. The fibers are radiation-resistant and qualified per the applicable MIL-PRF-49291 specification document to ensure system survivability in the event of radiation exposure.

This family of cables has passed a stringent qualification program to ensure full compliance to the MIL-PRF-85045F document and the applicable specification sheets. The program includes tests such as acid gas generation, halogen content, smoke generation and flame propagation, toxicity, fluid immersion, thermal shock, humidity, electromagnetic resistance, low/high pressure salt water blocking and many other highly demanding requirements.

Draka shipboard fiber optic cables are watertight, flexible and Gigabit-ready.

### Availability

LSZH fiber optic shipboard cables are available through Draka authorized distributors.

### Features

1. CENTRAL STRENGTH MEMBER  
Dielectric epoxy/fiberglass rod.
2. FIBER  
Multimode or single-mode fibers.
3. BUFFER  
Easily-strippable 900 micron tight buffer.
4. OFCC STRENGTH MEMBER  
Aramid yarn with water blocking.
5. OFCC JACKET  
Low-smoke zero-halogen thermoplastic.
6. CABLING  
OFCC subunits are bundled with strands of a water-blocking yarn, wrapped in a water blocking tape and encased in waterblocked aramid yarn.
7. JACKET  
Low-smoke zero-halogen polyolefin for resistance to chemicals, fluids, fungus and abrasion and is available in either thermoplastic or thermoset versions. The cross-linked thermoset version is more rugged with increased resistance to thermal aging, fluids and abrasion.

### Ratings

- MIL-PRF-85045F
- MIL-PRF-49291
- 7.7 MPA Hydrostatic Pressure-proof Cable



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MIL SPEC Part Number	Draka Part Number	Number of Fibers	Installation (Short Term) Pull Strength Lbs (Newtons)	Installation (Short Term) Bend Radius in (cm)	Operating (Long Term) Tension Lbs (Newtons)	Operating (Long Term) Bend Radius in (cm)	Cable O.D. in (mm)	Approx. Cable Weight Lbs/Mft (Kg/Km)
<b>Thermoplastic jacketed cables</b>								
M85045/13-01	S458T-08-62G	8	2775 (625)	9.0 (3.5)	555 (125)	18.0 (7.0)	11.3 (0.445)	115 (77)
M85045/13-02	S458T-08-010N	8	2775 (625)	9.0 (3.5)	555 (125)	18.0 (7.0)	11.3 (0.445)	115 (77)
M85045/15-01	S458T-04-62G	4	2015 (454)	6.6 (2.6)	418 (94)	13.2 (5.2)	8.26 (0.325)	60 (40)
M85045/15-02	S458T-04-010N	4	2015 (454)	6.6 (2.6)	418 (94)	13.2 (5.2)	8.26 (0.325)	60 (40)
M85045/16-01	S458T-01-62G	1	220 (50)	1.6 (.63)	100 (22)	3.2 (1.26)	2.0 (0.079)	4.5 (3.0)
M85045/16-02	S458T-01-010N	1	220 (50)	1.6 (.63)	100 (22)	3.2 (1.26)	2.0 (0.079)	4.5 (3.0)

<b>Thermoset jacketed cables</b>								
M85045/17-01	S454T-08-62G	8	2775 (625)	9.0 (3.5)	555 (125)	18.0 (7.0)	11.3 (0.445)	115 (77)
M85045/17-02	S454T-08-010N	8	2775 (625)	9.0 (3.5)	555 (125)	18.0 (7.0)	11.3 (0.445)	115 (77)
M85045/18-01	S454T-04-62G	4	2015 (454)	6.6 (2.6)	418 (94)	13.2 (5.2)	8.26 (0.325)	60 (40)
M85045/18-02	S454T-04-010N	4	2015 (454)	6.6 (2.6)	418 (94)	13.2 (5.2)	8.26 (0.325)	60 (40)

The above cables are listed on Qualified Products List (QPL) 85045 per United States Department of Defense, Defense Logistics Agency, Defense Electronic Supply Center. Notification letters are on file at Draka.

Draka wMIL-PRF-85045 shipboard cables meet the requirements of IEEE 802.3 Gigabit Ethernet standard (3.5 dB/Km @ 850nm and 1.5 dB/Km @ 1300nm) and surpass the attenuation requirements of the MIL-PRF-85045 specification (4.5 dB/Km @ 850nm and 2.0 dB/Km @ 1300nm).

## Fiber Performance

	Multimode	Single-mode
Applicable Specification	MIL-PRF-49291/6	MIL-PRF-49291/7
Fiber Designator	62G	010N
Core Diameter	62.5um ± 3um	8.3um Nominal
Cladding Diameter	125um ± 1um	125um ± 1um
Coating Diameter	250um ± 15um	250um ± 15um
Buffer Diameter	900um ± 50um	900um ± 50um
Numerical Aperture	0.275 nominal	N/A
Mode Field Diameter	N/A	9.3um ± 0.5um
Max. Attenuation	3.5 dB/km @ 850nm 1.5 dB/km @ 1300nm	1.0 dB/km @ 1310nm 1.0 dB/km @ 1550nm
Min. Bandwidth (overfilled)	350 MHz*km @ 850nm 800 MHz*km @ 1300nm	N/A N/A
Dispersion	N/A	3.2ps/nm-Km @ 1310nm 22ps/nm-Km @ 1550nm
Proof Test	100,000 psi	100,000 psi
Radiation Resistance	per MIL-PRF-49291	per MIL-PRF-49291

## Cable Specifications

	Thermoplastic	Thermoset
Applicable Specifications	M85045/13 & /15	M85045/17 & /18
Strength Member	Water-blocked aramid yarn	Water-blocked aramid yarn
OFCC nom. diameter	2.0 mm (0.079 in)	2.0 mm (0.079 in)
Storage Temperature	-40°C to +70°C	-40°C to +75°C
Operating Temperature	-28°C to +65°C	-28°C to +65°C
Life Aging	240 hrs @ 110°C	240 hrs @ 110°C
Smoke Index, NES 711	< 25	< 25
Toxicity, NES 713	< 5	< 5
Halogen Content	< 0.2% by weight	< 0.2% by weight
Flammability	UL-1685 NFPA 262 (Modified)	UL-1685 NFPA 262 (Modified)
Crush Resistance	2,000N per cm of outer cable diameter	2,000N per cm of outer cable diameter
Abrasion Resistance	250 cycles	750 cycles
Low Temp Flexibility	-28°C	-40°C
Tempest	Comply	Comply
Fluid Immersion		
Lubricating Oil	24 hrs @ 75°C	24 hrs @ 100°C
Fuel Oil	24 hrs @ 35°C	24 hrs @ 100°C
Cable-to-cable abrasion	150 cycles	500 cycles

### Draka Engineered Specialties

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 761 Joseph E. Warner Blvd. | Taunton, MA 02780 | Tel +1-508-822-5444  
 One Tamaqua Blvd. | Schuylkill Haven, PA 17972 | Tel +1-570-385-4381

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