General Cable

MILITARY

Brand Rex
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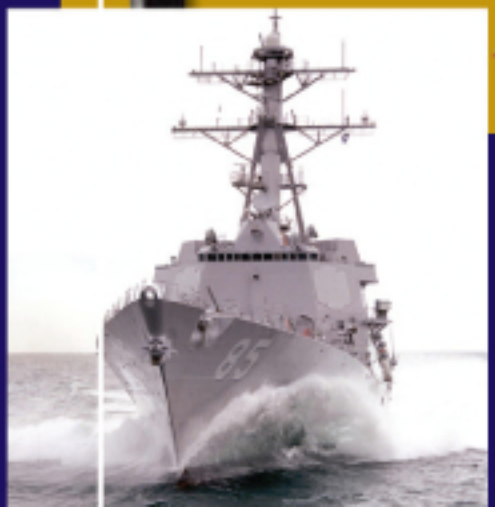

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General Cable Website

Contact Us

Brand Rex Brand Military Shipboard Cable…

General Cable's engineered Brand Rex Brand military qualified wire and cable has a long and distinguished record of involvement in high-priority defense programs. Spanning all branches of the Armed Forces, Brand Rex cables continue its forward-looking leadership role by providing the "ultimate in protection" for power, control, signal and communications cabling solutions.

As a key supplier to the military, General Cable has a strong tradition of dedicated leadership in the integration of research, design, engineering and manufacturing of generation after generation of MIL Spec cables.

With quality programs and certifications that include ISO 9001:2008, MIL-STD-790, MIL-I-45208, MIL-STD-45662, ISO 17025 for calibration services, and second party lab testing certification to IEC/ISO 17025 from both UL and CSA, General Cable strives to provide value through innovation and product quality.

From Brand Rex Brand power, control and signal low-smoke, zero-halogen cables designed in accordance with M24643 to fiber optic cables and blown optical fiber systems qualified to M85045 and M49291, General Cable offers the widest selection of copper cabling and fiber optic solutions for military, shipboard and specialty applications.

M24643 Military Specification

The U.S Navy introduced the M24643 specification due to concerns about flammability, smoke and toxicity. This cable design provides low-smoke, flame retardant cables that are approximately equivalent in overall size, weight and electricals to many of the older MIL-C-915 constructions. This family of low smoke, low toxicity cables conforms to rigid toxic and smoke indexes, and are mandated for use on all new constructions or any major retrofit projects.

M24643 POWER & LIGHTING CABLE – WATERTIGHT, NON-FLEXING SERVICE

- M24643/5 Type LSMDU: 600V, Nineteen Conductors, Watertight, Low-Smoke
- M24643/14 Type LSSSGU, LSSSGA: 1000V, Single Conductor, Unarmored or Armored, Watertight, Low-Smoke
- M24643/15 Type LSDSGU: 1000V, Two Conductors, Watertight, Low-Smoke
- M24643/16 Type LSTSGU, LSTSGA: 1000V, Three Conductors, Unarmored or Armored, Watertight, Low-Smoke
- M24643/17 Type LSFSGU: 1000V, Four Conductors, Watertight, Low-Smoke
- M24643/22 Type LS5KVTSGU, LS5KVTSGA: 5000V, Three Conductors, Unarmored & Armored, Watertight, Low-Smoke

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M24643 POWER & LIGHTING CABLE – WATERTIGHT, NON-FLEXING SERVICE (CONT'D)

- M24643/66 Type LS2OW: 1000V, Two Conductor, Shielded, Watertight, Low-Smoke
- M24643/67 Type LS3OW: 1000V, Three Conductor, Shielded, Watertight, Low-Smoke
- M24643/68 Type LS4OW: 1000V, Four Conductor, Shielded, Watertight, Low-Smoke

M24643 ELECTRONIC, COMMUNICATION & INSTRUMENTATION CABLE – WATERTIGHT, NON-FLEXING SERVICE

- M24643/23 Type LSTTSU: 300V, One and One Half thru Sixty Pairs, 22 AWG, Watertight, Low-Smoke

M24643 POWER & LIGHTING CABLE – NON-WATERTIGHT, NON-FLEXING SERVICE

- M24643/43 Type LS2SJ, LS3SJ, LS4SJ: 600V, Two, Three and Four Conductors, Overall Shielded, Non-Watertight, Low-Smoke

M24643 ELECTRONIC, COMMUNICATION & INSTRUMENTATION CABLE – NON-WATERTIGHT, NON-FLEXING SERVICE

- M24643/24 Type LSTCKXN, LSTCTXN: One Pair, 16 AWG and 21 AWG, Armored, Non-Watertight, Low-Smoke
- M24643/25 Type LSP1: Three, Seven and Twelve Shielded Pairs, 18 AWG, Armored, Non-Watertight, Low-Smoke
- M24643/26 Type LSDPSN, LSTPSN, LSFPSN, LS7PSN: Two thru Seven Conductor, Armored, Non-Watertight, Low-Smoke

M24643 POWER & LIGHTING CABLE – NON-WATERTIGHT, FLEXING SERVICE

- M24643/3 Type LSSHOF: 600V, One thru Four Conductors, Non-Watertight, Low-Smoke

M24643 ELECTRONIC, COMMUNICATION & INSTRUMENTATION CABLE – NON-WATERTIGHT, FLEXING SERVICE

- M24643/2 TYPE LSDCOP, LSTCOP: 300V, Two and Three Conductors, 18 AWG and 20 AWG, Non-Watertight, Low-Smoke

QUIK-PREP® Military Specification M24643

General Cable's military engineering expertise was called to action to develop an innovative power cable that would meet the stringent M24643 standards while offering improved preparation and labor cost savings. The result was QUIK-PREP® single and multi-conductor power cables.

Specified as *The Preferred Method* and approved by NAVSEA for compliance to M24643/14, 15, 16, 17, 22, 66, 67, and 68 QUIK-PREP® power cables feature time-saving ripcords that facilitate stripping and an innovative extruded skin that offers overall cost savings. This design is quicker, easier and safer to prepare and terminate.

M24643 QUIK-PREP® POWER CABLE – WATERTIGHT, NON-FLEXING SERVICE

- QUIK-PREP® M24643/14 1000V, Single Conductor, Watertight, Low-Smoke
- QUIK-PREP® M24643/15 1000V, Two Conductors, Watertight, Low-Smoke
- QUIK-PREP® M24643/16 1000V, Three Conductors, Watertight, Low-Smoke
- QUIK-PREP® M24643/17 1000V, Four Conductors, Watertight, Low-Smoke
- QUIK-PREP® M24643/22 5000V, Three Conductors, Watertight, Low-Smoke
- QUIK-PREP® M24643/66 1000V, Two Conductors, Watertight, Low-Smoke
- QUIK-PREP® M24643/67 1000V, Three Conductors, Watertight, Low-Smoke
- QUIK-PREP® M24643/68 1000V, Four Conductors, Watertight, Low-Smoke

Navy Shipboard Communications Cables

Still in a class by itself, General Cable continues to meet the highest performance standards with a qualified Category 5e Naval Shipboard data communications cable. ShipLAN® Category 5e cable and patch cords combines high-performing electrical characteristics with low-toxicity, low-smoke, zero-halogen, and flame-retardant properties necessary for shipboard environments.

General Cable's ShipLAN® Category 5e cable and patch cords are constructed with a proprietary thermoset jacket system that provides flexibility for ease of installation and stripability for quicker preparation and termination time.

ShipLAN® — engineered to perform well into the future.

M24643 COPPER COMMUNICATIONS CABLE – THERMOSET, LOW-SMOKE, ZERO-HALOGEN

- M24643/59 – CAT5e Non-Watertight, Shielded, Low-Smoke, Zero-Halogen Thermoset Cable
- M24643/61 – CAT5e Non-Watertight, Shielded, Low-Smoke, Zero-Halogen Thermoset Patch Cable

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NAVSEA COAXIAL, TWINAX & TRIAXIAL CABLE

- 6262065-1 - Double Optimized Shielded Waterblocked Triaxial RF Cable
- 6322493 - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable
- 6323052 - Double Optimized Shielded 50 Ohm Non-Waterblocked Flexible Coaxial RF Cable
- 6323054 - Double Optimized Shielded 75 Ohm Non-Waterblocked Coaxial RF Cable
- 6323055 - Optimized Shielded Non-Waterblocked Twinaxial RF Cable
- 6323056 - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable
- 6323059 - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable

M85045F Military Specification
Low-Smoke, Zero-Halogen Shipboard Fiber Optic Cables

Fiber optic cables have gained rapid acceptance over the past decade in U.S. Navy shipboard applications because of escalating demand for security, information integrity and increased bandwidth requirements. To further expand the cable solutions for U.S. Naval Vessels, the same jacketing systems that had been successfully utilized for copper cables have been incorporated into fiber optic cables.

A low-smoke, zero-halogen (LSZH) thermoset jacketing system was introduced under M85045F (previously M85045E). This approach ensured that fiber optic cables would not only maintain, but improve upon the overall system integrity previously achieved with copper control and signal/data cables. M85045F has made qualified fiber optic cable available to the U.S. Navy by setting the standard for this new generation of cables with performance capabilities never before accomplished. General Cable was, and remains to be an integral military partner in the development, qualification and manufacture of the various fiber optic cables described in M85045F. We take great pride in our participation in this significant technological accomplishment. General Cable's fiber optic cables meet the most stringent mission-critical demands with militarized LSZH designs that are suitable for data transmission and communication applications aboard any U.S. Navy platform —above or below the sea.

Phone: (888) 593-3355
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- M85045/13 Eight Fibers, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/15 Four Fibers, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/16 One Fiber, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/17 Eight Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/18 Four Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/20 Twenty four, Thirty Three or Thirty Six Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/21 Eight Fiber, Outboard, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/22 Eighteen Fibers, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/23 Eighteen Fibers, Outboard, Multimode or Singlemode, Watertight, Low-Smoke
- M85045/24 Ninety Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke

M85045F & M49291C Military Specifications
Blolite® Blown Optical Fiber Technology

General Cable was the first fiber manufacturer to become a Qualified Parts Listed (QPL) supplier of a militarized version of blown optical fiber technology (BOFT) in September of 2001. Today, we continue to remain the only qualified supplier of blown optical fiber fully engineered and tested to all the stringent requirements of M85045F and M49291C.

General Cable's Blolite® blown optical fiber technology was first installed on the aircraft carrier USS Harry Truman in 1997. Early proof of successful use of this technology and its future-proof capabilities for which it was designed, resulted in the formal development and qualification of the technology for the U.S. Navy. Expanding requirements for the use of optical fiber applications on U.S. Navy vessels has resulted in an increased use of General Cable's Blolite™ high-performance technology that is the preferred solution which offers the only real future-proof infrastructure solution.

Key developments in military shipboard fiber optic technology have been the digitization of command, control and communication systems over a common infrastructure. This convergence has enabled significant savings in space and weight as well as greatly improved system functionality and damage tolerance. Blown optical fiber technology has furthered these advances by adding opportunities for cost savings, easy upgradeability and design flexibility.

General Cable's Blolite® blown optical fiber solution has proven to be ***the SOLUTION*** for the U.S. Navy fleet.

M85045F CABLE, BLOWN OPTICAL FIBER, LOW-SMOKE, ZERO HALOGEN

- M85045/25 Seven 8mm Tubes, Thermoset or Thermoplastic, Blown Optical Fiber
- M85045/26 One 8mm Tube, Thermoset or Thermoplastic, Blown Optical Fiber

M49291C FIBER, OPTICAL

- M49291/6-05 Multimode, 500µm, Blown Optical Fiber
- M49291/7-02 Singlemode, 500µm, Blown Optical Fiber

BLOWN OPTICAL FIBER ACCESSORIES

- AA-59731-U-8E — 8mm Tube Union
- AA-59731-T-8E — 8mm Tube Tee
- AA-59731-EC-8E — 8mm End Cap
- AA-59728-TFP-8 — 8mm Tube Fitting Plug
- Raychem SFTS-1 — Adhesive/Sealant Tape
- AA-59730-TTP-2 — Tapered Tube Plug (2 - 6 fibers)
- AA-59730-TTP-3 — Tapered Tube Plug (8 - 12 fibers)
- Tube Clips (TM-08) SMC
- A-A-59729-TFU — Furcation Assemblies (Note: # of cables, length & color must be specified)
- Tube Cutter
- Cutter Replacement Blades

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- **QUIK-PREP® M24643/16** 1000V, Three Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/17** 1000V, Four Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/22** 5000V, Three Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/66** 1000V, Two Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/67** 1000V, Three Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/68** 1000V, Four Conductors, Watertight, Low-Smoke

Section 2: Shore-2-Ship

POWER CABLE FOR COLD IRONING

- **Shore2Ship™ THOF-500E**

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M24643 COPPER COMMUNICATIONS CABLE – THERMOSET, LOW-SMOKE, ZERO-HALOGEN

- **M24643/59** – CAT5e Non-Watertight, Shielded, Low-Smoke, Zero-Halogen Thermoset Cable
- **M24643/61** – CAT5e Non-Watertight, Shielded, Low-Smoke, Zero-Halogen Thermoset Patch Cable
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NAVSEA COAXIAL, TWINAX & TRIAXIAL CABLE

- **6262065-1** - Double Optimized Shielded Waterblocked Triaxial RF Cable
- **6322493** - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable
- **6323052** - Double Optimized Shielded 50 Ohm Non-Waterblocked Flexible Coaxial RF Cable
- **6323054** - Double Optimized Shielded 75 Ohm Non-Waterblocked Coaxial RF Cable
- **6323055** - Optimized Shielded Non-Waterblocked Twinaxial RF Cable
- **6323056** - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable
- **6323059** - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable

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M85045F CABLE, FIBER OPTIC, WATERTIGHT, LOW-SMOKE, ZERO-HALOGEN

- **M85045/13** Eight Fibers, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/15** Four Fibers, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/16** One Fiber, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/17** Eight Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/18** Four Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/20** Twenty four, Thirty Three or Thirty Six Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke

M85045F CABLE, FIBER OPTIC, WATERTIGHT, LOW-SMOKE, ZERO-HALOGEN

- **M85045/21** Eight Fiber, Outboard, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/22** Eighteen Fibers, Thermoplastic, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/23** Eighteen Fibers, Outboard, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/24** Ninety Fibers, Thermoset, Multimode or Singlemode, Watertight, Low-Smoke
- **M85045/25** Seven 8mm Tubes, Thermoset or Thermoplastic, Blown Optical Fiber
- **M85045/26** One 8mm Tube, Thermoset or Thermoplastic, Blown Optical Fiber

M49291C FIBER, OPTICAL

- **M49291/6-05** Multimode, 500µm, Blown Optical Fiber
- **M49291/7-02** Singlemode, 500µm, Blown Optical Fiber

BLOWN OPTICAL FIBER ACCESSORIES

- **AA-59731-U-8E** — 8mm Tube Union
- **AA-59731-T-8E** — 8mm Tube Tee
- **AA-59731-EC-8E** — 8mm End Cap
- **AA-59728-TFP-8** — 8mm Tube Fitting Plug
- **Raychem SFTS-1** — Adhesive/Sealant Tape
- **AA-59730-TTP-2** — Tapered Tube Plug (2 - 6 fibers)
- **AA-59730-TTP-3** — Tapered Tube Plug (8 - 12 fibers)
- **Tube Clips (TM-08) SMC**
- **A-A-59729-TFU** — Furcation Assemblies (Note: # of cables, length & color must be specified)
- **Tube Cutter**
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- **QUIK-PREP® M24643/17** 1000V, Four Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/22** 5000V, Three Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/66** 1000V, Two Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/67** 1000V, Three Conductors, Watertight, Low-Smoke
- **QUIK-PREP® M24643/68** 1000V, Four Conductors, Watertight, Low-Smoke

MIL-DTL-M24643C
QPL Approval Listing – Active Products

CABLES AND CORDS, LOW-SMOKE, ELECTRIC, FOR SHIPBOARD USE
GENERAL SPECIFICATION FOR SPECIFICATION SHEETS

MIL-DTL-24643/2	Cord, Electrical, 300 Volts, Types LSDCOP and LSTCOP
MIL-DTL-24643/3	Cable, Electrical, 600 Volts, Type LSSHOF
MIL-DTL-24643/5	Cable, Electrical, 600 Volts, Type LSMDU
MIL-DTL-24643/14	Cable, Electrical, 1000 Volts, Type LSSSGU (Including Variation LSSSGA)
MIL-DTL-24643/15	Cable, Electrical, 1000 Volts, Type LSDSGU
MIL-DTL-24643/16	Cable, Electrical, 1000 Volts, Type LSTSGU (Including Variation LSTSGA)
MIL-DTL-24643/17	Cable, Electrical, 1000 Volts, Type LSFSGU
MIL-DTL-24643/22	Cable, Electrical, 5000 Volts, Type LS5KVTSGU (Including Variation LS5KVTSGA)
MIL-DTL-24643/23	Cable, Electrical, 300 Volts, Type LSTTSU
MIL-DTL-24643/24	Cable, Electrical, Types LSTCJX, LSTCKX and LSTCTX
MIL-DTL-24643/25	Cable, Electrical, Type LSPI
MIL-DTL-24643/26	Cable, Electrical, 600 Volts, Types LSDPS, LSFPS, LSTPS and LS7PS
MIL-DTL-24643/43	Cable, Electrical, Types LS2SJ, LS3SJ, LS4SJ
MIL-DTL-24643/66	Cable, Electrical, 1000 Volts, Type LS2OW
MIL-DTL-24643/67	Cable, Electrical, 1000 Volts, Type LS3OW
MIL-DTL-24643/68	Cable, Electrical, 1000 Volts, Type LS4OW

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M24643/2, Type LSDCOP & LSTCOP

300V, Two and Three Conductor, 18 AWG and 20 AWG, Non-Watertight, Low-Smoke

Product Construction:

Conductor:
- 18 & 20 AWG uncoated copper
- Class K stranding per ASTM B174

Insulation:
- Cross-Linked Polyethylene (XLPE)
- Color code: Method 3

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) — White (WHT)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSDCOP-XX OR LSTCOP-XX M24643/2-XXXX XL POLYO YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/2)

Applications:
- Cables are oil resistant portable cord type constructions suitable for non-watertight, flexing service.
- For use in shipboard electronic, communications and instrumentation applications except where unusual circuit parameters require a special cable type.
- For use only in runs within one compartment or within contiguous compartments and shall not be used to penetrate a watertight deck or bulkhead.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/2

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/2 300V, Two and Three Conductor, 18(16/30) AWG and 20(10/30) AWG, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/2	Conductor Size AWG and Stranding	# of Cond.	Min. Overall Diameter Inches	Max. Overall Diameter Inches	Min. Voltage Withstand Volts	Max. Cond. Resistance 1000 Ft. @ 25°C OHMS
349980	LSDCOP-1 WHT	-01UN	20 (10/30)	2	.235	.250	1000	11.42
360800	LSDCOP-1 ½ WHT	-02UN	18 (16/30)	2	.300	.315	1500	9.00
371940	LSDCOP-2 WHT	-03UN	18 (16/30)	2	.310	.330	1500	7.16
373810	LSTCOP-2 WHT	-04UN	18 (16/30)	3	.325	.345	1500	7.16

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M24643/3, Type LSSHOF

600V, One Conductor, Non-Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG/Navy sizes (see chart) uncoated copper
- Class stranding (see chart)

Insulation:
- Ethylene Propylene Rubber (EPR)
- Color code: Method 3

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX LSSHOF-XX,M24643/3-XXXX XL POLYO YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/3)
- White Jackets

Applications:
- Multi conductor cables are oil resistant constructions suitable for non-watertight, flexing service.
- For use in shipboard power and lighting applications and shall not be used to penetrate a watertight deck or bulkhead.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/3

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/3 600V, One Conductor, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/3	Conductor Size AWG/Navy Std and Stranding	# of Cond.	Min. AVG. Insulation Thickness Inches	Min. AVG. Jacket Wall Thickness Inches	Min. Overall Dia. Inches	Max. Overall Dia. Inches	Amps Per Conductor* 40ºC	Amps Per Conductor* 50ºC
560810	LSSHOF-3 BLK	-01UN	16 (65/34)	1	.031	.030	.195	.210	20	28
560820	LSSHOF-23 BLK	-02UN	7 (210/30)	1	.040	.040	.044	.460	88	80
560830	LSSHOF-60 BLK	-03UN	60 (304/.014)	1	.050	.050	.570	.600	162	153
560880	LSSHOF-150 BLK	-04UN	150 (760/.014)	1	.070	.050	.830	.870	285	263
560860	LSSHOF-200 BLK	-05UN	200 (988/.014)	1	.070	.050	.940	.980	323	306
560870	LSSHOF-250 BLK	-06UN	250 (1254/.014)	1	.070	.070	1.035	1.085	397	362
560850	LSSHOF-500 BLK	-07UN	500 (5054/30)	1	.090	.070	1.380	1.450	602	578

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M24643/5, Type LSMDU

600V, Nineteen Conductor, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C, D stranding per ASTM B174

Insulation:
- Cross-Linked Polyethylene (XLPE)
- Color code: Method 1

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK)

Print:
- Including but not limited to:
  GENERAL CABLE BRAND REX BRAND
  LSMDU-XX M24643/5-XXXX XLPOLYO
  YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/5)
- White Jacket

Applications:
- Cables are multi conductor constructions suitable for watertight, non-flexing service.
- For use as shipboard degaussing type cables when magnetic fields are of concern.

Features and Benefits:
- Watertight for mission-critical environments.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/5

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/5 600V, Nineteen Conductor, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/5	Conductor Size AWG and Stranding	Min. AVG. Insul. Thickness Inches	Min. AVG. Jacket Thickness Inches	Max. Overall Diameter Inches	Max. Cond. Resistance Per 1000 Ft. Ohms	Min. Insul. Resistance Per 1000 Ft. Megaohms
376820	LSMDU-6 BLK	-01UN	12 (7/.0305)	.028	.060	1.000	1.730	100
376830	LSMDU-14 BLK	-02UN	9 (7/.0432)	.040	.060	1.395	0.868	100
376840	LSMDU-23 BLK	-03UN	7 (7/.0545)	.052	.075	1.765	0.598	100

Brand Rex BRAND

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Fax: (859) 572-8463
www.generalcable.com

M24643/14, Type LSSSGU & LSSSGA

1000V, Single Conductor, Unarmored or Armored, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C, D stranding per ASTM B8

Insulation:
- Silicone rubber glass tape

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

LSSSGA:
- Same construction as LSSSGU with overall braided aluminum armor

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSSSGU-XX OR LSSSGA-XX M24643/14-XXXX XL POLYO YEAR OF MFG

Applications:
- Cables are single conductor constructions, armored or unarmored, suitable for watertight non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.
- Used for degaussing applications.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/14

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/14 1000V, Single Conductor, Unarmored or Armored, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/14	Conductor Size AWG/MCM /Navy Std. and Stranding	Max. Overall Diameter LSSSGU Inches	Max. Overall Diameter LSSSGA Inches	Nom. Dia. Over Insul. Inches	Min. AVG. Jacket Thickness Inches	Amps Per Cond. Max.* 40ºC	Amps Per Cond. Max.* 50ºC
563540/373910	LSSSGU/A-50 BLK	-01UN/AN	3 (19/.0526)	.520	.570	.334	.040	149	137
292010	LSSSGU-50 WHT	-01UN	3 (19/.0526)	.520	-	.334	.040	149	137
563550/373920	LSSSGU/A-75 BLK	-02UN/AN	1 (37/.0476)	.602	.652	.407	.040	197	181
290190	LSSSGU-75 WHT	-02UN	1 (37/.0476)	.602	-	.407	.040	197	181
563560/320860	LSSSGU/A-100 BLK	-03UN/AN	0 (61/.0416)	.669	.719	.453	.050	232	214
292020	LSSSGU-100 WHT	-03UN	0 (61/.0416)	.669	-	.453	.050	232	214
563570/310520	LSSSGU/A-200 BLK	-04UN/AN	0000 (61/.0589)	.872	.922	.634	.050	361	332
361570	LSSSGU-200 WHT	-04UN	0000 (61/.0589)	.872	-	.634	.050	361	332
563580/310530	LSSSGU/A-300 BLK	-05UN/AN	300 (91/0574)	1.001	1.051	.748	.050	467	430
373930	LSSSGU-300 WHT	-05UN	300 (91/.0574)	1.001	-	.748	.050	467	430
563590/563730	LSSSGU/A-400 BLK	-06UN/AN	400 (127/.057)	1.118	1.168	.862	.050	575	530
X330000	LSSSGU-400 WHT	-06UN	400 (127/.057)	1.118	-	.862	.050	575	530
310550/319550	LSSSGU/A-650 BLK	-07UN/AN	650 (127/.0715)	1.371	1.421	1.056	.060	785	722
373940	LSSSGU-650 WHT	-07UN	650 (127/.0715)	1.371	-	1.056	.060	785	722
297470/363570	LSSSGU/A-800 BLK	-08UN/AN	800 (127/.0794)	1.485	1.535	1.170	.060	940	865
373950	LSSSGU-800 WHT	-08UN	800 (127/.0794)	1.485	-	1.170	.060	940	865
563650/373960	LSSSGU/A-1000 BLK	-09UN/AN	1000 (127/.0887)	1.620	1.670	1.300	.060	1090	950
373970	LSSSGU-1000 WHT	-09UN	1000 (127/.0887)	1.620	-	1.300	.060	1090	950

*Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

M24643/15, Type LSDSGU

1000V, Two Conductor, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C, D stranding per ASTM B8
- Navy Standard - 400

Insulation:
- Sizes 3, 4, 9, 14, 23: Silicone, glass braid and braid covering – Method 1
- Sizes 50-400: Silicone rubber glass tape – Method 5

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSDSGU-XXX M24643/15-XXXX XL POLYO YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/15)

Applications:
- Cables are two conductor constructions suitable for watertight, non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.
- Used for degaussing applications.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/15

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/15 1000V, Two Conductor, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/15	Conductor Size AWG/Navy Std. and Stranding	Max. Overall Diameter Inches	Nom. Over Outer Ins. Outer Tape Inches	Max. Dia. Over Braid Inches	Min. Dia. Over Ins. Inches	Overall Jacket Thick. Inches	Amps Per Cond. Max.* 40ºC	Amps Per Cond. Max.* 50ºC
563290	LSDSGU-3 BLK	-01UN	16 (7/.0192)	.391	-	.130	.096	.030	13	12
289220	LSDSGU-3 WHT	-01UN	16 (7/.0192)	.391	-	.130	.096	.030	13	12
563300	LSDSGU-4 BLK	-02UN	14 (7/.0242)	.427	-	.143	.112	.030	22	20
289230	LSDSGU-4 WHT	-02UN	14 (7/.0242)	.427	-	.143	.112	.030	22	20
563310	LSDSGU-9 BLK	-03UN	10 (7/.0385)	.544	-	.187	.154	.040	44	41
289240	LSDSGU-9 WHT	-03UN	10 (7/.0385)	.544	-	.187	.154	.040	44	41
563330	LSDSGU-14 BLK	-04UN	9 (7/.0432)	.670	-	.262	.230	.040	60	55
289250	LSDSGU-14 WHT	-04UN	9 (7/.0432)	.670	-	.262	.230	.040	60	55
563340	LSDSGU-23 BLK	-05UN	7 (7/.0545)	.781	-	.310	.271	.050	78	72
289260	LSDSGU-23 WHT	-05UN	7 (7/.0545)	.781	-	.310	.271	.050	78	72
563360	LSDSGU-50 BLK	-06UN	3 (19/.0526)	.911	.334	-	-	.050	126	116
361600	LSDSGU-50 WHT	-06UN	3 (19/.0526)	.911	.334	-	-	.050	126	116
563870	LSDSGU-75 BLK	-07UN	1 (37/.0476)	1.074	.407	-	-	.050	168	155
302960	LSDSGU-75 WHT	-07UN	1 (37/.0476)	1.074	.407	-	-	.050	168	155
563860	LSDSGU-100 BLK	-08UN	0 (61/.0416)	1.167	.453	-	-	.050	199	183
362920	LSDSGU-100 WHT	-08UN	0 (61/.0416)	1.167	.453	-	-	.050	199	183
311730	LSDSGU-200 BLK	-09UN	0000 (61/.0589)	1.583	.634	-	-	.060	308	284
374010	LSDSGU-200 WHT	-09UN	0000 (61/.0589)	1.583	.634	-	-	.060	308	284
353150	LSDSGU-300 BLK	-10UN	300 (91/.0574)	1.841	.748	-	-	.075	413	380
363160	LSDSGU-300 WHT	-10UN	300 (91/.0574)	1.841	.748	-	-	.075	413	380
303760	LSDSGU-400 BLK	-11UN	400 (127/.057)	2.069	.862	-	-	.075	492	453
291990	LSDSGU-400 WHT	-11UN	400 (127/.057)	2.069	.862	-	-	.075	492	453

*Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

Brand Rex BRAND

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M24643/16, Type LSTSGU & LSTSGA

1000V, Three Conductor, Unarmored or Armored, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multiple AWG (see chart) uncoated copper
- Class B, C D stranding per ASTM B8
- Navy Standard

Insulation:
- Sizes 3, 4, 9, 14, 23 and 30: Silicone, glass braid and braid covering – Method 1
- Sizes 40 thru 400: Silicone rubber glass tape – Method 5

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

LSTSGA:
- Same construction with overall braided aluminum armor

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSTSGU-XXX OR LSTSGA-XXX M24643/16-XXXX XL POLYO YEAR OF MFG

Applications:
- Cables are three conductor constructions, armored or unarmored, suitable for watertight, non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.
- Used for degaussing applications.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/16

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/16 1000V, Three Conductor, Unarmored or Armored, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/16	Conductor Size	Max. Overall Diameter		Nom. Dia. Over Outer Ins. Tape	Min. Dia. Over Ins.	Max. Dia. Over Braid	Min. AVG. Jacket Thickness	Amps Per Cond. Max.*	
			AWG/ Navy Std and Stranding	LSTSGU	LSTSGA	Inches			Inches	40ºC	50ºC
				Inches	Inches						
562650/565540	LSTSGU/A-3 BLK	-01UN/AN	16 (7/.0192)	.411	.461	---	.096	.130	.030	11	10
289850	LSTSGU-3 WHT	-01UN	16 (7/.0192)	.411	---	---	.096	.130	.030	11	10
562660/565550	LSTSGU/A-4 BLK	-02UN/AN	14 (7/.0242)	.449	.499	---	.112	.143	.030	18	17
289860	LSTSGU-4 WHT	-02UN	14 (7/.0242)	.449	---	---	.112	.143	.030	18	17
562670/565570	LSTSGU/A-9 BLK	-03UN/AN	10 (7/.0385)	.575	.625	---	.154	.187	.040	39	36
289870	LSTSGU-9 WHT	-03UN	10 (7/.0385)	.575	---	---	.154	.187	.040	39	36
562680/565580	LSTSGU/A-14 BLK	-04UN/AN	9 (7/.0432)	.718	.768	---	.230	.262	.040	51	47
289880	LSTSGU-14 WHT	-04UN	9 (7/.0432)	.718	---	---	.230	.262	.040	51	47
562690/565590	LSTSGU/A-23 BLK	-05UN/AN	7 (7/.0545)	.812	.862	---	.271	.310	.050	69	64
289890	LSTSGU-23 WHT	-05UN	7 (7/.0545)	.812	---	---	.271	.310	.050	69	64
562510/X562530	LSTSGU/A-30 BLK	-055UN/AN	30 (19/.040)	.852	.902	---	.285	.335	.050	---	---
374170	LSTSGU-30 WHT	-055UN	30 (19/.040)	.852	---	---	.285	.335	.050	---	---
374180/374190	LSTSGU/A-40 BLK	-058UN/AN	4 (19/.0469)	.900	.950	.310	---	---	.050	---	---
374200	LSTSGU-40 WHT	-058UN	4 (19/.0469)	.900	---	.310	---	---	.050	---	---
562700/567350	LSTSGU/A-50 BLK	-06UN/AN	3 (19/.0526)	.969	1.019	.334	---	---	.050	110	101
290180	LSTSGU-50 WHT	-06UN	3 (19/.0526)	.969	---	.334	---	---	.050	110	101
374210/374220	LSTSGU/A-60 BLK	-065UN/AN	2 (37/.0424)	1.060	1.110	.365	---	---	.050	---	---
374230	LSTSGU-60 WHT	-065UN	2 (37/.0424)	1.060	---	.365	---	---	.050	---	---
562710/312560	LSTSGU/A-75 BLK	-07UN/AN	1(37/.0476)	1.134	1.185	.407	---	---	.050	148	136

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M24643/16, Type LSTSGU & LSTSGA

1000V, Three Conductor, Unarmored or Armored, Watertight, Low-Smoke

M24643/16 1000V, Three Conductor, Unarmored or Armored, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/16	Conductor Size AWG/ Navy Std and Stranding	Max. Overall Diameter LSTSGU Inches	Max. Overall Diameter LSTSGA Inches	Nom. Dia. Over Outer Ins. Tape Inches	Min. Dia. Over Ins. Inches	Max. Dia. Over Braid Inches	Min. AVG. Jacket Thickness Inches	Amps Per Cond. Max.* 40ºC	Amps Per Cond. Max.* 50ºC
290170	LSTSGU-75 WHT	-07UN	1(37/.0476)	1.134	---	.407	---	---	.050	148	136
X562720/298390	LSTSGU/A-100 BLK	-08UN/AN	0 (61/.0416)	1.266	1.316	.453	---	---	.060	174	160
290160	LSTSGU-100 WHT	-08UN	0 (61/.0416)	1.266	---	.453	---	---	.060	174	160
374240/374250	LSTSGU/A-125 BLK	-085UN/AN	125 (61/.045)	1.408	1.458	.507	---	---	.060	---	---
374260	LSTSGU-125 WHT	-085UNN	125 (61/.045)	1.408	---	.507	---	---	.060	---	---
562740/360850	LSTSGU/A-150 BLK	-09UN/AN	000 (61/.0524)	1.515	1.565	.557	---	---	.060	235	216
290150	LSTSGU-150 WHT	-09UN	000 (61/.0524)	1.515	---	.557	---	---	.060	235	216
562750/376810	LSTSGU/A-200 BLK	-10UN/AN	0000 (61/.0589)	1.669	1.719	.634	---	---	.060	271	250
290140	LSTSGU-200 WHT	-10UN	0000 (61/.0589)	1.669	---	.634	---	---	.060	271	250
374270/374280	LSTSGU/A-250 BLK	-105UN/AN	250 (61/.064)	1.794	1.844	.697	---	---	.060	---	---
374290	LSTSGU-250 WHT	-105UN	250 (61/.064)	1.794	---	.697	---	---	.060	---	---
562760/376800	LSTSGU/A-300 BLK	-11UN/AN	300 (91/.0574)	1.957	2.007	.748	---	---	.075	348	320
290130	LSTSGU-300 WHT	-11UN	300 (91/.0574)	1.957	---	.748	---	---	.075	348	320
374300/374310	LSTSGU/A-350 BLK	-115UN/AN	350 (91/.062)	2.073	2.123	.802	---	---	.075	---	---
374320	LSTSGU-350 WHT	-115UN	350 (91/.062)	2.073	---	.802	---	---	.075	---	---
562770/300330	LSTSGU/A-400 BLK	-12UN/AN	400 (127/.057)	2.203	2.253	.862	---	---	.075	435	400
292240	LSTSGU-400 WHT	-12UN	400 (127/.057)	2.203	---	.862	---	---	.075	435	400

*Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

M24643/17, Type LSFSGU

1000V, Four Conductor, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C, D stranding per ASTM B8

Insulation:
- Sizes 3, 4, 9, 14 and 23: Silicone, glass braid, and braid covering – Method 1
- Sizes 50, 75, 100, 150 and 200: Silicone rubber glass tape – Method 5

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSFSGU-XXX M24643/17-XXXX XL POLYO YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/17)

Applications:
- Cables are four conductor constructions suitable for watertight, non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.
- Used for degaussing applications.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/17

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/17 1000V, Four Conductor, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/17	Conductor Size AWG/Navy Std. and Stranding	Max. Overall Diameter Inches	Nom. Dia. Over Outer Ins. Tape Inches	Min. Dia. Over Ins. Inches	Max. Dia. Over Braid Inches	Min. AVG. Jacket Thickness Inches	Max. Amps Per Cond. * 40ºC	50ºC
562330	LSFSGU-3 BLK	-01UN	16 (7/.0192)	.447	-	.096	.130	.030	11	10
289490	LSFSGU-3 WHT	-01UN	16 (7/.0192)	.447	-	.096	.130	.030	11	10
562340	LSFSGU-4 BLK	-02UN	14 (7/.0242)	.513	-	.112	.143	.040	18	17
289480	LSFSGU-4 WHT	-02UN	14 (7/.0242)	.513	-	.112	.143	.040	18	17
562350	LSFSGU-9 BLK	-03UN	10 (7/.0385)	.630	-	.154	.187	.040	39	36
289500	LSFSGU-9 WHT	-03UN	10 (7/.0385)	.630	-	.154	.187	.040	39	36
562360	LSFSGU-23 BLK	-04UN	7 (7/.0545)	.890	-	.271	.310	.050	69	64
374440	LSFSGU-23 WHT	-04UN	7 (7/.0545)	.890	-	.271	.310	.050	69	64
562380	LSFSGU-50 BLK	-05UN	3 (19/.0526)	1.050	.334	-	-	.050	110	101
292000	LSFSGU-50 WHT	-05UN	3 (19/.0526)	1.050	.334	-	-	.050	110	101
562390	LSFSGU-75 BLK	-06UN	1 (37/.0476)	1.240	.407	-	-	.050	148	136
361580	LSFSGU-75 WHT	-06UN	1 (37/.0476)	1.240	.407	-	-	.050	148	136
562400	LSFSGU-100 BLK	-07UN	0 (61/.0416)	1.358	.453	-	-	.060	174	160
361590	LSFSGU-100 WHT	-07UN	0 (61/.0416)	1.358	.453	-	-	.060	174	160
562410	LSFSGU-150 BLK	-08UN	000 (61/.0524)	1.625	.557	-	-	.060	235	216
290210	LSFSGU-150 WHT	-08UN	000 (61/.0524)	1.625	.557	-	-	.060	235	216
562420	LSFSGU-200 BLK	-09UN	0000 (61/.0589)	1.820	.634	-	-	.060	271	250
376140	LSFSGU-200 WHT	-09UN	0000 (61/.0589)	1.820	.634	-	-	.060	271	250

*Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

M24643/22, Type LS5KVTSGU & LS5KVTSGA

5000V, Three Conductor, Unarmored or Armored, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C & D stranding per ASTM B8
- Navy Standard - 400

Insulation:
- Silicone rubber glass tape
- Color Code: Method 5

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK)

Armor:
LS5KVTSGA
- Same construction as LS5KVTSGU with overall braided aluminum armor

Print:
- Including but not limited to:
  GENERAL CABLE BRAND REX BRAND LS5KVTSGU-XXX OR LS5KVTSGA-XXX M24643/22-XXXX XL POLYO YEAR OF MFG

Options:
- White Jacket

Applications:
- Cables are three conductor constructions, armored or unarmored, suitable for watertight, non-flexing service.
- For use in shipboard power, lighting, or weapon control system interconnection.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/22

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/22 5000V, Three Conductor, Unarmored or Armored, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/22	Conductor Size		Max. Overall Diameter		Nom. Dia. Over Outer Ins. Tape	Max. Amps Per Cond.*	
			Navy Stand.	AWG and Stranding	LS5KVTSGU Inches	LS5KVTSGA Inches	Inches	40ºC	50ºC
374560/374570	LS5KVTSGU/A-100 BLK	-01UN/AN	-	0 (61/.0416)	1.74	1.79	.675	174	160
297380/374580	LS5KVTSGU/A-150 BLK	-02UN/AN	-	000 (61/.0524)	1.95	2.00	.769	235	216
297390/374590	LS5KVTSGU/A-250 BLK	-03UN/AN	-	250 (61/.064)	2.22	2.27	.889	315	290
297370/374600	LS5KVTSGU/A-350 BLK	-04UN/AN	-	350 (91/.062)	2.45	2.50	.994	391	360
374610/374620	LS5KVTSGU/A-400 BLK	-05UN/AN	400 (127/.057)	-	2.60	2.65	1.054	435	400

*Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

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M24643/23, Type LSTTSU

300V, One and One Half thru Forty Pair, 22 AWG, Watertight, Low-Smoke

Product Construction:

Conductor:
- 22 AWG uncoated copper
- Class K stranding per ASTM B174

Insulation:
- Extruded silicone rubber / Polyamide
- Color code: Method 6

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

Print:
- Including but not limited to:
  GENERAL CABLE BRAND REX BRAND
  LSTTSU-XX M24643/23-XXXX XL POLYO
  YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/23)

Applications:
- Cables are multi-pair constructions suitable for watertight, non-flexing service.
- For use in shipboard interconnect audio, telephone, call bell, announcing, and alarm systems.
- May also be used for other interior communications and weapon control systems provided the ampere rating of the cable and voltage drop for the system are not exceeded.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1-hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/23

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/23 300V, One and One Half thru Forty Pair, 22(7/30) AWG, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/23	# of Pairs	Max. Overall Diameter Inches	Min. AVG. Jacket Thickness Inches
562780	LSTTSU-1½ * BLK	-01UN	1½	.330	.050
366120	LSTTSU-1½ * WHT	-01UN	1½	.330	.050
562790	LSTTSU-3 BLK	-02UN	3	.450	.050
372340	LSTTSU-3 WHT	-02UN	3	.450	.050
562800	LSTTSU-5 BLK	-03UN	5	.540	.050
366130	LSTTSU-5 WHT	-03UN	5	.540	.050
562810	LSTTSU-10 BLK	-04UN	10	.675	.062
289960	LSTTSU-10 WHT	-04UN	10	.675	.062
562820	LSTTSU-15 BLK	-05UN	15	.800	.062
289970	LSTTSU-15 WHT	-05UN	15	.800	.062
562840	LSTTSU-20 BLK	-06UN	20	.870	.062
289980	LSTTSU-20 WHT	-06UN	20	.870	.062
562850	LSTTSU-30 BLK	-07UN	30	1.080	.075
289990	LSTTSU-30 WHT	-07UN	30	1.080	.075
562860	LSTTSU- 40 BLK	-08UN	40	1.200	.075
374630	LSTTSU- 40 WHT	-08UN	40	1.200	.075

* LSTTSU-1½ is comprised of three conductors cabled together to form a triad.

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M24643/24, Type LSTCKXN & LSTCTXN

One Pair, 16 AWG and 21 AWG, Armored, Non-Watertight, Low-Smoke

Product Construction:

Conductor:
- 16 AWG & 21 AWG thermocouple in accordance with ANSI MC96.1
- LSTCKXN - One each of chromel and alumel
- LSTCKXN- One each of copper and constantan

Insulation:
- Extruded silicone rubber/ glass braid / braid covering
- Color Code: Method 4

Jacket:
- Silicone Rubber – Orange

Armor:
- Braided Aluminum

Print:
- Including but not limited to:
  GENERAL CABLE BRAND REX BRAND
  LSTCKXN-XX OR LSTCTXN-XX
  M24643/24-XXXX XL POLYO YEAR OF MFG

Applications:
- Cables are one pair armored thermocouple suitable for non-watertight, non-flexing service.
- For use in shipboard Type K and T thermocouple and pryometer applications.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/24

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/24, One Pair, 16(7/.0201) AWG and 21(7/.0113) AWG, Armored, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/24	Conductor Size AWG and Stranding	# of Pairs	Nom. Dia. Over Insul. Inches	Max. Dia. Over Braid Covering Inches	Min. AVG. Overall Jacket Thickness Inches	Max. Overall Dia. Inches
381350	LSTCJXN-3	-01AN	7/.0201	3	.100	.125	.050	.742
381360	LSTCJXN-7	-02AN	7/.0201	7	.100	.125	.062	.983
381370	LSTCJXN-12	-03AN	7/.0201	12	.100	.125	.062	1.269
381050	LSTCKXN-1	-04AN	7/.0201	1	.100	.125	.038	.456
381380	LSTCKXN-3	-05AN	7/.0201	3	.100	.125	.050	.742
381390	LSTCKXN-7	-06AN	7/.0201	7	.100	.125	.062	.983
381400	LSTCKXN-12	-07AN	7/.0201	12	.100	.125	.062	1.269
381060	LSTCTXN-1	-08AN	7/.0113	11	.065	.085	.038	.350
381410	LSTCTXN-3	-09AN	7/.0113	3	.065	.085	.038	.552
381420	LSTCTXN-7	-10AN	7/.0113	7	.065	.085	.050	.731
381430	LSTCTXN-12	-11AN	7/.0113	12	.065	.085	.063	.964

Brand Rex BRAND

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M24643/25, Type LSPI

Three, Seven and Twelve Shielded Pair, 18 AWG, Armored, Non-Watertight, Low-Smoke

Product Construction:

Conductor:
- 18 AWG nickel-coated copper
- Class B stranding per ASTM B8

Insulation:
- Extruded silicone rubber / glass braid / braid covering
- Color code: Method 4

Shield:
- Braided uncoated copper

Jacket:
- Silicone rubber – Orange

Armor:
- Braided aluminum

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSPI-XX M24643/25-XXXX XL POLYO YEAR OF MFG

Applications:
- Cables are shielded and armored multi-pair constructions suitable for high temperature non-watertight, non-flexing service.
- For use in shipboard electronic and instrumentation system interconnectors such as position indication applications.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Meets the 1-hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/25

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/25, Three, Seven and Twelve Shielded Pair, 18(7/.0152) AWG, Armored, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/25	# of Pairs	Min. Avg. Overall Jacket Thickness	Max. Overall Diameter
				Inches	Inches
564050	LSPI-3	-01AN	3	.050	.685
564060	LSPI-7	-02AN	7	.063	.900
564070	LSPI-12	-03AN	12	.063	1.155

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M24643/26, Type LSDPSN, LSTPSN, LSFPSN, LS7PSN

600V, Two thru Seven Conductor, Armored, Non-Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) Nickel-coated copper
- Class B and C stranding per ASTM B8

Insulation:
- Extruded silicone rubber / glass braid / braid covering
- Color code: Method 4

Jacket:
- Silicone Rubber – Orange

Armor:
- Braided aluminum

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSDPSN-XX, LSTPSN-XX, LSFPSN-XX OR LS7PSN-XX M24643/26-XXXX XL POLYO YEAR OF MFG

Applications:
- Cables are multi conductor armored constructions suitable for high temperature, non-watertight, non-flexing service.
- For use in shipboard interconnect of lighting and power systems.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Meets the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.

Compliances:
- M24643/26

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/26 600V, Two thru Seven Conductor, Armored, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/26	Conductor Size AWG and Stranding	# of Cond.	Min. Dia. Over Insul. Inches	Max. Dia. Over Braid Covering Inches	Min. AVG. Jacket Thick. Inches	Max. Overall Dia. Inches	Max Amps Per Cond.* 40ºC
381070	LSDPSN-3	-01AN	16 (7/.0192)	2	.100	.125	.038	.455	10
381080	LSDPSN-4	-02AN	14 (7/.0242)	2	.116	.141	.038	.489	20
381090	LSDPSN-6	-03AN	12 (7/.0305)	2	.143	.170	.050	.585	28
381100	LSDPSN-9	-04AN	10 (7/.0385)	2	.166	.193	.050	.628	41
381110	LSDPSN-14	-05AN	9 (7/.0432)	2	.200	.230	.063	.730	54
381120	LSTPSN-3	-06AN	16 (7/.0192)	3	.100	.125	.038	.475	10
381130	LSTPSN-4	-07AN	14 (7/.0242)	3	.116	.141	.050	.553	17
381140	LSTPSN-6	-08AN	12 (7/.0305)	3	.143	.170	.050	.620	23
381150	LSTPSN-9	-09AN	10 (7/.0385)	3	.166	.193	.050	.657	36
381160	LSTPSN-14	-10AN	9 (7/.0432)	3	.200	.230	.063	.751	47
381170	LSTPSN-23	-11AN	7 (7/.057)	3	.257	.291	.063	.866	64
381180	LSTPSN-30	-12AN	5 (19/.0417)	3	.310	.348	.075	.989	77
381190	LSFPSN-14	-13AN	9 (7/.0432)	4	.200	.230	.063	.815	42
381200	LS7PSN-6	-14AN	12 (7/.0305)	7	.143	.170	.063	.775	35
381210	LS7PSN-14	-15AN	9 (7/.0432)	7	.200	.230	.063	.986	-

*Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

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M24643/43, Type LS2SJ, LS3SJ, LS4SJ

600V, Two, Three and Four Conductors, Overall Shield, Non-Watertight, Low-Smoke

Product Construction:

Conductor:
- 14 AWG and smaller - Tin-coated copper per ASTM B286; 12 AWG and larger – bare copper
- Class B stranding per ASTM B8

Insulation:
- Cross-Linked Polyethylene (XLPE)
- Color code: Method 3

Shield:
- Braided tin-coated copper

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) — White (WHT)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS2SJ-XX OR LS3SJ-XX OR LS4SJ-XX M24643/43-XXXX XL POLYO YEAR OF MFG

Options:
- Braided Aluminum Armor (IAW M24643/43)

Applications:
- Cables are multi-conductor, shielded constructions, suitable for non-watertight, non-flexing service.
- For use in shipboard combat systems, interior communications, lighting, and power circuits, where shielding of 400 Hz is required.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements.

Compliances:
- M24643/43

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/43 600V, Two, Three and Four Conductors, Overall Shield, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/43	Conductor Size AWG and Stranding	# of Cond.	Overall Diameter Min. Inches	Overall Diameter Max. Inches	Max Amps Per Cond. 40ºC	Max Amps Per Cond. 50ºC
294820	LS2SJ-22 WHT	-01UO	22(19/34)	2	.261	.275	3	2
288430	LS2SJ-20 WHT	-02UO	20(19/32)	2	.273	.290	6	5
288420	LS2SJ-18 WHT	-03UO	18(19/30)	2	.295	.310	10	8
288440	LS2SJ-16 WHT	-04UO	16(19/29)	2	.309	.325	13	11
370950	LS2SJ-14 WHT	-05UO	14(19/27)	2	.337	.350	16	14
364170	LS2SJ-12 WHT	-06UO	12 (7/.0305)	2	.417	.430	23	17
364970	LS2SJ-11 WHT	-07UO	10 (7/.0385)	2	.447	.460	31	25
354960	LS2SJ-9 WHT	-08UO	9 (7/.0435)	2	.525	.545	42	35
374820	LS2SJ-7 WHT	-09UO	7 (7/.0545)	2	.600	.615	56	49
363940	LS3SJ-22 WHT	-10UO	22(19/34)	3	.271	.285	3	2

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M24643/43, Type LS2SJ, LS3SJ, LS4SJ

600V, Two, Three and Four Conductors, Overall Shield, Non-Watertight, Low-Smoke

M24643/43 600V, Two, Three and Four Conductors, Overall Shield, Non-Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/43	Conductor Size AWG and Stranding	# of Cond.	Overall Diameter Min. Inches	Overall Diameter Max. Inches	Max Amps Per Cond. 40ºC	Max Amps Per Cond. 50ºC
360810	LS3SJ-20 WHT	-11UO	20(19/32)	3	.284	.300	6	5
289400	LS3SJ-18 WHT	-12UO	18(19/30)	3	.308	.325	9	7
289390	LS3SJ-16 WHT	-13UO	16(19/29)	3	.323	.340	11	10
363720	LS3SJ-14 WHT	-14UO	14(19/27)	3	.353	.370	14	12
374830	LS3SJ-12 WHT	-15UO	12 (7/.0305)	3	.440	.455	21	15
353000	LS3SJ-9 WHT	-16UO	9 (7/.0435)	3	.594	.620	33	27
349970	LS4SJ-20 WHT	-17UO	20(19/32)	4	.303	.320	6	5
289420	LS4SJ-16 WHT	-18UO	16(19/29)	4	.346	.360	9	7
365450	LS4SJ-14 WHT	-19UO	14(19/27)	4	.380	.395	11	9

Ampacity calculated at 60 Hz AC (rms) or DC per MIL-HDBK-299

M24643/66, Type LS2OW

1000V, Two Conductor, Shielded, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C, D stranding per ASTM B8

Insulation:
- Sizes 3, 4, 9, 14, 23: Silicone, glass braid and braid covering – Method 1
- Sizes 50-200: Silicone rubber glass tape – Method 5

Shield:
- Aluminum/Polyester/Aluminum tape plus optimized tin copper braid

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS2OW-XXX M24643/66-XXXX XL POLYO YEAR OF MFG

Options:
- Red Jacket available on size 9 and larger

Applications:
- Cables are two conductor shielded constructions suitable for watertight, non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements

Compliances:
- M24643/66

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/66 1000V, Two Conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/66	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG Jacket Thick.	Amps Per Cond. Max.*	
			AWG/Navy Std. and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
396570	LS2OW-3 BLK	-01UO	16 (7/.0192)	.018	.345	.370	.027	13	12
396580	LS2OW-3 WHT	-01UO	16 (7/.0192)	.018	.345	.370	.027	13	12
396590	LS2OW-4 BLK	-02UO	14 (7/.0242)	.018	.366	.392	.028	22	20
396600	LS2OW-4 WHT	-02UO	14 (7/.0242)	.018	.366	.392	.028	22	20
395910	LS2OW-9 BLK	-03UO	10 (7/.0385)	.018	.466	.499	.036	44	41
396610	LS2OW-9 WHT	-03UO	10 (7/.0385)	.018	.466	.499	.036	44	41
396620	LS2OW-14 BLK	-04UO	9 (7/.0432)	.025	.639	.686	.040	60	55
396630	LS2OW-14 WHT	-04UO	9 (7/.0432)	.025	.639	.686	.040	60	55
396640	LS2OW-23 BLK	-05UO	7 (7/.0545)	.025	.743	.797	.050	78	72
396650	LS2OW-23 WHT	-05UO	7 (7/.0545)	.025	.743	.797	.050	78	72
396660	LS2OW-50 BLK	-06UO	3 (19/.0526)	.035	.894	.959	.050	126	116
396670	LS2OW-50 WHT	-06UO	3 (19/.0526)	.035	.894	.959	.050	126	116
396680	LS2OW-75 BLK	-07UO	1 (37/.0476)	.035	1.033	1.108	.050	168	155
396690	LS2OW-75 WHT	-07UO	1 (37/.0476)	.035	1.033	1.108	.050	168	155
396700	LS2OW-100 BLK	-08UO	0 (61/.0416)	.035	1.149	1.232	.060	199	183
396710	LS2OW-100 WHT	-08UO	0 (61/.0416)	.035	1.149	1.232	.060	199	183
396720	LS2OW-200 BLK	-09UO	0000 (61/.0589)	.050	1.519	1.630	.060	308	284
396730	LS2OW-200 WHT	-09UO	0000 (61/.0589)	.050	1.519	1.630	.060	308	284

*Ampacity calculated at 60 Hz AC (rms) or DC based on MIL-HDBK-299

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M24643/67, Type LS3OW

1000V, Three Conductor, Shielded, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multiple AWG (see chart) uncoated copper
- Class B, C D stranding per ASTM B8
- Navy Standard

Insulation:
- Sizes 3, 4, 9, 14, and 23: Silicone, glass braid and braid covering – Method 1
- Sizes 50 thru 400: Silicone rubber glass tape – Method 5

Shield:
- Aluminum/Polyester/Aluminum tape plus optimized tin copper braid

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

Print:
- Including but not limited to:
  GENERAL CABLE BRAND REX BRAND
  LS3OW-XXX M24643/67-XXXX XL POLYO
  YEAR OF MFG

Options:
- Red jacket available on size 9 and larger

Applications:
- Cables are three conductor shielded constructions, suitable for watertight, non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements.

Compliances:
- M24643/67

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/67 1000V, Three Conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/67	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG. Jacket Thickness	Amps Per Cond. Max.*	
			AWG/ Navy Std and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
396740	LS3OW-3 BLK	-01UO	16 (7/.0192)	.018	.367	.394	.027	11	10
396750	LS3OW-3 WHT	-01UO	16 (7/.0192)	.018	.367	.394	.027	11	10
396760	LS3OW -4 BLK	-02UO	14 (7/.0242)	.018	.390	.418	.028	18	17
396770	LS3OW -4 WHT	-02UO	14 (7/.0242)	.018	.390	.418	.028	18	17
396780	LS3OW -9 BLK	-03UO	10 (7/.0385)	.018	.497	.533	.036	39	36
396790	LS3OW -9 WHT	-03UO	10 (7/.0385)	.018	.497	.533	.036	39	36
396800	LS3OW -14 BLK	-04UO	9 (7/.0432)	.018	.684	.733	.040	51	47
396810	LS3OW -14 WHT	-04UO	9 (7/.0432)	.018	.684	.733	.040	51	47
396820	LS3OW -23 BLK	-05UO	7 (7/.0545)	.030	.769	.853	.050	69	64
396830	LS3OW -23 WHT	-05UO	7 (7/.0545)	.030	.769	.853	.050	69	64
396840	LS3OW -50 BLK	-06UO	3 (19/.0526)	.030	.957	1.027	.050	110	101
396850	LS3OW -50 WHT	-06UO	3 (19/.0526)	.030	.957	1.027	.050	110	101
396860	LS3OW -75 BLK	-07UO	1 (37/.0476)	.035	1.107	1.187	.050	148	136

Brand Rex BRAND

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M24643/67, Type LS3OW

1000V, Three Conductor, Shielded, Watertight, Low-Smoke

M24643/67 1000V, Three Conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/67	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG. Jacket Thickness	Amps Per Cond. Max.*	
			AWG/ Navy Std and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
396870	LS3OW -75 WHT	-07UO	1(37/.0476)	.035	1.107	1.187	.050	148	136
396880	LS3OW -100 BLK	-08UO	0 (61/.0416)	.035	1.231	1.321	.060	174	160
396890	LS3OW -100 WHT	-08UO	0 (61/.0416)	.035	1.231	1.321	.060	174	160
396900	LS3OW -200 BLK	-09UO	0000 (61/.0589)	.050	1.630	1.748	.060	271	250
396910	LS3OW -200 WHT	-09UO	0000 (61/.0589)	.050	1.630	1.748	.060	271	250
395920	LS3OW -300 BLK	-10UO	300 (91/.0574)	.050	1.916	2.055	.075	348	320
396920	LS3OW -300 WHT	-10UO	300 (91/.0574)	.050	1.916	2.055	.075	348	320
396930	LS3OW -400 BLK	-11UO	400 (127/.057)	.050	2.190	2.349	.075	435	400
396940	LS3OW -400 WHT	-11UO	400 (127/.057)	.050	2.190	2.349	.075	435	400

*Ampacity calculated at 60 Hz AC (rms) or DC based on MIL-HDBK-299

M24643/68, Type LS4OW

1000V, Four Conductor, Shielded, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class B, C, D stranding per ASTM B8

Insulation:
- Sizes 3, 4, 9, 14 and 23: Silicone, glass braid, and braid covering – Method 1
- Sizes 50, 75, 100, 150 and 200: Silicone rubber glass tape – Method 5

Shield:
- Aluminum/Polyester/Aluminum tape plus optimized tin copper braid

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Black (BLK) or White (WHT)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS4OW-XXX M24643/68-XXXX XL POLYO YEAR OF MFG

Options:
- Red jacket available on size 9 and larger

Applications:
- Cables are four conductor constructions suitable for watertight, non-flexing service.
- For use in shipboard power, lighting or weapon control system interconnection except where unusual circuit parameters require special type of cable.
- Used for degaussing applications.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements.

Compliances:
- M24643/68

Quality Programs and Certifications:
- ANSI/ISO/ASQ Q9001:2008 Quality Management Systems
- MIL-STD-790
- MIL-I-45208
- MIL-STD-45662
- ISO/IEC 17025

Packaging:
- Per MIL Spec

M24643/68 1000V, Four Conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/68	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG Jacket Thickness	Max. Amps Per Cond. *	
			AWG/Navy Std. and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
396950	LS4OW-3 BLK	-01UO	16 (7/.0192)	.018	.412	.442	.027	11	10
396960	LS4OW -3 WHT	-01UO	16 (7/.0192)	.018	.412	.442	.027	11	10
396970	LS4OW -4 BLK	-02UO	14 (7/.0242)	.018	.437	.469	.028	18	17
396980	LS4OW -4 WHT	-02UO	14 (7/.0242)	.018	.437	.469	.028	18	17
396990	LS4OW -9 BLK	-03UO	10 (7/.0385)	.018	.559	.600	.036	39	36
397000	LS4OW -9 WHT	-03UO	10 (7/.0385)	.018	.559	.600	.036	39	36
397010	LS4OW -14 BLK	-04UO	9 (7/.0432)	.018	.772	.828	.040	60	55
397020	LS4OW-14 WHT	-04UO	9 (7/.0432)	.018	.772	.828	.040	60	55
397030	LS4OW -23 BLK	-05UO	7 (7/.0545)	.030	.900	.965	.050	69	64
397040	LS4OW -23 WHT	-05UO	7 (7/.0545)	.030	.900	.965	.050	69	64
397050	LS4OW -50 BLK	-06UO	3 (19/.0526)	.030	1.084	1.163	.050	110	101
397060	LS4OW -50 WHT	-06UO	3 (19/.0526)	.030	1.084	1.163	.050	110	101
397070	LS4OW -75 BLK	-07UO	1 (37/.0476)	.035	1.254	1.345	.050	148	136
397080	LS4OW -75 WHT	-07UO	1 (37/.0476)	.035	1.254	1.345	.050	148	136
397090	LS4OW -100 BLK	-08UO	0 (61/.0416)	.035	1.396	1.498	.060	174	160
397100	LS4OW -100 WHT	-08UO	0 (61/.0416)	.035	1.396	1.498	.060	174	160
397110	LS4OW -150 BLK	-085UO	000 (61/.0524)	.050	1.600	1.725	.060	235	216
397120	LS4OW -150 WHT	-085UO	000 (61/.0524)	.050	1.600	1.725	.060	235	216
397130	LS4OW -200 BLK	-09UO	0000 (61/.0589)	.050	1.850	1.984	.060	271	250
397140	LS4OW -200 WHT	-09UO	0000 (61/.0589)	.050	1.850	1.984	.060	271	250

*Ampacity calculated at 60 Hz AC (rms) or DC based on MIL-HDBK-299

Brand Rex BRAND

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QUIK-PREP® M24643/14, Type LSSSGU
1000V, Single Conductor, Watertight, Low-Smoke

Product Construction:

Conductor:
- 3 AWG, 1 AWG, 1/0 AWG, 4/0 AWG & 300 MCM bare copper per ASTM B3
- Class C stranding per ASTM B8 – 3 AWG & 1 AWG
- Class D stranding per ASTM B8 – 1/0 AWG, 4/0 AWG & 300 MCM
- 400 (127 strand) Navy Standard Conductor

Insulation:
- Silicone Rubber Glass Tape
- Color code: Method 1

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO)
- Color code: Black (00) or White (09) i.e. Catalog Number XXXXXX.00 or .09

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSSSGU-XXX OR LSSSGA-XXX M24643/14-XXXX XL POLYO YEAR OF MFG

Options:
- Other conductor sizes available

Applications:
- For use in shipboard power systems.
- For use in degaussing applications.
- Suitable for watertight, non-flexing service.

Features & Benefits:
- Watertight for mission-critical environments.
- Meets the 1 hour fire electrical circuit integrity requirements per M24643.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations that involve materials such as synthetic tubing, insulating varnishes and phase markers (Ref. DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.
- Quik-Prep® Rip Cord: effectively separates the jacket from the watertight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/14

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/14 1000V, Single Conductor, Watertight, Low-Smoke

Catalog Number XX = .00 (Black) or .09 (White)	Product Description Type/Size	Military Part No. M24643/14	Cond. (AWG/ MCM) Size/ Strand	Max. Cable O.D. Inches	Min. Avg. Insulation Thickness Inches	Min. Avg. Jacket Thickness Inches	Max. Cond. Resistance per 1000 ft. at 25°C Ohms	Min.Ins. Resistance per 1000 ft. Megohms	Max. Dia. Cold Bending Mandrel Inches	Accelerated Services Loading Amperes
364470.XX	LSSSGU-50 Q-P	-01UN	3 (19)	0.520	0.035	0.040	0.209	160	4	240
364490.XX	LSSSGU-75 Q-P	-02UN	1 (37)	0.602	0.035	0.040	0.132	135	8	315
364500.XX	LSSSGU-100 Q-P	-03UN	1/0 (61)	0.669	0.040	0.050	0.105	125	9	375
364520.XX	LSSSGU-200 Q-P	-04UN	4/0 (61)	0.872	0.050	0.050	0.0525	90	11	580
364530.XX	LSSSGU-300 Q-P	-05UN	300 (91)	1.001	0.060	0.050	0.0370	80	13	750
364550.XX	LSSSGU-400 Q-P	-06UN	400 (127)	1.118	0.060	0.050	0.0268	70	14	925

Ordering information: Example: 364470.09 = LSSSGU-50 Q-P WHT

Brand Rex BRAND

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QUIK-PREP® M24643/15, TYPE LSDSGU
1000V, Two-Conductors, Watertight, Low-Smoke

Product Construction:

Conductor:
- 3 AWG, 1 AWG, 1/0 AWG, 4/0 AWG, & 300 MCM bare copper per ASTM B3.
- Class C stranding per ASTM B8 – 3 AWG & 1 AWG
- Class D stranding per ASTM B8 – 1/0 AWG, 4/0 AWG & 300 MCM
- 400 (127 strand) Navy Standard Conductor

Insulation:
- Silicone Rubber Glass Tape
- Color code: Method 1

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO)
- Color code: Black (00) or White (09) i.e. Catalog Number XXXXXX.00 or .09

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSDSGU-XXX M24643/15-XXXX XL POLYO YEAR OF MFG

Options:
- Navy Standard Conductors – 60 & 125
- Other conductor sizes available

Applications:
- For use in shipboard power systems.
- For use in degaussing applications.
- Suitable for watertight, non-flexing service.

Features & Benefits:
- Watertight for mission-critical environments.
- Meets the 1 hour fire electrical circuit integrity requirements per M24643.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations that involve materials such as synthetic tubing, insulating varnishes and phase markers (Ref. DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.
- Quik-Prep® Rip Cord: effectively separates the jacket from the watertight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/15

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/15 1000V, Two-Conductor, Watertight, Low-Smoke

Catalog Number XX = .00 (Black) or .09 (White)	Product Description Type/Size	Military Part No. M24643/15	Cond. (AWG/ MCM)	Max. Cable O.D.	Min. Avg. Insulation Thickness	Min. Avg. Jacket Thickness	Max. Cond. Resistance per 1000 ft. at 25°C	Min.Ins. Resistance per 1000 ft.	Max. Dia. Cold Bending Mandrel	Accelerated Services Loading
			Size/ Strand	Inches	Inches	Inches	Ohms	Megohms	Inches	Amperes
313980.XX	LSDSGU-50 Q-P	-06UN	3 (19)	0.911	0.035	0.050	0.210	200	12	215
314130.XX	LSDSGU-75 Q-P	-07UN	1 (37)	1.074	0.035	0.050	0.134	175	13	285
330790.XX	LSDSGU-100 Q-P	-08UN	1/0 (61)	1.167	0.035	0.050	0.106	160	15	335
364570.XX	LSDSGU-200 Q-P	-09UN	4/0 (61)	1.583	0.050	0.060	0.053	125	20	525
364580.XX	LSDSGU-300 Q-P	-10UN	300 (91)	1.841	0.050	0.075	0.0377	110	23	700
364590.XX	LSDSGU-400 Q-P	-11UN	400 (127)	2.069	0.050	0.075	0.0273	100	25	835

Ordering information: Example: 313980.09 = LSDSGU-50 Q-P WHT

Brand Rex BRAND

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QUIK-PREP® M24643/16, TYPE LSTSGU
1000V, Three-Conductor, Watertight, Low-Smoke

Product Construction:
Conductor:
- 3 AWG, 2 AWG, 1 AWG, 1/0 AWG,3/0 AWG, 4/0 AWG, 300 MCM & 350 MCM bare copper per ASTM B3
- Class C stranding per ASTM B8 – 3 AWG & 1 AWG
- Class D stranding per ASTM B8 – 2 AWG, 1/0 AWG, 3/0 AWG, 4/0 AWG, 300 MCM & 350 MCM
- 125, 250 & 400 (61 & 127 stranding) Navy Standard Conductor

Insulation:
- Silicone Rubber Glass Tape
- Color code: Method 1

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO)
- Color code: Black (00) or White (09)
  i.e. Catalog Number XXXXXX.00 or .09

Print:
- Including but not limited to:
  GENERAL CABLE BRAND REX BRAND LSTSGU-XXX OR LSTSGA-XXX M24643/16-XXXX XL POLYO YEAR OF MFG

Options:
- Other conductor sizes available

Applications:
- For use in shipboard power systems.
- For use in degaussing applications.
- Suitable for watertight, non-flexing service.

Features & Benefits:
- Watertight for mission-critical environments.
- Meets the 1 hour fire electrical circuit integrity requirements per M24643.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations including materials such as synthetic tubing, insulating varnishes and phase markers (DOD-STD-2003-1); significantly reduces overall labor termination costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.
- Quik-Prep® Rip Cord: effectively separates the jacket from the water tight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/16

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/16 1000V, Three-Conductor, Watertight, Low-Smoke

Catalog Number XX = .00 (Black) or .09 (White)	Product Description Type/Size	Military Part No. M24643/16	Cond. (AWG/ MCM) Size/ Strand	Max. Cable O.D. Inches	Min. Avg. Insulation Thickness Inches	Min. Avg. Jacket Thickness Inches	Max. Cond. Resistance per 1000 ft. at 25°C Ohms	Min.Ins. Resistance per 1000 ft. Megohms	Max. Dia. Cold Bending Mandrel Inches	Accelerated Services Loading Amperes
299580.XX	LSTSGU-50 Q-P	-06UN	3 (19)	0.969	0.035	0.050	0.210	200	12	185
314200.XX	LSTSGU-60 Q-P	-065UN	2 (37)	1.060	0.035	0.050	0.190	190	13	215
299560.XX	LSTSGU-75 Q-P	-07UN	1 (37)	1.134	0.035	0.050	0.134	175	14	250
299570.XX	LSTSGU-100 Q-P	-08UN	1/0 (61)	1.266	0.035	0.060	0.106	160	16	295
314140.XX	LSTSGU-125 Q-P	-085UN	125 (61)	1.408	0.040	0.060	0.0888	150	17	340
310380.XX	LSTSGU-150 Q-P	-09UN	3/0 (61)	1.515	0.040	0.060	0.0674	135	19	400
299530.XX	LSTSGU-200 Q-P	-10UN	4/0 (61)	1.669	0.050	0.060	0.053	125	21	460
364600.XX	LSTSGU-250 Q-P	-105UN	250 (61)	1.794	0.050	0.060	0.0444	120	22	535
364610.XX	LSTSGU-300 Q-P	-11UN	300 (91)	1.957	0.050	0.075	0.0377	110	24	590
314150.XX	LSTSGU-350 Q-P	-115UN	350 (91)	2.073	0.050	0.075	0.0316	105	25	665
299500.XX	LSTSGU-400 Q-P	-12UN	400 (127)	2.203	0.050	0.075	0.0273	100	27	750

Ordering information: Example: 299580.09 = LSTSGU-50 Q-P WHT

Brand Rex BRAND

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QUIK-PREP® M24643/17, TYPE LSFSGU
1000V, Four-Conductor, Watertight, Low-Smoke

Product Construction:

Conductor:
- 3 AWG, 1 AWG, 1/0 AWG, 3/0 AWG & 4/0 AWG bare copper per ASTM B3
- Class C stranding per ASTM B8 – 3 AWG & 1 AWG
- Class D stranding per ASTM B8 – 1/0 AWG, 3/0 AWG & 4/0 AWG

Insulation:
- Silicone Rubber Glass Tape
- Color code: Method 1

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO)
- Color code: Black (00) or White (09) i.e. Catalog Number XXXXXX.00 or .09

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LSFSGU-XXX M24643/17-XXXX XL POLYO YEAR OF MFG

Options:
- Navy Standard Conductor – 60
- Other conductor sizes available

Applications:
- For use in shipboard power systems.
- For use in degaussing applications.
- Suitable for watertight, non-flexing service.

Features & Benefits:
- Watertight for mission-critical environments.
- Meets the 1 hour fire electrical circuit integrity requirements per M24643.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations including materials such as synthetic tubing, insulating varnishes and phase markers (DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.
- Quik-Prep® Rip Cord: effectively separates the jacket from the water tight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/17

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/17 1000V, Four-Conductor, Watertight, Low-Smoke

Catalog Number XX = .00 (Black) or .09 (White)	Product Description Type/Size	Military Part No. M24643/17	Cond. (AWG/ MCM)	Max. Cable O.D.	Min. Avg. Insulation Thickness	Min. Avg. Jacket Thickness	Max. Cond. Resistance per 1000 ft. at 25°C	Min.Ins. Resistance per 1000 ft.	Max. Dia. Cold Bending Mandrel	Accelerated Services Loading
			Size/ Strand	Inches	Inches	Inches	Ohms	Megohms	Inches	Amperes
313990.XX	LSFSGU-50 Q-P	-05UN	3 (19)	1.050	0.035	0.050	0.210	200	13	180
364620.XX	LSFSGU-75 Q-P	-06UN	1 (37)	1.240	0.035	0.050	0.134	175	15	250
364630.XX	LSFSGU-100 Q-P	-07UN	1/0 (61)	1.358	0.035	0.060	0.106	160	16	295
314000.XX	LSFSGU-150 Q-P	-08UN	3/0 (61)	1.625	0.040	0.060	0.0674	135	19	400
364460.XX	LSFSGU-200 Q-P	-09UN	4/0 (61)	1.820	0.050	0.060	0.0536	125	21	465

Ordering information: Example: 313990.09 = LSFSGU-50 Q-P WHT

Brand Rex BRAND

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QUIK-PREP® M24643/22, TYPE LS5KVTSGU
5000V, Three-Conductor, Watertight, Low-Smoke

Product Construction:

Conductor:
- 1/0 AWG, 3/0 AWG, 250 MCM & 350 MCM bare copper per ASTM B3
- Class C stranding per ASTM B8 – 250 MCM
- Class D stranding per ASTM B8 – 1/0 AWG, 3/0 AWG & 350 MCM
- 400 (127 strand) Navy Standard Conductor

Insulation:
- Silicone Rubber Glass Tape
- Color code: Method 1

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO)
- Color code: Black (00) or White (09) i.e. Catalog Number XXXXXX.00 or .09

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS5KVTSGU-XXX OR LS5KVTSGA-XXX M24643/22-XXXX XL POLYO YEAR OF MFG

Options:
- Other conductor sizes available

Applications:
- For use in shipboard power systems.
- For use in degaussing applications.
- Suitable for watertight non-flexing service.

Features & Benefits:
- Watertight for mission-critical environments.
- Meets the 1 hour fire electrical circuit integrity requirements per M24643.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations including materials such as synthetic tubing, insulating varnishes and phase markers (DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.
- Quik-Prep® Rip Cord: effectively separates the jacket from the water tight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/22

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/22 5000V, Three-Conductor, Watertight, Low-Smoke

Catalog Number XX = .00 (Black) or .09 (White)	Product Description Type/Size	Military Part No. M24643/22	Cond. (AWG/ MCM)	Max. Cable O.D.	Min. Avg. Insulation Thickness	Min. Avg. Jacket Thickness	Max. Cond. Resistance per 1000 ft. at 25°C	Min.Ins. Resistance per 1000 ft.	Max .Dia. Cold Bending Mandrel	Accelerated Services Loading
			Size/ Strand	Inches	Inches	Inches	Ohms	Megohms	Inches	Amperes
364710.XX	LS5KVTSGU-100 Q-P	-01UN	1/0 (61)	1.74	0.140	0.090	0.106	400	22	295
364720.XX	LS5KVTSGU-150 Q-P	-02UN	3/0 (61)	1.95	0.140	0.090	.0674	350	24	400
364730.XX	LS5KVTSGU-250 Q-P	-03UN	250 (61)	2.22	0.140	0.090	.0453	300	28	535
364740.XX	LS5KVTSGU-350 Q-P	-04UN	350 (61)	2.45	0.140	0.090	.0321	265	30	665
364750.XX	LS5KVTSGU-400 Q-P	-05UN	400 (61)	2.60	0.140	0.090	.0273	250	32	750

Ordering information: Example: 364710.09 = LS5KVTGU-100 Q-P WHT

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Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

QUIK-PREP® M24643/66, Type LS2OW

1000V, Two-Conductor, Shielded, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class C, D stranding per ASTM B8

Insulation:
- Sizes 50-200: Silicone rubber glass tape – Method 5

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Shield:
- Aluminum/Polyester/Aluminum tape plus optimized tin copper braid

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Color code - Black (00) or White (09)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS2OW-XXX M24643/66-XXXX XL POLYO YEAR OF MFG

Options:
- Red Jacket available

Applications:
- Cables are two conductor shielded constructions suitable for watertight, non-flexing service.
- For use in shipboard power systems

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations that involve materials such as synthetic tubing, insulating varnishes and phase markers (Ref. DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.

Features and Benefits: (Cont'd)
- Quik-Prep® Rip Cord: effectively separates the jacket from the watertight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/66

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2008

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/66 1000V, Two-Conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/ 66	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG Jacket Thick.	Amps Per Cond. Max.*	
			AWG/Navy Std. and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
397750.XX	LS2OW-50 Q-P	-06UO	3 (19/.0526)	.030	.894	.959	.050	126	116
397760.XX	LS2OW-75 Q-P	-07UO	1 (37/.0476)	.035	1.033	1.108	.050	168	155
397770.XX	LS2OW-100 Q-P	-08UO	0 (61/.0416)	.035	1.149	1.232	.060	199	183
397780.XX	LS2OW-200 Q-P	-09UO	0000 (61/.0589)	.050	1.519	1.630	.060	308	284

Ordering information: Example: 397750.00 = LS2OW-50 Q-P BLK; 397750.09 = LS2OW-50 Q-P WHT

*Ampacity calculated at 60 Hz AC (rms) or DC based on MIL-HDBK-299

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

QUIK-PREP® M24643/67, Type LS3OW

1000V, Three-Conductor, Shielded, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multiple AWG (see chart) uncoated copper
- Class C, D stranding per ASTM B8
- Navy Standard

Insulation:
- Sizes 50 thru 400: Silicone rubber glass tape – Method 5

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Shield:
- Aluminum/Polyester/Aluminum tape plus optimized tin copper braid

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart

NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Color-code: Black (00) or White (09)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS3OW-XXX M24643/67-XXXX XL POLYO YEAR OF MFG

Options:
- Red jacket available

Applications:
- Cables are three conductor shielded constructions, suitable for watertight, non-flexing service.
- For use in shipboard power systems.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations that involve materials such as synthetic tubing, insulating varnishes and phase markers (Ref. DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.

Features and Benefits: (cont'd)
- Quik-Prep® Rip Cord: effectively separates the jacket from the watertight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/67

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2008

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/67 1000V, Three-Conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/67	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG. Jacket Thickness	Amps Per Cond. Max.*	
			AWG/ Navy Std and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
397790.XX	LS3OW -50 Q-P	-06UO	3 (19/.0526)	.030	.957	1.027	.050	110	101
397800.XX	LS3OW -75 Q-P	-07UO	1 (37/.0476)	.035	1.107	1.187	.050	148	136
397810.XX	LS3OW -100 Q-P	-08UO	0 (61/.0416)	.035	1.231	1.321	.060	174	160
397820.XX	LS3OW -200 Q-P	-09UO	0000 (61/.0589)	.050	1.630	1.748	.060	271	250
397830.XX	LS3OW -300 Q-P	-10UO	300 (91/.0574)	.050	1.916	2.055	.075	348	320
397840.XX	LS3OW -400 Q-P	-11UO	400 (127/.057)	.050	2.190	2.349	.075	435	400

Ordering information: Example: 397790.00 = LS3OW-50 Q-P BLK; 397790.09 = LS3OW-50 Q-P WHT

*Ampacity calculated at 60 Hz AC (rms) or DC based on MIL-HDBK-299

Brand Rex BRAND

General Cable

Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

QUIK-PREP® M24643/68, Type LS4OW

1000V, Four-Conductor, Shielded, Watertight, Low-Smoke

Product Construction:

Conductor:
- Multi AWG (see chart) uncoated copper
- Class C, D stranding per ASTM B8

Insulation:
- Sizes 50, 75, 100, 150 and 200: Silicone rubber glass tape – Method 5

Extruded Covering:
- Extruded covering over silicone rubber glass tape – 10 mils nominal
- NAVSEA Qualified

Shield:
- Aluminum/Polyester/Aluminum tape plus optimized tin copper braid

Rip Cord:
- Two (2) Watertight Aramid Yarns - 180° apart
- NAVSEA Qualified

Jacket:
- Low-Smoke, Zero-Halogen Cross-Linked Polyolefin (LSZH XL POLYO) – Color-code: Black (00) or White (09)

Print:
- Including but not limited to: GENERAL CABLE BRAND REX BRAND LS4OW-XXX M24643/68-XXXX XL POLYO YEAR OF MFG

Options:
- Red jacket available

Applications:
- Cables are four conductor constructions suitable for watertight, non-flexing service.
- For use in shipboard power systems.

Features and Benefits:
- Watertight for mission-critical environments.
- Meet the 1 hour fire electrical circuit integrity requirements.
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, Zero-Halogen system maintains circuit integrity as a result of minimal smoke generation, acid gas and toxicity.
- Conforms to the surface transfer impedance and EMP response time requirements.
- Quik-Prep® Extruded Covering: eliminates the need for costly secondary operations that involve materials such as synthetic tubing, insulating varnishes and phase markers (Ref. DOD-STD-2003-1); significantly reduces overall total installed costs; enhances the integrity of the cable insulation system for more reliable performance as a result of fewer preparation requirements.

Features and Benefits: (Cont'd)
- Quik-Prep® Rip Cord: effectively separates the jacket from the watertight cable core for easier stripability and quicker cable preparation time; no longitudinal scoring is needed preventing potential damage to the underlying conductor insulation system eliminating repair time, potential scrap and increasing operator safety.

Compliances:
- M24643/68

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2008

Packaging:
- Per MIL Spec

QUIK-PREP® M24643/68 1000V, Four-conductor, Shielded, Watertight, Low-Smoke

Catalog Number	Product Description Type/Size	Military Part No. M24643/ 68	Conductor Size	Min. AVG Insulation Wall	Min. Cable Dia.	Max. Cable Dia.	Min. AVG Jacket Thickness	Max. Amps Per Cond. *	
			AWG/Navy Std. and Stranding	Inches	Inches	Inches	Inches	40ºC	50ºC
397850.XX	LS4OW -50 Q-P	-06UO	3 (19/.0526)	.030	1.084	1.163	.050	110	101
397860.XX	LS4OW -75 Q-P	-07UO	1 (37/.0476)	.035	1.254	1.345	.050	148	136
397870.XX	LS4OW -100 Q-P	-08UO	0 (61/.0416)	.035	1.396	1.498	.060	174	160
397880.XX	LS4OW -150 Q-P	-085UO	000 (61/.0524)	.050	1.600	1.725	.060	235	216
397890.XX	LS4OW -200 Q-P	-09UO	0000 (61/.0589)	.050	1.850	1.984	.060	271	250

Ordering information: Example: 397850.00 = LS4OW-50 Q-P BLK; 397850.09 = LS4OW-50 Q-P WHT
*Ampacity calculated at 60 Hz AC (rms) or DC based on MIL-HDBK-299

Brand Rex BRAND

General Cable

Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

Brand Rex Brand Military Shipboard Cables Catalog

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Section 2: Shore-2-Ship

POWER CABLE FOR COLD IRONING

- **Shore2Ship™ THOF-500E**

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (800) 335-1270
www.generalcable.com

General Cable

Shore2Ship™ THOF-500ℰ
Power Cable for Cold Ironing

With Global Warming and concerns for Environmental Degradation as a priority Maritime Agencies all over the world are talking about Cold Ironing – And so is General Cable.

Even when at berth, ships' engines are generally left running to maintain essential services. **Cold Ironing** – one of the primary and preferred solutions to the emissions reduction regulations - also referred to as "Shoreside Power" or "Shore-to-Ship Power", provides vessels at berth a power source to plug into on shore, allowing them to **maintain essential services while turning their engines off completely**.

The cable and connectors used for cold ironing are very specialized as they are required to withstand the severity of the environment in which they are applied – exposure to sea water and direct sunlight, continuous motion of the ship, and the repeated flexing of a portable power system among others.

General Cable's Shore2Ship™ THOF-ℰ cable is designed with all of these challenges in mind. Known for its Anaconda® Brand of mining-grade cable, General Cable was able to apply its engineering expertise to the development of the THOF-ℰ design incorporating:

- A physically tough jacket designed to resist the worst abrasion
- A dual layer CPE jacket extruded under pressure to fill the cable's interstices
- Maximum flexibility to facilitate repeated use without causing harm to the cable core

In 1997 the International Maritime Organization (IMO) adopted Annex VI (Regulations for the Prevention of Air Pollution from Ships) to MARPOL (International Convention for the Prevention of Pollution from Ships), which specifically dictates the ***reduction of vessel pollutants****. Leading the way in the U.S. the California Environmental Protection Agency's Air Resources Board enacted the "At-Berth Ocean-Going Vessels Regulation" containing a clearly defined compliance schedule starting January 1, 2010.*

General Cable

Shore2Ship™ THOF-500Ɛ

Enhanced THOF-500 Shore-to-Ship Power Cable

600V/2000V, EPR 90°C

General Cable's THOF-500Ɛ design eliminates identified flaws of the original Mil-DTL-915/6K THOF-500 cable

Product Construction

Conductors:

- 500 kcmil tinned coated copper per ASTM B33 and ASTM B172

Insulation:

- Ethylene Propylene Rubber (EPR) 90°C
- Color Coded: black, white, red

Separator:

- 2 mil non-hygroscopic opaque polyester

Jacket:

- Reinforced, two-layer, flame-retardant, extra-heavy-duty, thermoset Chlorinated Polyethylene (CPE) - black

Print:

- GENERAL CABLE® 3/C 500 KCMIL 600V/2000V THOF-500E SHORE2SHIP™ POWER CABLE

Options:

- Other jacket colors upon request

Features:

- Dual-layer reinforced jacket for superior physical strength and abrasion resistance
- Pressure extruded jacket for water resistance
- Flexible construction for easy handling
- Flame- and sunlight-resistant
- Rated 2 kV

Compliances:

Industry:

- Meets requirements of RHH/RHW per UL 44

Flame Test:

- MSHA (30 CFR Part 7)

Other:

- ICEA S-75-381: Portable and Power Feeder Cables for use in mines and similar applications

Packaging:

- 1500 ft, 1000 ft or 500 ft Lengths
- Standard: Non-Returnable Wooden Reels
- Option: Returnable Wooden or Steel Reels

Copper Weight: 4808.6 lbs/1000ft (7155.5 kg/km)

CATALOG NUMBER	NO. OF COND.	COND. SIZE	MINIMUM AVG. INSULATION THICKNESS	NOMINAL JACKET THICKNESS	NOMINAL CABLE O.D.	NOMINAL CABLE WEIGHT
		kcmil (STRAND)	INCHES (mm)	INCHES (mm)	INCHES (mm)	LBS/1000 FT (kg/km)
13333.036500	3	500 (1221/24)	0.095 (2.41)	0.250 (6.35)	2.89 (73.41)	7890 (11742)

Brand Rex Brand Military Shipboard Cables Catalog

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Section 3: ShipLAN® — Navy Shipboard Communications Cables

M24643 COPPER COMMUNICATIONS CABLE – THERMOSET, LOW-SMOKE, ZERO-HALOGEN

General Cable's QPL Listed ShipLAN® Non-Watertight Category 5e Is Now On Board

Engineered to Perform Well Into the Future

General Cable is proud to have a long and distinguished history of participation in military programs that span over four decades. In partnership with Lockheed Martin, General Cable qualified the first Category 5e data cable for use in Naval Shipboard applications to a Naval Sea Systems Command (NAVSEA) specification prior to the existence of MIL-DTL-24643/59-03UO.

Still in a class by itself, General Cable continues to meet the highest performance standards with a MIL-DTL-24643/59-03UO–qualified Category 5e Naval Shipboard data communications cable. ShipLAN® Category 5e cable combines high-performing electrical characteristics with low-toxicity, low-smoke, zero-halogen, and flame-retardant properties necessary for shipboard environments. General Cable's ShipLAN® Category 5e cable is constructed with a proprietary thermoset jacket system that provides flexibility for ease of installation and stripability for quicker preparation and termination time.

ShipLAN® Category 5e electrical characteristics are subjected to a mechanical stress resistance test. This test simulates the stress imposed on the cable during shipboard installation. Real-life installations challenge a cable's resistance to such stresses as tensile strain imposed by pulling; crushing forces imposed by cable clamps, straps, and stuffing tubes; bending forces imposed by routing; and twisting due to re-spooling. The cable's ability to resist the rigors of this environment is confirmed after stress testing when its electrical performance is still in compliance with MIL-DTL-24643/59-03UO and ANSI/TIA/EIA 568 B.2-2001. ShipLAN® Category 5e cable meets the following mechanical stress resistance qualifications:

- Operating Tensile Load
- Long Term Minimum Bend
- Cable Compression

As a preferred supplier to the military, General Cable continues its participation as a technical member of and key contributor to the National Electrical Manufacturers Association (NEMA) 7HW Shipboard Technical Committee, responsible for the generation and maintenance of MIL-DTL-24643 and associated slash sheets.

Why Choose General Cable's ShipLAN® MIL-DTL-24643/59-03UO Type LSC5OS-4 Cable?

- **General Cable qualified the first Category 5e shipboard data communications cable**
- **General Cable has more than four decades of experience specific to shipboard cables, including our industry-leading fiber optic shipboard cables**
- **QPL listed**
- **Product availability**
- **Flexible packaging options**

Brand Rex BRAND

General Cable

ShipLAN® Non-Watertight Category 5e Cable

M24643/59-03UO, Type LSC5OS-4 Non-Watertight
4 Pair, 24 AWG – Twisted Pair, Foil/Braid Shielded Cat 5e, Low-Smoke, Zero-Halogen Cable

CATALOG NUMBER	PRODUCT DESCRIPTION TYPE/SIZE	MILITARY PART NO. M24643/59	# OF PAIRS	CONDUCTOR SIZE AWG	NOMINAL INSULATION O.D. INCHES	NOMINAL CABLE DIAMETER INCHES	NOMINAL CABLE WEIGHT LB/1000'	BEND RADIUS
LO24P0045438A	LSC5OS-4	-03UO	4	24 AWG Solid	0.042	0.310	65	10X Cable O.D.

PRODUCT CONSTRUCTION:

Conductor:
24 AWG solid bare copper

Insulation:
High Density Polyethylene (HD-PE)

Color code:
Pair 1: White-Blue/Blue
Pair 2: White-Orange/Orange
Pair 3: White-Green/Green
Pair 4: White-Brown/Brown

Screen:
Longitudinal aluminum/polyester 25% min. overlap (alum. side out)

Shield:
36 AWG tin-coated copper—optimized coverage

Jacket:
Cross-linked polyolefin (low-smoke, zero-halogen) – black (BLK)

PRINT:

Including but not limited to:
GENERAL CABLE (F) LSC5OS-4 M24643/59-03UO XLPOLYO LO24P0045438A SHIPLAN SHIELDED MARINE CABLE CAT5E 4/24 PAT 5767441 AAAAA* MO/YR** XXXXXX FT***
*Order Number **Date ***Footage Marking

APPLICATIONS:

For the requirements of M24643 for high speed data transmission. Tested to 100 MHz.

IEEE 802.3: 1000BASE-T (Gigabit Ethernet); 100 BASE-TX; 10 BASE-T

155 Mp/s, 622 Mp/s ATM

ANSI X3.263: 100 Mb/s

4/16 Mb/s Token Ring

Broadband and Baseband analog video

FEATURES AND BENEFITS:

Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI). Extremely tough cross-linked jacket provides excellent fluid resistance and mechanical and environmental protection.

COMPLIANCES:

M24643/59

ANSI/TIA/EIA 568 B.2-2001

ISO/IEC 11801

QUALITY PROGRAMS AND CERTIFICATIONS:

MIL-STD-790

ISO 9001:2000

PACKAGING:

1000' put-ups on wooden reels

DC Resistance	9.38 Ω/100m (28.6Ω/Mft.) Max.
DCR Unbalanced	5% Max.
Mutual Capacitance	5.6 nf/100m
Capacitance Unbalance	330 pF/100m (1 pF/ft.) Max
Characteristic Impedance	100Ω +/- 15% (1-100 MHz)
Input Impedance	100Ω +/- 15% (1-100 MHz)
Prop. Delay (Skew)	45 ns/100m Max.
Velocity of Propagation	69% Nom.
Temperature & Voltage Rating	-20˚C to +75˚C/300V Max.

Easy interface with shielded RJ45 connectors

Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI)

Extremely tough cross-linked jacket provides excellent fluid resistance and mechanical and environmental protection

ELECTRICAL PERFORMANCE:

FREQ. (MHz)	ATTENUATION (dB/100m) MAX.	NEXT (dB/100m) MIN.	PSNEXT (dB/100m) MIN.	ACR (dB/100m) MIN.	PSACR (dB/100m) MIN.	ELFEXT (dB/100m) MIN.	PSELFEXT (dB/100m) MIN.	RL (dB) MIN.
0.772	1.8	67.0	64.0	65.2	62.2	66.0	63.0	—
1	2.0	65.3	62.3	63.3	60.3	63.8	60.8	20.0
4	4.1	56.3	53.3	52.2	49.2	51.7	48.7	23.0
8	5.8	51.8	48.8	46.0	43.0	45.7	42.7	24.5
10	6.5	50.3	47.3	43.8	40.8	43.8	40.8	25.0
16	8.2	47.3	44.3	39.1	36.1	39.7	36.7	25.0
20	9.3	45.8	42.8	36.5	33.5	37.7	34.7	25.0
25	10.4	44.3	41.3	33.9	30.9	35.8	32.8	24.3
31.25	11.7	42.9	39.9	31.2	28.2	33.9	30.9	23.6
62.5	17.0	38.4	35.4	21.4	18.4	27.8	24.8	21.5
100	22.0	35.3	32.3	13.3	10.3	23.8	20.8	20.1

General Cable

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Highland Heights, Kentucky 41076-9753
Telephone: (800) 424-5666
(859) 572-8000
Email: info@generalcable.com
www.generalcable.com

Form No. INS-0101-0809
36402

ShipLAN® Non-Watertight Category 5e Patch Cable

M24643/61-02UD, Type LSC5POS-4 Non-Watertight
4 Pair, 24 AWG – Twisted Pair, Foil/Braid Shielded Cat 5e, Low-Smoke, Zero-Halogen Patch Cable

CATALOG NUMBER	PRODUCT DESCRIPTION TYPE/SIZE	MILITARY PART NO. M24643/61	# OF PAIRS	CONDUCTOR SIZE AWG	NOMINAL INSULATION O.D. INCHES	NOMINAL CABLE DIAMETER INCHES	NOMINAL CABLE WEIGHT LBS/1000'	BEND RADIUS
LO24P00045638A	LSC5POS-4	-02UD	4	24 AWG Stranded	0.049	0.330	53	10X Cable O.D.

PRODUCT CONSTRUCTION:

Conductor:
24 AWG stranded tin copper

Insulation:
High Density Polyethylene (HD-PE)

Color code:
Pair 1: White-Blue/Blue
Pair 2: White-Orange/Orange
Pair 3: White-Green/Green
Pair 4: White-Brown/Brown

Screen:
Longitudinal aluminum/polyester 25% min. overlap (alum. side out)

Shield:
Tin-coated copper—optimized coverage

Jacket:
Cross-linked polyolefin (low-smoke, zero-halogen) – black (BLK)

PRINT:

Including but not limited to:
GENERAL CABLE (F) LSC5POS-4 M24643/61-02UD XLPOLYO LO24P0045638A SHIPLAN SHIELDED MARINE PATCH CABLE CAT5E 4/24 AAAAA* MO/YR** XXXXXX FT***
*Order Number **Date ***Footage Marking

APPLICATIONS:

For the requirements of M24643 for high speed data transmission. Tested to 100 MHz.

IEEE 802.3: 1000 BASE-T (Gigabit Ethernet); 100 BASE-TX; 10 BASE-T

155 Mp/s, 622 Mp/s ATM

ANSI X3.263: 100 Mb/s

4/16 Mb/s Token Ring

Broadband and Baseband analog video

FEATURES AND BENEFITS:

Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI). Extremely tough cross-linked jacket provides excellent mechanical and environmental protection.

COMPLIANCES:

M24643/61

ANSI/TIA/EIA 568 B.2-2001

ISO/IEC 11801

QUALITY PROGRAMS AND CERTIFICATIONS:

MIL-STD-790

ISO 9001:2000

PACKAGING:

1000' put-ups on wooden reels

DC Resistance	14.0 Ω/100m (42.6 Ω/Mft.) Max.
DCR Unbalanced	5% Max.
Mutual Capacitance	5.6 nf/100m
Capacitance Unbalance	330 pF/100m (1 pF/ft.) Max
Characteristic Impedance	100Ω +/- 15% (1-100 MHz)
Input Impedance	100Ω +/- 15% (1-100 MHz)
Prop. Delay (Skew)	45 ns/100m Max.
Velocity of Propagation	69% Nom.
Temperature & Voltage Rating	-20˚C to +75˚C/300V Max.

Easy interface with shielded RJ45 connectors

Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI)

Extremely tough cross-linked jacket provides excellent fluid resistance and mechanical and environmental protection

ELECTRICAL PERFORMANCE:

FREQ. (MHz)	ATTENUATION (dB/100m) MAX.	NEXT (dB/100m) MIN.	PSNEXT (dB/100m) MIN.	ACR (dB/100m) MIN.	PSACR (dB/100m) MIN.	ELFEXT (dB/100m) MIN.	PSELFEXT (dB/100m) MIN.	RL (dB) MIN.
0.772	2.2	67.0	64.0	64.8	61.8	66.0	63.0	—
1	2.4	65.3	62.3	62.9	59.9	63.8	60.8	20.0
4	4.9	56.3	53.3	51.4	48.4	51.7	48.7	23.0
8	7.0	51.8	48.8	44.8	41.8	45.7	42.7	24.5
10	7.8	50.3	47.3	42.5	39.5	43.8	40.8	25.0
16	9.8	47.3	44.3	37.5	34.5	39.7	36.7	25.0
20	11.2	45.8	42.8	34.6	31.6	37.7	34.7	25.0
25	12.5	44.3	41.3	31.8	28.8	35.8	32.8	24.2
31.25	14.0	42.9	39.9	28.9	25.9	33.9	30.9	23.3
62.5	20.4	38.4	35.4	18.0	15.0	27.8	24.8	20.7
100	26.4	35.3	32.3	8.9	5.9	23.8	20.8	19.0

General Cable

4 Tesseneer Drive
Highland Heights, Kentucky 41076-9753
Telephone: (800) 424-5666
(859) 572-8000
Email: info@generalcable.com
www.generalcable.com

Form No. INS-0103-1209
37064

ShipLAN Cross Reference

General Cable Part Number	MIL-DTL-24643 Specification	MIL-DTL-24643 Spec Part Number	Conductor Size and Stranding	Insulation OD	Shielding	Water-blocked	Outer Jacket	RJ-45 Connector Recommendation (Sentinel Connectors Part Number)[1]	Amphenol RJ Field Ethenet Connection For Harsh Environment[3]	BTR IP20 RJ45 Field Plug P/N 1401405012-1
LO24P0045238X	--	--	24 AWG Solid BC	0.042	Foil Shield (ScTP)	No	Thermoplastic, Black	106S080800C34 or 111S08080056C34[2]	Yes	Yes
LO24P0045438A	/59	LSC5OS-4	24 AWG Solid BC	0.042	Double Shielded: TC Braid and Foil (SFTP)	No	Thermoset, Black	106S080800C34 or 111S08080056C34[2]	Yes	Yes
LO24P0045638X	/61	LSC5POS-4	24 AWG Stranded TC	0.047	Double Shielded: TC Braid and Foil (SFTP)	No	Thermoset, Black	106S08080058C34	-	Yes
LO24P0045838X	--	--	24 AWG Solid BC	0.042	Foil Shield (ScTP)	No	Thermoset, Black	106S080800C34 or 111S08080056C34[2]	Yes	Yes

[1]Please visit www.sentinelconn.com to view Sentinel Data Sheets on these specific part numbers.

[2]Sentinel Connector part number 111S08080056C34 was jointed developed by Sentinel & Lockheed-Martin for applicable General Cable Part Number.

[3]Please visit www.amphenol-socapex.com to view Amphenol Data Sheet on this specific product.

Brand Rex Brand Military Shipboard Cables Catalog

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Section 4:

M24643C TECHNICAL INFORMATION

MIL-DTL-M24643C
Alphabetical Listing

Type	Slant Sheet	Type	Slant Sheet
LSDCOP	M24643/2	LSTPSN	M24643/26
LSSHOF	M24643/3	LSTSGA	M24643/16
LSDPSN	M24643/26	LSTSGU	M24643/16
LSDSGU	M24643/15	LSTTSU	M24643/23
LSFPSN	M24643/26	LS2OW	M24643/66
LSFSGU	M24643/17	LS3OW	M24643/67
LSMDU	M24643/5	LS2SJ	M24643/43
LSPI	M24643/25	LS3SJ	M24643/43
LSSSGA	M24643/14	LS4OW	M24643/68
LSSSGU	M24643/14	LS4SJ	M24643/43
LSTCJX	M24643/24	LS5KVTSGA	M24643/22
LSTCKXN	M24643/24	LS5KVTSGU	M24643/22
LSTCOP	M24643/2	LS7PSN	M24643/26
LSTCTX	M24643/24	LSTCTXN	M24643/24

MIL-DTL-24643C
ASTM Definitions

B3	Soft or Annealed Copper Wire (DoD adopted)
B8	Concentric-Lay-Stranded Copper Conductors, Hard, Medium Hard or Soft (DoD adopted)
B33	Tinned Soft or Annealed Copper Wire for Electrical Purposes (DoD adopted)
B172	Rope-Lay-Stranded Copper Conductors Having Bunch-Stranded Members for Electrical Conductors (DoD adopted)
B173	Rope-Lay-Stranded Copper Conductors Having Concentric-Stranded Members for Electrical Conductors (DoD adopted)
B174	Bunch-Stranded Copper Conductors for Electrical Conductors (DoD adopted)
B193	Resistivity of Electrical Conductor Materials (DoD adopted)
B228	Concentric-Lay-Stranded Copper Clad Steel Conductors (DoD adopted)
B258	Standard Nominal Diameters and Cross-Sectional Areas of AWG Sizes of Solid Round Wires Used as Electrical Conductors (DoD adopted)
B286	Copper Conductors for Use in Hookup Wire for Electronic Equipment (DoD adopted)
B355	Nickel Coated Soft or Annealed Copper Wire (DoD adopted)
D297	Rubber Products – Chemical Analysis (DoD adopted)
D470	Standard Methods of Testing Crosslinked Insulation and Jackets for Wire and Cable
D1248	Standard Specification for Polyethylene Plastics Molding and Extrusion Materials
D2240	Rubber Property Durometer Hardness (DoD adopted)
D2565	Standard Practice for Operating Xenon Arc Type (Water Cooled) Light-Exposure Apparatus Wire and Without Water for Exposure of Plastics
G21	Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi

MIL-DTL-M24643C
Conductor Identification Methods

Method 1. Identification Method 1 shall be surface printing of both number and color designations. The legend shall be printed in contrasting color: preferably white ink on black or dark background or black ink on white or light background. The printing can be on the conductor insulation provided the jacket is transparent or on the jacket if the jacket is not transparent. The legend shall be repeated at intervals not exceeding 3 inches and alternate legends shall be inverted. For example, 10 ORANGE BLACK KCALB EGNARO 01. The character type shall be block and shall have a height in accordance with the diameter over which it is applied as follows:

Diameter Range (inch)	Height of Character Approximate (inch)
0.045 to 0.070	0.025
0.070 to 0.095	0.031
0.095 to 0.115	0.047
0.115 to 0.200	0.062
0.190 to 0.250	0.078
0.235 to 0.325	0.094
0.330 and larger	0.125

Method 2. Identification Method 2 shall be the use of translucent (opaque) polyester tapes which have been printed with both the number and the color designation. The legend shall be printed with black ink and shall be repeated at intervals not exceeding 3 inches and alternate legends shall be inverted. The character type shall be block and shall be approximately 3/32 inch height.

Method 3. Identification Method 3 shall be the use of solid base colors or solid base colors with tracers as required. The base color may be either the color or the insulation or the color of a coating applied to the insulation. The tracers shall be approximately 1/32 inch wide ink stripes of the required color applied helically with 1-1/2 + 1/4 inch lay. If two tracers are required, the second shall be half the width of the first.

Method 4. Identification Method 4 shall be the use of colored braids. Tracers shall consist of the required colors applied by three adjacent carriers. Where two tracers are required, they shall be applied with reverse lay.

Method 5. Identification Method 5 shall be the use of the printed letter on the outermost insulating tape or the printed letter on a polyester binder tape over the insulating tapes. The letters shall be approximately 3/16 inch high and shall have been printed at intervals not exceeding 3 inches prior to the application of the tape to the conductor. If the insulating tapes are white, no printing is required on the B (white) conductor.

Method 6. Identification Method 6 shall consist of numerals printed in ink on the conductor insulation. For conductors having a jacket directly over the insulation, the numerals may be printed in ink on the jacket, at the manufacturer's option. White ink shall be used for a red or black background; black ink shall be used for a white background. Numerals shall be perpendicular or parallel to the longitudinal axis of the conductor (see figure 1). Numeral width shall be proportional to conductor outside diameter (o.d.) as shown in Method 1 (see 3.4.12.2.1).

Numeral width shall be 1/3 numeral height. Each numeric legend shall be underlined. Two digit legends which are parallel to the longitudinal axis shall have the bottom numeral underlined. Legends shall be alternately inverted and shall repeat at intervals not greater than 1½ inches.

MIL-DTL-24643C
Navy Standard Sizes

Conductor Size Navy Standard	No. of Stds. (Min.)	Std. Dia. Nom. (Inch)	Cond. Dia. Nom. (Inch)	Conductor Cross Sectional Area (Circular Mils)		Maximum Conductor Resistance D.C. per 1000 ft at 25°C		Wt. Per 1000 ft – lbs. Appr.
				Nom. 1/	Min.	Bare	Coated	
Concentric Lay Stranded								
30 (19)	19	0.040	0.202	30,860	30,240	0.358	0.365	95
400 (127)	127	0.057	0.742	413,600	405,400	0.0268	0.0273	1,300
Bunch Lay Stranded								
9 (90)	90	0.010	0.120	9,045	8,864	1.22	1.28	28
14 (140)	140	0.010	0.145	14,070	13,790	0.786	0.823	43
Rope Lay Stranded								
42 (209)	209	0.014	0.260	42,100	41,280	0.272	0.284	130
60 (304)	304	0.014	0.310	61,200	60,040	0.187	0.196	190
83 (418)	418	0.014	0.380	84,230	82,560	0.136	0.142	270
133 (684)	684	0.014	0.480	137,800	135,100	0.0830	0.0867	440
150 (760)	760	0.014	0.510	153,100	150,100	0.0747	0.0780	490
200 (988)	988	0.014	0.580	199,100	195,100	0.0575	0.0600	630
250 (1254)	1254	0.014	0.680	252,700	247,700	0.0453	0.0472	800
400 (2052)	2052	0.014	0.850	413,500	405,300	0.0277	0.0289	1,300
800 (4033)	4033	0.014	1.150	812,700	796,500	0.0141	0.0148	2,600

1/ Values are for information only.

MIL-DTL-M24643C
Standard Identification Code

Color, Conductor or Group No.	Background or Base Color	First Tracer Color	Second Tracer Color
1	Black	-----	----
2	White	----	----
3	Red	----	----
4	Green	----	----
5	Orange	----	----
6	Blue	----	----
7	White	Black	----
8	Red	Black	----
9	Green	Black	----
10	Orange	Black	----
11	Blue	Black	----
12	Black	White	----
13	Red	White	----
14	Green	White	----
15	Blue	White	----
16	Black	Red	----
17	White	Red	----
18	Orange	Red	----
19	Blue	Red	----
20	Red	Green	----
21	Orange	Green	----
22	Black	White	Red
23	White	Black	Red
24	Red	Black	White
25	Green	Black	White
26	Orange	Black	White
27	Blue	Black	White
28	Black	Red	Green
29	White	Red	Green
30	Red	Black	Green
31	Green	Black	Orange
32	Orange	Black	Green
33	Blue	White	Orange
34	Black	White	Orange
35	White	Red	Orange
36	Orange	White	Blue
37	White	Red	Blue
38	Brown	----	----
39	Brown	Black	----
40	Brown	White	----
41	Brown	Red	----
42	Brown	Green	----

MIL-DTL-M24643C
Standard Identification Code

Color, Conductor or Group No.	Background or Base Color	First Tracer Color	Second Tracer Color
43	Brown	Orange	----
44	Brown	Blue	----
45	White	Black	Blue
46	Red	White	Blue
47	Green	Orange	Red
48	Orange	Red	Blue
49	Blue	Red	Orange
50	Black	Orange	Red
51	White	Black	Orange
52	Red	Orange	Black
53	Green	Red	Blue
54	Orange	Black	Blue
55	Blue	Black	Orange
56	Black	Orange	Green
57	White	Orange	Green
58	Red	Orange	Green
59	Green	Black	Blue
60	Orange	Orange	Blue
61	Blue	Green	Orange
62	Black	Red	Blue
63	White	Orange	Blue
64	Red	Black	Blue
65	Green	Orange	Blue
66	Orange	White	Red
67	Blue	White	Red
68	Black	Green	Blue
69	White	Green	Blue
70	Red	Green	Blue
71	Green	White	Red
72	Orange	Red	Black
73	Blue	Red	Black
74	Black	Orange	Blue
75	Red	Orange	Blue
76	Green	Red	Black
77	Orange	White	Green
78	Blue	White	Green
79	Red	White	Orange
80	Green	White	Orange
81	Blue	Black	Green
82	Orange	White	----
83	Green	Red	----
84	Black	Green	----
85	White	Green	----

MIL-DTL-M24643C
Standard Identification Code

Color, Conductor or Group No.	Background or Base Color	First Tracer Color	Second Tracer Color
86	Blue	Green	----
87	Black	Orange	----
88	White	Orange	----
89	Red	Orange	----
90	Green	Orange	----
91	Blue	Orange	----
92	Black	Blue	----
93	White	Blue	----
94	Red	Blue	----
95	Green	Blue	----
96	Orange	Blue	----
97	Yellow	----	----
98	Yellow	Black	----
99	Yellow	White	----
100	Yellow	Red	----
101	Yellow	Green	----
102	Yellow	Orange	----
103	Yellow	Blue	----
104	Black	Yellow	----
105	White	Yellow	----
106	Red	Yellow	----
107	Green	Yellow	----
108	Orange	Yellow	----
109	Blue	Yellow	----
110	Black	Yellow	Red
111	White	Yellow	Red
112	Green	Yellow	Red
113	Orange	Yellow	Red
114	Blue	Yellow	Red
115	Black	Yellow	White
116	Red	Yellow	White
117	Green	Yellow	White
118	Orange	Yellow	White
119	Blue	Yellow	White
120	Black	Yellow	Green
121	White	Yellow	Green
122	Red	Yellow	Green
123	Orange	Yellow	Green
124	Blue	Yellow	Green
125	Black	Yellow	Blue
126	White	Yellow	Blue
127	Red	Yellow	Blue

Brand Rex Brand Military Shipboard Cables Catalog

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Section 5: NAVSEA Cables

NAVSEA COAXIAL, TWINAX & TRIAXIAL CABLE

- **6262065-1** - Double Optimized Shielded Waterblocked Triaxial RF Cable
- **6322493** - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable
- **6323052** - Double Optimized Shielded 50 Ohm Non-Waterblocked Flexible Coaxial RF Cable
- **6323054** - Double Optimized Shielded 75 Ohm Non-Waterblocked Coaxial RF Cable
- **6323055** - Optimized Shielded Non-Waterblocked Twinaxial RF Cable
- **6323056** - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable
- **6323059** - Double Optimized Shielded 75 Ohm Non-Waterblocked Triaxial RF Cable

NAVSEA 6262065-1

Radio Frequency Cable, Triaxial, Low Level Serial, Low-Smoke, Watertight

Product Construction:

Conductor:
- 12 AWG (7/20) stranded silver coated copper

Dielectric Core:
- Cross-linked foam Polyethylene

Inner Shield Braid:
- Silver plated copper conductor

Watertight:
- Water blocking compound

Inner Jacket:
- Filled, cross-linked, thermoset, Low-Smoke, Low-Halogen polymer

Outer Shield Braid:
- Optimized shield configuration, silver coated copper conductor

Watertight:
- Water blocking compound

Jacket:
- Filled, cross-linked, thermoset, Low-Smoke, Low-Halogen polymer per M24643

Print:
- Including but not limited to: NAVSEA 6262065-1GENERAL CABLE BRAND REX BRAND T-13138 YEAR OF MFG

Applications:
- Optimized shielded triaxial cable suitable for shipboard application.
- Intended to function as the primary transmission media for 'NTOS' low level serial data.

Features and Benefits:
- Watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low-smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6262065-1 Radio Frequency Cable, Triaxial, Low Level Serial, Low-Smoke, Watertight

Catalog Number	Product Code	Product Description	Cable Diameter	Max. Cable Weight	Velocity of Propagation	Max. Capacitance	Characteristic Impedance
			Inches	lbs./1000ft.		pF/ft	Ohms
T-13138	574080.00.77	6262065-1	0.450 ± .010	165	77 ± 3%	29	50 ± 2

Note: see NAVSEA specification for additional performance characteristics

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

NAVSEA 6322493

Radio Frequency Cable, Triaxial, 75 ohm, Non-Watertight

Product Construction:

Conductor:
- 18 AWG (19/30) stranded tin coated copper

Dielectric Core:
- Cross-linked foam Polyethylene

Inner Shield Braid:
- Tin coated copper conductor

Wrap:
- Polyester tape

Inner Jacket:
- Filled, cross-linked, thermoset, Low-Smoke, Low-Halogen polymer

Outer Shield Braid:
- Optimized shield configuration, tin coated copper conductor

Wrap:
- Polyester tape

Jacket:
- Filled, cross-linked, thermoset, Low-Smoke, Low-Halogen polymer per M24643

Print:
- Including but not limited to: NAVSEA 6322493 GENERAL CABLE BRAND REX BRAND T-12824A YEAR OF MFG

Applications:
- Optimized shielded 75 ohm triaxial cable suitable for shipboard application.
- For use in a protected or interior environment.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6322493 – Radio Frequency Cable, Triaxial, 75 ohm, Non-Watertight

Catalog Number	Product Code	Product Description	Cable Diameter Inches	Max. Cable Weight lbs./1000ft.	Min. Velocity of Propagation	Max. Capacitance pF/ft	Characteristic Impedance Ohms
T-12824A	580270.00.77	6322493	0.465 ± .015	160	73%	20	75 ± 3

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

NAVSEA 6323052

Radio Frequency Cable, Flexible, Coaxial, 50 ohm, Double Shielded, Low-Smoke, Non-Watertight

Product Construction:

Conductor:
- 12 AWG (19/25) stranded silver plated copper

Dielectric Core:
- Cross-linked foam Polyethylene

Inner Shield Braid:
- Optimized shield configuration, silver coated copper conductor

Wrap:
- Polyester tape

Outer Shield Braid:
- Optimized shield configuration, silver coated copper

Wrap:
- Polyester tape

Jacket:
- Composite jacket material of extruded low-smoke, low-halogen bedding compound bonded to filled cross-linked thermoset low-smoke, low-halogen polymer compound (Method B)

Print:
- Including but not limited to: NAVSEA 6323052 GENERAL CABLE BRAND REX BRAND T-13293 YEAR OF MFG

Applications:
- Double optimized shielded, 50 ohm, coaxial cable suitable for shipboard application.
- For use in exposed weather locations.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6323052 - Radio Frequency Cable, Flexible, Coaxial, 50 ohm, Double Shielded, Low-Smoke, Non-Watertight

Catalog Number	Product Code	Product Description	Cable Diameter	Max. Cable Weight	Velocity of Propagation	Max. Capacitance	Characteristic Impedance
			Inches	lbs./1000ft.		pF/ft	Ohms
T-13293	579360.00.77	6323052	0.415 ± .010	130	80 ± 3%	29	50 ± 2

Brand Rex BRAND

General Cable

Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

NAVSEA 6323054

Radio Frequency Cable, Flexible, Coaxial, 75 ohm, Double Shielded, Low-Smoke, Non-Watertight

Product Construction:

Conductor:
- 18 AWG (19/30) stranded tin coated copper

Dielectric Core:
- Cross-linked foam Polyethylene

Inner Shield Braid:
- Optimized shield configuration, tin coated copper conductor

Wrap:
- Polyester tape

Outer Shield Braid:
- Optimized shield configuration, tin coated copper

Wrap:
- Polyester tape

Jacket:
- Composite jacket material of extruded low-smoke, low-halogen bedding compound bonded to filled cross-linked thermoset low-smoke, low-halogen polymer compound (Method B)

Print:
- Including but not limited to: NAVSEA 6323054 GENERAL CABLE BRAND REX BRAND T-13136 YEAR OF MFG

Applications:
- Double optimized shielded, 75 ohm, coaxial cable suitable for shipboard application.
- For use in exposed weather locations.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6323054 - Radio Frequency Cable, Flexible, Coaxial, 75 ohm, Double Shielded, Low-Smoke, Non-Watertight

Catalog Number	Product Code	Product Description	Cable Diameter	Max. Cable Weight	Nom. Velocity of Propagation	Max. Capacitance	Characteristic Impedance
			Inches	lbs./1000 ft.		pF/ft	Ohms
T-13136	579350.00.77	6323054	0.420 ± .008	132	73%	20	75 ± 3

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

NAVSEA 6323055

Radio Frequency Cable, Twinaxial, 78 ohm, Low-Smoke, Non-Watertight

Product Construction:

Conductor:
- 20 AWG (19/32), 2 conductors each, stranded tin coated copper

Dielectric Core:
- Cross-linked foam Polyethylene
- Each core: 1 colored white, 1 colored black

Filler Core:
- Cross-linked Polyethylene, flame retardant, strands to be used to maintain concentricity

Wrap:
- Polyester tape

Shield Braid:
- Optimized shield configuration, tin coated copper conductor

Jacket:
- Composite jacket material of extruded low-smoke, low-halogen bedding compound bonded to filled cross-linked thermoset low-smoke, low-halogen polymer compound (Method B)

Print:
- Including but not limited to: NAVSEA 6323055 GENERAL CABLE BRAND REX BRAND T-13294 YEAR OF MFG

Applications:
- Optimized shielded, 78 ohm, twinaxial cable suitable for shipboard application.
- For use in protected or interior environment.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low-Smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6323055 - Radio Frequency Cable, Twinaxial, 78 ohm, Low-Smoke, Non-Watertight

Catalog Number	Product Code	Product Description	Cable Diameter	Max. Cable Weight	Nom. Velocity of Propagation	Max. Capacitance	Characteristic Impedance
			Inches	lbs./1000ft.		pF/ft	Ohms
T-13294	579370.00.77	6323055	0.275 ± .006	60	74%	24	78 ± 5

Brand Rex BRAND

General Cable
Phone: (888) 593-3355
Fax: (859) 572-8463
www.generalcable.com

NAVSEA 6323056

Radio Frequency Cable, Flexible, Triaxial, 50 ohm, Low-Smoke, Non-Watertight

Product Construction:

Conductor:
- 20 AWG (19/32) stranded tin coated copper

Dielectric Core:
- Cross-linked foam Polyethylene

Inner Shield Braid:
- Tin coated copper conductor

Inner Jacket:
- Filled, cross-linked, thermoset, low-smoke, low-halogen polymer

Outer Shield Braid:
- Optimized shield configuration, tin coated copper conductor

Jacket:
- Composite jacket material of extruded low-smoke, low-halogen bedding compound bonded to filled cross-linked thermoset low-smoke, low-halogen polymer compound (Method B)

Print:
- Including but not limited to: NAVSEA 6323056 GENERAL CABLE BRAND REX BRAND T-13295 YEAR OF MFG

Applications:
- Optimized shielded, 50 ohm, triaxial cable suitable for shipboard application.

Features and Benefits:
- Non-watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6323056 – Radio Frequency Cable, Flexible, Triaxial, 50 ohm, Low-Smoke, Non-Watertight

Catalog Number	Product Code	Product Description	Cable Diameter	Max. Cable Weight	Velocity of Propagation	Max. Capacitance	Characteristic Impedance
			Inches	lbs./1000ft.		pF/ft	Ohms
T-13295	579380.00.77	6323056	0.283 ± .006	70	70 ± 3%	32.2	50 ± 2

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NAVSEA 6323059

Radio Frequency Cable, Flexible, Lightweight, Triaxial, 75 ohm, Low-Smoke, Non-Watertight

Product Construction:

Conductor:
- 24 AWG (19/36) stranded tin coated copper

Dielectric Core:
- Cross-linked foam Polyethylene

Inner Shield Braid:
- Tin coated copper conductor

Inner Jacket:
- Filled, cross-linked, thermoset, low-smoke, low-halogen polymer

Outer Shield Braid:
- Optimized shield configuration, tin coated copper conductor

Jacket:
- Composite jacket material of extruded low-smoke, low-halogen bedding compound bonded to filled cross-linked thermoset low-smoke, low-halogen polymer compound (Method B)

Print:
- Including but not limited to: NAVSEA 6323059 GENERAL CABLE BRAND REX BRAND T-13339 YEAR OF MFG

Applications:
- Optimized shielded, 75 ohm, lightweight triaxial cable suitable for shipboard application
- For use in a protected or interior environment

Features and Benefits:
- Non-watertight for mission-critical environments.
- Shielding system protects signals from electromagnetic interference (EMI) and radio frequency interference (RFI).
- Thermoset system for advanced mechanical fortification.
- Low smoke, low toxicity system for circuit integrity.

Compliances:
- Materials in accordance with M24643

Quality Programs and Certifications:
- ANSI/NCSL Z540-1
- MIL-I-45208A
- MIL-STD-790
- NHB 5300.4 (1C)
- ISO 9001:2000

Packaging:
- Per MIL Spec

NAVSEA 6323059 - Radio Frequency Cable, Flexible, Lightweight, Triaxial, 75 ohm, Low-Smoke, Non-Watertight

Catalog Number	Product Code	Product Description	Cable Diameter	Max. Cable Weight	Velocity of Propagation	Max. Capacitance	Characteristic Impedance
			Inches	lbs./1000ft.		pF/ft	Ohms
T-13339	231890.00.77	6323059	0.325 ± .006	85	70 ± 3%	20	75 ± 3

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Brand Rex Brand Military Shipboard Cables Catalog

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Section 6: M85045F & M49291C Military Shipboard Fiber Optic Cables and Accessories

BLOWN OPTICAL FIBER ACCESSORIES

- **AA-59731-U-8E** — 8mm Tube Union
- **AA-59731-T-8E** — 8mm Tube Tee
- **AA-59731-EC-8E** — 8mm End Cap
- **AA-59728-TFP-8** — 8mm Tube Fitting Plug
- **Raychem SFTS-1** — Adhesive/Sealant Tape
- **AA-59730-TTP-2** — Tapered Tube Plug (2 - 6 fibers)
- **AA-59730-TTP-3** — Tapered Tube Plug (8 - 12 fibers)
- **Tube Clips (TM-08) SMC**
- **A-A-59729-TFU** — Furcation Assemblies (Note: # of cables, length & color must be specified)
- **Tube Cutter**
- **Cutter Replacement Blades**

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QUALIFIED PRODUCTS LIST (QPL)
OF
PRODUCTS QUALIFIED UNDER PERFORMANCE SPECIFICATION
MIL-PRF-85045
CABLES, FIBER OPTICS
GENERAL SPECIFICATION

GOVERNMENT DESIGNATION	MANUFACTURER'S DESIGNATION OR TYPE NUMBER	TEST OR QUALIFICATION REFERENCE	SPECIFICATION SHEET	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)
M85045/13-01P	OC-1423P	85045-296-94, 85045-098-97	/13	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/13-02P	OC1576P	85045-160-98	/13	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/15-01P	OC-1369P	85045-296-94, 85045-098-97	/15	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/15-02P	OC-1577P	85045-160-98	/15	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/16-01	OC-1468	85045-296-94, 85045-098-97	/16	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/16-02	OC-1571	85045-160-98	/16	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/17-01P	OC-1434P	85045-296-94, 85045-098-97	/17	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/17-02P	OC-1462P	85045-160-98	/17	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/18-01P	OC-1417P	85045-296-94, 85045-098-97	/18	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/18-02P	OC-1578P	85045-160-98	/18	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/20-01F	OC-1570	85045-098-98	/20	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/20-01L	OC-1569	85045-098-98	/20	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/20-01M	OC-1540	85045-098-98	/20	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/20-02F	OC-1672	85045-098-98	/20	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/20-02L	OC-1671	85045-098-98	/20	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/20-02M	OC-1673	85045-098-98	/20	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/21-01	OC-1651	85045-098-98	/21	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/21-02	OC-1679	85045-098-98	/21	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/22-01	OC-1680	85045-098-98	/22	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/22-02	OC-1652	85045-098-98	/22	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/23-01	OC-1681	85045-098-98	/23	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/23-02	OC-1653	85045-098-98	/23	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/24-01	OC-1682	85045-098-98	/24	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/24-02	OC-1654	85045-098-98	/24	General Cable Industries, Inc. (Willimantic, CT) General Cable Industries, Inc. (Franklin, MA)
M85045/25-01E	OC-1598, OC-1715	85045-043-99	/25	General Cable Industries, Inc. (Willimantic, CT)
M85045/25-01S	OC-1701, OC-1716	85045-043-99	/25	General Cable Industries, Inc. (Willimantic, CT)
M85045/26-01E	OC-1597, OC-1717	85045-577-03	/26	General Cable Industries, Inc. (Franklin, MA)
M85045/26-01S	OC-1704, OC-1718	85045-577-03	/26	General Cable Industries, Inc. (Franklin, MA)

Manufacturer: General Cable Industries, Inc. (CAGE Code: 71124)
Location: 1600 West Main Street, Willimantic, CT 06226-1128, US
Plant Locations:
1. Same Address as Manufacturer
2. General Cable Industries, Inc. (Franklin, MA), CAGE Code: 4AJA4, 20 Forge Park, Franklin, MA 02038-3134

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M85045F Military Specification
Low-Smoke, Zero-Halogen (LSZH) Shipboard Fiber Optic Cables

General Cable has supplied military specification wire and cable for 40 years and has a distinguished list of participation in important programs.

Military qualified fiber optic cables (MIL-PRF-85045) are listed below:

M85045F Part Identifying #	General Cable Catalog Number	Cable Diameter in (mm)	Jacket Type	Number of Fibers	Fiber Type	Minimum Bend Diameter		Maximum Tensile Load		Nominal Weight	
						Installation in (cm)	In-Service in (cm)	Installation lbs (N)	In Service lbs (N)	lbs/1000'	kg/km
M85045/13-01P	OC-1423P	.440 (11.2)	Thermoplastic	8	Multimode	7.0 (18)	3.5 (9.0)	605 (2700)	125 (560)	81	120
M85045/13-02P	OC-1576P	.440 (11.2)	Thermoplastic	8	Singlemode	7.0 (18)	3.5 (9.0)	605 (2700)	125 (650)	81	120
M85045/15-01P	OC-1369P	.320 (8.1)	Thermoplastic	4	Multimode	5.0 (12.7)	2.5 (6.4)	420 (1875)	92 (410)	42	62
M85045/15-02P	OC-1577P	.320 (8.1)	Thermoplastic	4	Singlemode	5.0 (12.7)	2.5 (6.4)	420 (1875)	92 (410)	42	62
M85045/16-01	OC-1468	.078 (2.0)	Thermoplastic	1	Multimode	1.2 (3.0)	.62 (1.6)	60 (270)	22 (100)	3	4.5
M85045/16-02	OC-1571	.078 (2.0)	Thermoplastic	1	Singlemode	1.2 (3.0)	.62 (1.6)	60 (270)	22 (100)	3	4.5
M85045/17-01P	OC-1434P	.440 (11.2)	Thermoset	8	Multimode	7.0 (18)	3.5 (9.0)	605 (2700)	125 (560)	82	122
M85045/17-02P	OC-1462P	.440 (11.2)	Thermoset	8	Singlemode	7.0 (18)	3.5 (9.0)	605 (2700)	125 (650)	82	122
M85045/18-01P	OC-1417P	.320 (8.1)	Thermoset	4	Multimode	5.0 (12.7)	2.5 (6.4)	420 (1875)	92 (410)	42	62
M85045/18-02P	OC-1578P	.320 (8.1)	Thermoset	4	Singlemode	5.0 (12.7)	2.5 (6.4)	420 (1875)	92 (410)	42	62
M85045/20-01L	OC-1569	.850 (21.6)	Thermoset	24	Multimode	13.6 (34.5)	6.8 (17.3)	740 (3300)	245 (1080)	300	446
M85045/20-02L	OC-1671	.850 (21.6)	Thermoset	24	Singlemode	13.6 (34.5)	6.8 (17.3)	740 (3300)	245 (1080)	300	446
M85045/20-01F	OC-1570	.850 (21.6)	Thermoset	33	Multimode	13.6 (34.5)	6.8 (17.3)	740 (3300)	245 (1080)	297	442
M85045/20-02F	OC-1672	.850 (21.6)	Thermoset	33	Singlemode	13.6 (34.5)	6.8 (17.3)	740 (3300)	245 (1080)	297	442
M85045/20-01M	OC-1540	.850 (21.6)	Thermoset	36	Multimode	13.6 (34.5)	6.8 (17.3)	740 (3300)	245 (1080)	294	437
M85045/20-02M	OC-1673	.850 (21.6)	Thermoset	36	Singlemode	13.6 (34.5)	6.8 (17.3)	740 (3300)	245 (1080)	294	437
M85045/21-01	OC-1651	.560 (14.2)	Thermoset	8	Multimode	9.0 (23.0)	4.5 (11.4)	605 (2700)	160 (710)	146	217
M85045/21-02	OC-1679	.560 (14.2)	Thermoset	8	Singlemode	9.0 (23.0)	4.5 (11.4)	605 (2700)	160 (710)	146	217
M85045/22-01	OC-1680	.570 (14.5)	Thermoplastic	18	Multimode	9.0 (23.0)	4.5 (11.4)	740 (3300)	165 (725)	132	195
M85045/22-02	OC-1652	.570 (14.5)	Thermoplastic	18	Singlemode	9.0 (23.0)	4.5 (11.4)	740 (3300)	165 (725)	132	195
M85045/23-01	OC-1681	.700 (17.8)	Thermoset	18	Multimode	11.2 (28.5)	5.6 (14.0)	740 (3300)	200 (890)	217	323
M85045/23-02	OC-1653	.700 (17.8)	Thermoset	18	Singlemode	11.2 (28.5)	5.6 (14.0)	740 (3300)	200 (890)	217	323
M85045/24-01	OC-1682	1.53 (38.9)	Thermoset	90	Multimode	24.6 (62.5)	12.3 (31.2)	N/A	N/A	900	1340
M85045/24-02	OC-1654	1.53 (38.9)	Thermoset	90	Singlemode	24.6 (62.5)	12.3 (31.2)	N/A	N/A	900	1340

Cables are listed on Qualified Products List MIL-PRF-85045 (QPL) Defense Supply Center, Columbus-United States Department of Defense

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M85045F & M49291C Military Specifications
Blolite® Blown Optical Fiber Technology (BOFT)

General Cable was the first fiber manufacturer to become a Qualified Products Listed (QPL) supplier of a militarized version of blown optical fiber technology in September of 2001. Today, we continue to remain the only qualified supplier of blown optical fiber fully engineered and tested to all the stringent requirements of M85045F and M49291C.

General Cable's Blolite® blown optical fiber technology was first installed on the aircraft carrier USS Harry Truman in 1997. Early proof of successful use of this technology and its future-proof capabilities for which it was designed, resulted in the formal development and qualification of the technology for the U.S. Navy. Key developments in military shipboard fiber optic technology have been the digitization of command, control and communication systems over a common infrastructure. This convergence has enabled significant savings in space and weight as well as greatly improved system functionality and damage tolerance. Blown optical fiber technology has furthered these advances by adding opportunities for cost savings, easy upgradeability and design flexibility.

General Cable's Blolite® blown optical fiber solution has proven to be *the SOLUTION* for the U.S. Navy fleet.

M85045F PIN (see Note)	General Cable Catalog Number	QPL Status	Description	Jacket Material	Intended Use
M85045/25-01E	OC-1715 (Lt Blue Jkt)	QPL	7-8mm Tubes	Thermoset	Blolite™ BOF System
M85045/25-01E	OC-1598 (Blk Jkt)	QPL	7-8mm Tubes	Thermoset	Blolite™ BOF System
M85045/25-01S	OC-1716 (Lt. Blue Jkt)	QPL	7-8mm Tubes	Thermoplastic	Blolite™ BOF System
M85045/25-01S	OC-1701 (Blk Jkt)	QPL	7-8mm Tubes	Thermoplastic	Blolite™ BOF System
M85045/26-01E	OC-1717 (Lt. Blue Jkt)	QPL	1-8mm Tube	Thermoset	Blolite™ BOF System
M85045/26-01E	OC-1597 (Blk Jkt)	QPL	1-8mm Tube	Thermoset	Blolite™ BOF System
M85045/26-01S	OC-1718 (Lt. Blue Jkt)	QPL	1-8mm Tube	Thermoplastic	Blolite™ BOF System
M85045/26-01S	OC-1704 (Blk Jkt)	QPL	1-8mm Tube	Thermoplastic	Blolite™ BOF System

Note:'E' indicates enhanced thermoset jacket-'S' indicates standard thermoplastic jacket
BOF = Blown Optical Fiber

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M85045F & M49291C Military Specifications
Blolite® Blown Optical Fiber Technology (BOFT)

M49291C PIN	General Cable Catalog Number	Outer Diameter	Fiber Type	Intended Use
M49291/6-05	OC-062H-BF-XXXX(QPL)*	500 +/- 25um	Multimode	Blolite™ BOF System
M49291/7-02	OC-009S-BF-XXXX(QPL)*	500 +/- 25um	Singlemode	Blolite™ BOF System

XXXX indicates color of blown optical fiber outer coating
*Blown optical fiber outer coating is available in standard colors: Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose, Aqua

Fiber Characteristics	MIL-PRF-49291C/7-02 Singlemode	Mil-PRF-49291C/6-05 Multimode 62.5/125
Intended use	Blown Optical Fiber	Blown Optical Fiber
Type	Matched Clad	Graded Index
Mode Field Diameter	9.2 ± .4 @ 1310 nm	N/A
Core Diameter	8.3 µm nominal	62.5 ± 3 µm
Cladding Diameter	125 ± 1 µm	125 ± 1 µm
Coating Diameter # 1	250 ± 15 µm	250 ± 15 µm
Coating Diameter # 2	500 ± 25 µm	500 ± 25 µm
Coating Clad. Conc. Error	≤10.5 µm	≤10.5 µm
Overall Core-Clad Ratio	≥0.84 µm	≥0.84 µm
Attentuation:		
850 nm	N/A	3.5 dB/km
1300 nm	N/A	1.0 dB/km
1310 nm	.4 dB/km	N/A
1550 nm	.3 dB/km	N/A
Bandwidth (overfill):		
850 nm	N/A	≥300 MHz-km
1300 nm	N/A	≥600 MHz-km
Bandwidth (RML/EMB_c):		
850 nm	N/A	≥385 MHz-km
1300 nm	N/A	≥700 MHz-km
Dispersion	≤3.2 ps/nm – km @ 1310	N/A
	≤22 ps/nm – km @ 1550	N/A
Radiation Resistance	Refer to Specification	Refer to Specification
Proof Test	100 kpsi (690MPa)	100 kpsi (690MPa)

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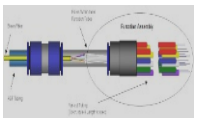
General Cable Shipboard BOF Parts List

Description	General Cable Part Number	Gov't/Military Part Number	Anixter Part Number	
8mm Duct Union 5mm Duct Union	77-7225 77-7224	AA-59731-U-8E	263068	
8mm Duct Tee 5mm Duct Tee	77-7229 77-7228	AA-59731-T-8E	263069	
8MM Duct End Cap 5MM Duct End Cap	705620 705630	AA-59731-EC-8E	263071	
8mm Duct Fitting Plug 5mm Duct Fitting Plug	77-7231 77-7230	AA-59728-TFP-8	263070	
Adhesive/Sealant Tape	706910	Raychem SFTS-1	057573	No Image
Tapered Duct Plug: TTP-2 (2-6 fibers) 8mm TTP-3 (8-12 fibers) 8mm	 706920 706930	 AA-59730-TTP-2 AA-59730-TTP-3		
Duct Clips(TM-08) SMC	706940	N/A		
Furcation Assemblies Note:# of cables, length & color must be specified	N/A	A-A-59729-TFU-		
Duct Cutter Cutter Rep. Blades	707050 707060	N/A N/A		
8mm Duct 5mm Duct	705610 705600			No Image No Image
8MM Duct End Caps 5MM Duct End Caps	77-7222 77-7223	N/A N/A		
5MM Duct Inline Splitter	705990	N/A		
8MM to 5MM Reducer	77-7227	AA-59731-R-E		

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Brand Rex Brand Military Shipboard Cables Catalog

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Section 7:

TECHNICAL INFORMATION

Brand Rex BRAND

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Glossary

Abrasion Resistance: Ability of a wire, cable or material to resist surface wear.

Accelerated Aging: A test in which voltage, temperature, etc. are increased above normal operating values to obtain observable deterioration in a relatively short period of time. The plotted results give expected service life under normal conditions.

ACM: Aluminum conductor material.

Accelerator: A chemical additive that hastens a chemical reaction under specific conditions.

Admittance: The measure of the ease with which an alternating current flows in a circuit. The reciprocal of impedance.

AEIC: Association of Edison Illuminating Companies

Aerial Cable: A cable suspended in the air on poles or another overhead structure.

Aging: The change in properties of a material with time under specific conditions.

AIA: Aluminum Interlocked Armor.

Alloy: A metal formed by combining two or more different metals to obtain desirable properties.

Alternating Current: Electric current that continually reverses its direction. It is expressed in cycles per second (hertz or Hz).

Ambient Temperature: The temperature of the medium surrounding an object. Generally a lower temperature than the temperature at which the cable is operating.

American Wire Gauge (AWG): A standard North American system for designating wire diameter

Ampacity: See Current Carrying capacity.

Ampere: The unit of current. One ampere is the current flowing through one ohm of resistance at one volt potential.

Analog: A data format using continuous physical variables such as voltage amplitude or frequency variations.

Anneal (Soften): Relief of mechanical stress through heat and gradual cooling. Annealing copper renders it less brittle.

Armor: A protective metal covering commonly in the form of flexible interlocking aluminum, bronze, or steel tape steel wires, or aluminum sheath.

ASTM: American Society for Testing and Materials.

Attenuation: The general term used to denote the decrease of power from one point to another. In fiber optics, the optical power loss per unit length is expressed logarithmically in decibels per kilometer (dB/km) at a specific wavelength.

Audio Frequency: The range of frequencies audible to the human ear. Usually 20-20,000 Hz.

AWM: Designation for appliance wiring material.

Balanced Circuit: One utilizing cables having two or more identical conductors with the same electromagnetic characteristics in relation to each other and to ground.

Band Marking: A continuous circumferential band applied to a conductor at regular intervals for identification.

Bandwidth: (1) The difference between the upper and lower limits of a given band of frequencies. Expressed in Hertz. (2) A measure of the maximum frequency range over which light intensity exiting a waveguide one kilometer in length can be varied before the attenuation varies 3dB from the mean. The greater the bandwidth, the greater the information carrying capacity. Bandwidth is expressed in Megahertz (MHZ)=D0Kilometer (km).

Bending Radius: Radius of curvature that a cable can be safely bent without any adverse effects.

Binder: A spirally served tape used for holding assembled cable components in place awaiting subsequent manufacturing operations.

Bonding Conductor: An insulated or uninsulated conductor forming part of the cable assembly which is used for the purpose of connecting non-current carrying parts of electrical equipment to a system grounding conductor.

Braid: A fibrous or metallic group of filaments interwoven in cylindrical shape to form a covering over one or more wires.

Braid Angle: The smaller of the two angles formed by the shielding strand and the axis of the cable being shielded.

Braid Carrier: A spool or bobbin on a braider that holds one group of strands or filaments consisting of a specific number of ends. The carrier revolves during braiding operations

Braid Ends: The number of strands used to make up one carrier. The strands are wound side-by-side on the carrier bobbin and lie parallel in the finished braid.

Glossary

Breakdown Voltage: The voltage at which the insulation between two conductors breaks down.

B & S Gauge: The same as American Wire Gauge (AWG).

Buffer: A protective coating over an optical fiber.

Building Wire: A general term used for light and power wiring products, 1000 volts or less.

Bunch Stranding: A group of wires of the same diameter twisted together without a predetermined pattern. Used in flexible cords and cables.

Buried Cable: A cable installed directly in the earth without use of underground conduit. Also called direct burial cable.

Butyl Rubber: A synthetic rubber with good insulating properties (i.e. low voltage cords).

Cable: An insulated conductor, or group of individually insulated conductors in one assembly.

Cabling: The twisting together of two or more insulated conductors to form a cable.

Capacitance: The ratio of the electrostatic charge on a conductor to the potential difference between the conductors required to maintain that charge. Units expressed in Farads.

Capacitive Coupling: Electrical interaction between two conductors caused by the capacitance between them.

Capacitive Reactance (Xc): The opposition to alternating current due to the capacitance of the cable or circuit. Measured in ohms.

CE Code, CEC: Canadian Electrical Code

Certified Test Report (CTR): A report providing actual test data on a cable. Tests are normally conducted by the Quality Control Department to confirm that the product being shipped conforms to specifications

Characteristic Impedance: The impedance that, when connected to the output terminals of a transmission line of any length, makes the line appear infinitely long. The ratio of voltage to current at every point along a transmission line on which there are no standing waves.

Circular Mil (cmil): The area of a circle one mil (.001=D3) in diameter (7.854 x 10-7 sq in). Used in expressing wire cross-sectional area.

Circuit Sizes: A popular term for building wire sizes 14 through 10 AWG.

Cladding: (1) A method of applying a layer of metal over another metal whereby the junction of the two metals is continuously welded. (2) A low refractive index material that surrounds the core of an optical fiber causing the transmitted light to travel down the core and protects against surface contaminant scattering.

Coaxial Cable: A cable consisting of two cylindrical conductors with a common axis, separated by a dielectric.

Cold Flow: Permanent deformation of the insulation or jacket due to mechanical force or pressure, (not due to heat softening).

Color Code: A system for circuit identification through use of solid colors and contrasting tracers.

Composite Cable: One containing more than one type or gauge size of conductors (e.g. power and control conductors in one assembly).

Compound: An insulating or jacketing material made by mixing two or more polymeric ingredients.

Concentric Stranded Conductors: Manufactured to ASTM, ICEA, and CSA standards. The most common fixed installation type conductors are: 1) Round no diameter reduction: 2) Compressed approximately 3% diameter reduction; 3) Compact approximately 10% diameter reduction.

Concentric Stranding: A central wire surrounded by one or more layers of helically wound strands in a fixed round geometric arrangement.

Concentricity: The measurement of the location of the center of the conductor with respect to the geometric center of the surrounding insulation.

Conductivity: The capacity of a material to carry electrical current usually expressed as a percentage of copper conductivity (copper being 100%).

Conductor: An uninsulated wire suitable for carrying electrical current.

Conductor Shield: An extrusion of black semi-conducting thermoset material over the conductor to provide a smooth interface with the insulation for even distribution of electrical stress.

Conduit (Electrical Raceway): A tube or pipe in which insulated wires and cables are run

Connector: A device used to physically and electrically connect two or more conductors. Also used to physically connect cable to equipment.

Continuity Check: A test to determine whether electrical current flows continuously throughout the length of a single wire or individual wires in a cable.

Glossary

Continuous Vulcanization: Simultaneous extrusion and vulcanization of rubber-like (thermoset) coating materials. Often referred to as CV.

Control Cable: A multi-conductor cable made for operation in control of signal circuits.

Copolymer: A compound resulting from the polymerization of two different monomers.

Copperweld: The trade name of Flexo Wire Division (Copperweld Steel Corp.) for its copper-clad steel conductors.

Cord: A small, flexible, insulated wire or cable.

Core: In cables, a component or assembly of components over which additional components (shield, sheath, etc.) are applied.

Corona: A discharge due to ionization of air around a conductor due to a potential gradient exceeding a certain critical value.

Coverage: The percent of completeness with which a metal serving covers the underlying surface.

CPE: Chlorinated polyethylene can be used as either a thermoplastic or thermoset. It is a tough chemical and oil-resistant material and makes an excellent jacket for industrial control cable. As a thermoset, it can be used as an oil-resistant cord jacket. Typical temperature ratings range from -35°C to 90°C. Other outstanding properties include low water absorption and super crush resistance which are important attributes in industrial control applications.

Creep: The dimensional change with time of a material under a mechanical load.

Cross-linked: Inter-molecular bonds between long chain thermoplastic polymers by chemical or electron bombardment means. The properties of the resulting thermosetting material are usually improved (e.g XLPE).

Crosstalk: Signal interference between nearby conductors caused by pickup of stray energy.

CSA: Canadian Standards Association

Current Carrying Capacity (Ampacity): The maximum current an insulated conductor can safely carry without exceeding its insulation and jacket temperature limitations.

Cut-Through Resistance: The ability of a material to withstand cutting from a sharp edge or small radius under pressure.

Decibel (dB): A unit to express differences of power level. Used to express power gain in amplifiers or power loss in passive circuits or cables. The units in which the ratio of two power levels, P1 and P2, are expressed. The ratio in dB is given as (P1/P2).

Delay Line: A cable made to provide very low velocity of propagation with long electrical delay for transmitted signals.

Derating Factor: A factor used to reduce the current carrying capacity of a wire when used in environments other than that for which the value was established.

Dielectric: Any insulating material between two conductors that permits electrostatic attraction and repulsion to take place across it.

Dielectric Constant (K): The ratio of the capacitance of a condenser with dielectric between the electrodes to the capacitance when air is between the electrodes. Also called Permittivity and Specific Inductive Capacity (SIC).

Dielectric Strength: The voltage which an insulation can withstand before breakdown occurs. Usually expressed as a voltage gradient (such as volts per mil).

Dielectric Test: A test in which a voltage higher than the rated voltage is applied for a specified time to determine the adequacy of the insulation under normal conditions. Sometimes called a D2Hi-Pot test (high potential).

Digital: A data format that uses discrete or separate physical levels to contain information.

Direct Burial Cable: A cable installed directly in the earth.

Direct Current: An electric current that flows in only one direction.

Direction of Lay: The lateral direction in which the strands of a conductor run over the top of the cable conductor as they recede from an observer looking along the axis of the conductor or cable. Also applies to twisted cable.

Dissipation Factor: The tangent of the loss angle of the insulating material. (Also referred to as loss tangent, tan d, and approximate power factor.)

Drain Wire: The uninsulated wire in contact with an electrostatic shield throughout its length, in an instrumentation or control cable used to discharge unwanted signals. Also provides a means of terminating laminated shields. Sometimes used to describe the metallic shielding wires of a power cable insulation shield.

Glossary

Drawing: In wire manufacturing, pulling the metal through a die or series of dies to reduce diameter to a specified size.

Earth: British terminology for zero-reference ground.

Eccentricity: Like concentricity, a measure of the center of a conductor's location with respect to the circular cross section of the insulation. Expressed as a percentage of displacement of one circle within the other.

EEMAC: Electrical and Electronic Manufacturers Association of Canada (U.S. counterpart is NEMA).

Elastomer: A rubber-like substance. Any material that will return to its original dimensions after being stretched or distorted.

Electrostatic Shield: A copper or laminated aluminum/mylar tape wrap around a signal or instrumentation circuit (pair, triad, etc.) to protect from the electric field radiated by a voltage source. The grounded shield intercepts static interference and carries it off to ground.

Elongation: The fractional increase in length of material stressed in tension.

EMI: Abbreviation for electromagnetic interference.

EMRC: Energy Mines and Resources Canada

EPDM: Ethylene-propylene-diene monomer rubber. A material with good electrical insulating properties.

EPR: Ethylene-propylene copolymer rubber. A material with good electrical insulating properties.

Equal Load Sharing: An even distribution of current between the parallel cables in a power circuit.

Equilay: See Unilay: More than one layer of helically laid wires with the length of the lay the same for each layer.

Farad: A unit of electrical capacity.

Fatigue Resistance: Resistance to metal crystallization which leads to conductors or wires breaking from flexing.

Ferrous: Composed of and/or containing iron. A ferrous metal exhibits magnetic characteristics (e.g. steel armor).

FEP: Fluorinated ethylene propylene insulated wire (see Teflon).

Fiber: A single, separate optical transmission element characterized by core and cladding.

Fiber Optics: Light transmission through optical fibers communication and signaling.

Filled Cable: Cable construction in which the cable core is filled with a material that will prevent moisture or gasses from entering or passing through the cable.

Filler: 1) A material used in multi-conductor cables to occupy large interstices formed by the assembled conductors; 2) An inert substance added to a compound to improve properties.

Flat Cable: A cable with two essentially flat surfaces (e.g. NMD90).

Flat Conductor: A wire having a rectangular cross section as opposed to round or square conductors.

Flame Resistance: The ability of a material not to propagate flame once the heat source is removed (see FT1).

Flammability: The measure of the materials ability to support combustion.

Flex Life: The measurement of the ability of a conductor or cable to withstand repeated bending before breaking.

Flexibility: The ease with which a cable may be bent without sustaining damage.

FT1: One of several CSA flame test designations for wires and cables which pass the C22.2 No. 0.3 test requirements. (Other designations include FT2, FT4, etc.).

Fusion Splice: A splice accomplished by the application of localized heat sufficient to fuse or melt the ends of two lengths of optical fiber, forming a continuous single fiber.

Gauge: A term used to denote the physical size of a wire.

GND: Abbreviation for ground.

Graded-Index: A type of optical fiber in which the refractive index of the core is in the form of a parabolic curve, decreasing toward the cladding. This type of fiber provides high bandwidth capabilities.

Ground (GND): 1) A conducting connection between an electrical circuit and the earth, or other large conducting body, to serve as an earth thus making a complete electrical circuit; 2) Term used for non-current carrying conductor in a cable (see Bonding Conductor).

Halogen: A term used to identify any of the four elements chlorine, fluorine, bromine and iodine, grouped together because their chemical properties are similar.

Hard Drawn Copper Wire: Copper wire that has not been annealed after drawing.

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Fax: (859) 572-8463
www.generalcable.com

Glossary

Heat Shock: A test to determine stability of a material by sudden exposure to a high temperature for a short period of time.

Henry: The unit of inductance.

Hertz (Hz): A term replacing cycles-per-second as an indication of frequency.

Hi-Pot (High Potential): A test designated to determine the highest voltage that can be applied to a conductor without breaking down the insulation (see Dielectric Test).

High Voltage (HV): Generally, a wire or cable with an operating voltage of over 600 volts.

Hook-Up Wire: A wire used for low current, low voltage (under 1000 volts) applications within enclosed electronic equipment.

Hygroscopic: A material capable of absorbing moisture from the air.

Hypalon: Dupont's trade name for their chlorosulfonated polyethylene, an ozone resistant synthetic rubber.

ICEA (formerly IPCEA): Insulated Cable Engineers Association.

IEEE: Institute of Electrical and Electronics Engineers.

Impact Strength: A test for determining the mechanical punishment a cable can withstand without physical or electrical breakdown by impacting with a given weight, dropped a given distance, in a controlled environment.

Impedance: The total opposition that a circuit offers to the flow of alternating current or any other varying current at a particula frequency. It is a combination of resistance R and reactance X, measured in ohms.

Inductance: The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in henrys.

Insulation: A material having good dielectric properties permitting close assembly of conductors in cable and equipment.

Insulation Level: A designation used to identify the insulation thickness required to protect a high voltage cable under ground fault conditions. Expressed as a percentage (e.g. 100% level, 133% level).

Insulation Shield (HV Cable): A two part shield consisting of a non-metallic component and a metallic component. The first component is an extrusion of black semi-conducting thermoset material over the insulation which provides uniform radial stress distribution across the insulation. The second component is a metallic shield which is typically copper tape or wire that functions as a bonding (grounding) conductor and/or a neutral conductor. The metallic shield also serves to conduct ground fault current in the event of insulation failure. See also drain wire.

Insulation Stress: High voltage stress which causes molecular separation in the insulation at sharp projections in the conductor. Controlled by conductor and insulation shielding, called a stress relief shield. Measured in volts per mil.

Interaxial Spacing: Center to center conductor spacing.

Interstices: Voids or valleys between individual strands in a conductor or between insulated conductors in a multi-conductor cable, (interstitial spaces).

Irradiation: In insulations, the exposure of the material to high energy emissions for the purpose of favorably altering the molecular structure by crosslinking.

Jacket: An outer covering, usually non-metallic, mainly used for protection against the environment.

kcmil: One thousand circular mils (MCM).

KILO: A prefix denoting 1000 (103).

kV: Kilovolt (1000 volts).

Laminated Tape: A tape consisting of two or more layers of different materials bonded together (e.g. aluminum/Mylar).**Lay:** The length measured along the axis of a wire or cable required for a single strand (in stranded wire) or conductor (in cable) to make one complete turn about the axis of the conductor or cable.

Lay Direction: The twist in the cable as indicated by the top strands while looking along the axis of the cable away from the observer. Described as right hand or left hand.

Leakage Current: The undesirable flow of current through or over the surface of an insulation.

Line Drop (Voltage Drop): A voltage loss occurring between any two points in a power circuit. Such loss, or drop, is due to the resistance, reactance, or leakage of the circuit, type of cable and configuration.

Line Voltage: The value of the potential existing on a supply or power line. Rated voltage of cables.

LOCA: Abbreviation for loss of coolant accident, a system malfunction associated with nuclear generating stations.

Glossary

Loss Factor: The product of the dissipation and dielectric constant of an insulating material.

Longitudinal Shield: A tape shield, flat or corrugated, applied longitudinally with the axis of the core being shielded.

Microampere: One-millionth of an ampere (10-6).

Milliampere: One-thousandth of an ampere (10-3).

Magnetic Noise: Caused by current frequency. An AC powerline creates a magnetic field around that cable, this magnetic field causes the magnetic noise in neighboring control or instrumentation circuits.

MCM: One thousand circular mils (kcmil).

Meg or Mega: A prefix denoting 1,000,000.

Megarad: A unit for measuring radiation dosage.

Messenger: The linear supporting member, usually a high strength steel wire, used as the supporting element of a suspended aerial cable. The messenger may be an integral part of the cable, or exterior to it.

Mho: The unit of conductivity. The reciprocal of an ohm.

Micro: A prefix denoting one-millionth.

Micron: (m) Millionth of a meter.

Mil: A unit of length equal to one-thousandth of an inch (.001). Common unit for insulation thickness.

Milli: A prefix denoting one-thousandth (10-3).

Modulus of Elasticity: The ratio of stress to strain in an elastic material.

Moisture Absorption: The amount of moisture, in percentage, that a material will absorb under specified conditions.

Moisture Resistance: The ability of a material to resist absorbing moisture from the air or when immersed in water.

Multi-Conductor Cable: A cable consisting of two or more conductors, either cabled or laid in a flat parallel construction, with or without a common overall covering.

Mutual Capacitance: Capacitance between two conductors when all other conductors including ground are connected together.

Mylar: DuPont trade name for a polyester material.

Nano: A numerical prefix denoting one-billionth (10-9).

National Electrical Code (NEC): A U.S. consensus standard published by the National Fire Protection Association (NFPA) and incorporated in OSHA regulations. (Canadian Counterpart is the CE Code).

NEMA: National Electrical Manufacturers Association. (Canadian counterpart is EEMAC).

Neoprene: A synthetic rubber with good resistance to oil, chemicals and flame. Also called polychloroprene.

Nomex: Dupont trademark for a temperature resistant, flame-retardant nylon.

Non Hygroscopic: A material incapable of taking up or absorbing moisture from the air.

Nylon: An abrasion-resistant thermoplastic with good chemical resistance. A DuPont registered trademark.

OHM: The electrical unit of resistance.

OSHA: Abbreviation for the U.S. Occupational Safety and Health Act.

Overlap: The amount the trailing edge laps over the leading edge of a spiral tape wrap.

Oxygen Index: Percentage of oxygen necessary to support combustion in a gas mixture. Flame retardant materials have a higher oxygen index.

Pair: Two insulated wires of a single circuit twisted together or laid parallel.

Parallel Cable: Two or more cables used to share the current in heavily loaded power circuits which permits the use of smaller conductors.

Percentage Conductivity: Conductivity of a material expressed as a percentage of that of copper. Also used to indicate ratio of conductance between the phase conductor and the neutral in power cables.

Pick: Distance between two adjacent crossover points of braid filaments. The measurement in picks per inch indicates the degree of coverage.

PICO: A prefix denoting one-millionth of one-millionth (10-12).

Pitch: In flat cable, the nominal distance between the index edges of two adjacent conductors.

Pitch Diameter: Diameter of a circle passing through the center of the conductors in any layer of a multi-conductor cable.

Glossary

Plastic Deformation: Change in dimensions under load that is not recovered when the load is removed.

Plasticizer: A chemical agent added to plastics to make them softer and more pliable.

Plenum Cable: Cable approved for installation in plenums, (e.g. suspended ceiling) without the need for conduit.

Polyester: Polyethylene terephthalate which is used extensively in the production of a high strength moisture resistant film used as a cable core wrap (see Mylar).

Polyethylene (PE): A thermoplastic material having excellent electrical and physical properties.

Polymer: A material of high molecular weight formed by the chemical union of monomers.

Polyolefin: A family of thermoplastics based upon the unsaturated hydrocarbons know as olefins. When combined with butylene or styrene polymers they form compounds such as polyethylene and polypropylene.

Polypropylene (PPE): A thermoplastic similar to polyethylene but stiffer and having a higher softening point (temperature).

Polyurethane/PUR: This thermoplastic material is used primarily as a cable jacket material. It has excellent oxidation, oil, and ozone resistance. Some formulations also have good flame resistance. It is a hard material with excellent abrasion resistance. It has outstanding memory properties, making it an ideal jacket material for retractile cords.

Polyvinyl Chloride (PVC): A general purpose thermoplastic used for low voltage wire and cable insulation, and for jackets.

Power Factor: The ratio of resistance to impedance. The ratio of the actual power of an alternating current to apparent power. Mathematically, the cosine of the angle between the voltage applied and the current resulting.

Primary Insulation: The first layer of non-conductive material applied over a conductor, whose prime function is to act as electrical insulation.

Pulling Eye: A device fastened to a cable to which a hook may be attached in order to pull the cable.

Quad: Four insulated wires of a single circuit.

REA: Rural Electrification Administration. A branch of the U.S. Department of Agriculture.

Reactance: The opposition offered to the flow of alternating current by inductance or capacitance of a component or circuit.

Reel Drum Diameter: Diameter of the drum (or hub) of the reel.

Reel Flange Diameter (Reel Height): Diameter of the reel flanges.

Reel Traverse: Width of space between reel flanges.

Reel Width: Overall width of reel.

Ridge Marker: One or more ridges running laterally along the outer surface of a insulated wire or cable for purposes of identification.

Root Mean Square (RMS): The effective value of an alternating current or voltage.

Rope Lay Conductor: A conductor composed of a central core surrounded by one or more layers of helically laid groups of wires used in portable cables.

Rubber: A general term used to describe wire insulation and jackets made of thermosetting elastomers, such as natural or synthetic rubbers, EPR, neoprene, Hypalon, butyl rubber and others.

SBR: A copolymer of styrene and butadiene. Also GR-S or Buna-S. Most commonly used type of synthetic rubber.

Self Extinguishing: The characteristic of a material whose flame is extinguished after the igniting flame is removed.

Semi-Conductor: In wire industry terminology, a material possessing electrical conductivity that falls somewhere between that of conductors and insulators. Usually made by adding carbon particles to an insulator (e.g. conductor shield and insulation shield). Not the same as semi-conductor materials such as silicon, germanium, etc used for making transistors and diodes.

Separator: Pertaining to wire and cable, a layer of insulating material such as textile paper, Mylar, etc. which is placed between a conductor and its dielectric, between a cable jacket and the components it covers, or between various components of a multi-conductor cable. It can be utilized to improve stripping qualities, flexibility, or can offer additional mechanical or electrical protection to the components it separates.

Glossary

Served Wire Armor (SWA): Spiral wrap of galvanized steel wires applied around a cable to afford mechanical protection and increase the cable pulling tension characteristics, (mineshaft, submarine cable, etc.). Also used to denote steel wire armor.

Sheath: The outer covering or jacket of a multi-conductor cable. Usually non-metallic.

Shield (Electrostatic): In cables, a metallic layer placed around a conductor or group of conductors to prevent electrostatic interference between the enclosed wires and external fields. Also see Insulation Shield.

Shrink Tubing: Tubing which has been extruded, crosslinked, and mechanically expanded which when reheated will return to its original diameter.

SIA: Steel Interlocked Armor.

Side Wall Bearing Pressure (SWBP): A term used in reference to the pressure on a cable which is being pulled around a curved surface under tension. If excessive, SWBP can damage cable components and reduce the life of the cable.

Signal Cable: A cable designed to carry current of usually less than one ampere per conductor to operate signal circuit devices.

Silicone: A material made from silicone and oxygen.Can be in thermosetting elastomer or liquid form. The thermosetting elastomer form is noted for high heat resistance.

Skin Effect: The tendency of alternating current to concentrate and to travel only on the surface of a conductor. Tendency increases with increase in frequency.

Sleeving: An extruded tube.

Spark Test: A test designed to locate imperfections (usually pin-holes) in the insulation of a wire or cable by application of voltage for a very short period of time while the wire is being drawn through the electrode field.

Specific Gravity: The ratio of the density (mass per unit volume) of a material to that of water.

Specific Inductive Capacity (SIC): Same as dielectric constant (See Dielectric Constant).

Tank Test: A voltage insulation test in which the insulated wire or cable is submerged in water and voltage is applied between the conductor and water serving as ground. Shielded cables are generally not tank tested due to the possibility of introducing contaminants on the outer surface of the insulation.

Teflon: DuPont Company trademark for fluorocarbon resins. (See FEP and TFE.)

Temperature Rating: The maximum temperature at which an insulating material may be used in continuous operation without loss of its basic properties (i.e. operating, overload, short circuit). The minimum temperature for safe handling.

Tensile Strength: The pull stress required to break a given specimen Measured in pounds per square inch. Also referred to as Ultimate Tensile Strength.

TFE: Tetrafluoroethylene. A thermoplastic material with good electrical insulating properties and chemical and heat resistance.

Thermoplastic: A material that can be softened repeatedly by heating and hardened by cooling through a temperature range characteristic of the plastic, and that in the softened state can be shaped by molding or extrusion.

Thermoset: A material that has been vulcanized by heat or other means and is substantially infusible and insoluble.

Three Conductor Cable: Three insulated conductors assembled with other necessary cable components (shield, filler, etc.) to form a core, protected by an overall jacket.

Tinned Copper: Tin coating added to copper to aid in soldering and inhibit corrosion.

Tray: A cable tray system is a unit or assembly of units or sections, and associated fittings, made of non-combustible materials forming a rigid structural system used to support cables. Cable tray systems (previously termed continuous rigid cable supports) include ladders troughs, channels, solid bottom trays, and similar structures.

Tray Cable: A factory assembled multi-conductor or multi- pair control, signal or power cable specifically approved under the Canadian Electrical Code for installation in trays.

Glossary

Triad: Three insulated wires of a single circuit forming a unit. (Two or more units are cabled to form a multi-triad cable.)

Triplexed Cable: Three individual cables twisted together.

UL: Underwriters Laboratories. A non-profit independent organization, which operates a listing service for electrical and electronic materials and equipment. (Canadian counterpart is CSA).

UHF: Abbreviation for ultra high frequency, 300 to 3,000 MH

Metric Conversion

	To Convert From	To	Multiply By
Length	Inches	Millimeters	25.4
	Millimeters	Inches	0.03937
	Inches	Centimeters	2.54
	Centimeters	Inches	0.3937
	Feet	Meters	0.3048
	Meters	Feet	3.2808
	Kilofeet (1000 ft)	Kilometers	0.3048
	Kilometers	Kilofeet (1000 ft)	3.2808
Area	Square Inches	Square Millimeters	645.16
	Square Millimeters	Square Inches	0.00155
	Square Inches	Square Centimeters	6.4516
	Square Centimeters	Square Inches	0.155
	Square Inches	Circular Mils	1,273,240
	Circular Mils	Square Inches	7.854×10^{-7}
	Circular Mils	Square Millimeters	2.066×10^{4}
	Square Millimeters	Circular Mils	1973.51
	Square Feet	Square Meters	0.0929
	Square Meters	Square Feet	10.764
Weight	Pounds	Kilograms	0.4536
	Kilograms	Pounds	2.2046
	Pound/Kilofeet	Kilograms/Kilometer	1.4882
	Kilograms/Kilometer	Pounds/Kilofeet	0.6720
Electrical	Ohms/Kilofeet	Ohms/Kilometer	3.2808
	Ohms/Kilometer	Ohms/Kilofeet	0.3048
	Microfarads/Kilofeet	Microfarads/Kilometer	3.2808
	Microfarads/Kilometer	Microfarads/Kilofeet	0.3048
	Insulation Resistance:		
	Megohms--Kilofeet	Megohms—Kilometer	0.3048
	Megohms—Kilometer	Megohms—Kilofeet	3.2808
Mechanical	Pounds/Square Inch	Kilo Pascal*	6.895
	Kilo Pascal*	Pounds/Square Inch	0.1432
	Pounds (force)	Newtons	4.448
	Newtons	Pounds (force)	0.2248

* 1 Pascal = 1 newton/m^2

Temperature Conversion Table

Read known temperature in bold face type. Corresponding temperature in degrees Fahrenheit will be found in column to the right. Corresponding temperature in degrees Centigrade will be found in column to the left.

-5 to -100			0 TO 100						100 TO 500		
°C		°F	°C		°F	°C		°F	°C		°F
-73.3	**-100**	-148	-17.8	**0**	32.0	10.0	**50**	122.0	38	**100**	212
-70.5	**- 95**	-139	-17.2	**1**	33.8	10.6	**51**	123.8	43	**110**	230
-67.8	**- 90**	-130	-16.7	**2**	35.6	11.1	**52**	125.6	49	**120**	248
-65.0	**- 85**	-121	-16.1	**3**	37.4	11.7	**53**	127.4	54	**130**	266
-62.2	**- 80**	-112	-15.6	**4**	39.2	12.2	**54**	129.2	60	**140**	284
-59.5	**- 75**	-103	-15.0	**5**	41.0	12.8	**55**	131.0	66	**150**	302
-56.7	**- 70**	- 94	-14.4	**6**	42.8	13.3	**56**	132.8	71	**160**	320
-53.9	**- 65**	- 85	-13.9	**7**	44.6	13.9	**57**	134.6	77	**170**	338
-51.1	**- 60**	- 76	-13.3	**8**	46.4	14.4	**58**	136.4	82	**180**	356
-48.3	**- 55**	- 67	-12.8	**9**	48.2	15.0	**59**	138.2	88	**190**	374
-45.6	**- 50**	- 58	-12.2	**10**	50.0	15.6	**60**	140.0	93	**200**	392
-42.8	**- 45**	- 49	-11.7	**11**	51.8	16.1	**61**	141.8	99	**210**	410
-40.0	**- 40**	- 40	-11.1	**12**	53.6	16.7	**62**	143.6	100	**212**	413
-37.2	**- 35**	- 31	-10.6	**13**	55.4	17.2	**63**	145.4	104	**220**	428
-34.4	**- 30**	- 22	-10.0	**14**	57.2	17.8	**64**	147.2	110	**230**	446
-31.6	**- 25**	- 13	-9.44	**15**	59.0	18.3	**65**	149.0	116	**240**	464
-28.9	**- 20**	- 4	-8.89	**16**	60.8	18.9	**66**	150.8	121	**250**	482
-26.1	**- 15**	5	-8.33	**17**	62.6	19.4	**67**	152.6	127	**260**	500
-23.3	**- 10**	14	-7.78	**18**	64.4	20.0	**68**	154.4	132	**270**	518
-20.5	**- 5**	23	-7.22	**19**	66.2	20.6	**69**	156.2	138	**280**	536
			-6.67	**20**	68.0	21.1	**70**	158.0	143	**290**	554
			-6.11	**21**	69.8	21.7	**71**	159.8	149	**300**	572
			-5.56	**22**	71.6	22.2	**72**	161.6	154	**310**	590
			-5.00	**23**	73.4	22.8	**73**	163.4	160	**320**	608
			-4.44	**24**	75.2	23.3	**74**	165.2	166	**330**	626
			-3.89	**25**	77.0	23.9	**75**	167.0	171	**340**	644
			-3.33	**26**	78.8	24.4	**76**	168.8	177	**350**	662
			-2.78	**27**	80.6	25.0	**77**	170.6	182	**360**	680
			-2.22	**28**	82.4	25.6	**78**	172.4	188	**370**	698
			-1.67	**29**	84.2	26.1	**79**	174.2	193	**380**	716
			-1.11	**30**	86.0	26.7	**80**	176.0	199	**390**	734
			-0.56	**31**	87.8	27.2	**81**	177.8	204	**400**	752
			0	**32**	89.6	27.8	**82**	179.6	210	**410**	770
			0.56	**33**	91.4	28.3	**83**	181.4	216	**420**	788
			1.11	**34**	93.2	28.9	**84**	183.2	221	**430**	806
			1.67	**35**	95.0	29.4	**85**	185.0	227	**440**	824
			2.22	**36**	96.8	30.0	**86**	186.8	232	**450**	842
			2.78	**37**	98.6	30.6	**87**	188.6	238	**460**	860
			3.33	**38**	100.4	31.1	**88**	190.4	243	**470**	878
			3.89	**39**	102.2	31.7	**89**	192.2	249	**480**	896
			4.44	**40**	104.0	32.2	**90**	194.0	254	**490**	914
			5.00	**41**	105.8	32.8	**91**	195.8	260	**500**	932
			5.56	**42**	107.6	33.3	**92**	197.6			
			6.11	**43**	109.4	33.9	**93**	199.4			
			6.67	**44**	111.2	34.4	**94**	201.2			
			7.22	**45**	113.0	35.0	**95**	203.0			
			7.78	**46**	114.8	35.6	**96**	204.8			
			8.33	**47**	116.6	36.1	**97**	206.6			
			8.89	**48**	118.4	36.7	**98**	208.4			
			9.44	**49**	120.2	37.2	**99**	210.2			
						37.8	**100**	212.0			

Interpolation Factors

°C		°F	°C		°F	°C		°F
0.56	1	1.8	2.22	4	7.2	3.89	7	12.6
1.11	2	3.6	2.78	5	9.0	4.44	8	14.4
1.67	3	5.4	3.33	6	10.8	5.00	9	16.2

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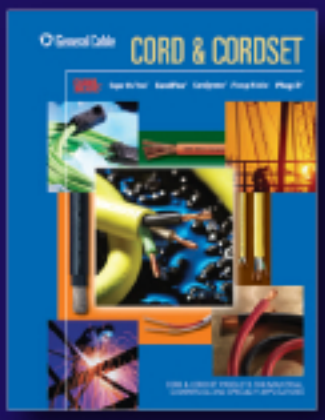

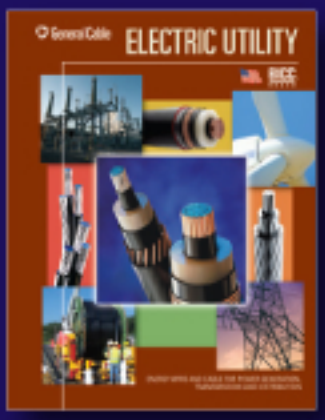

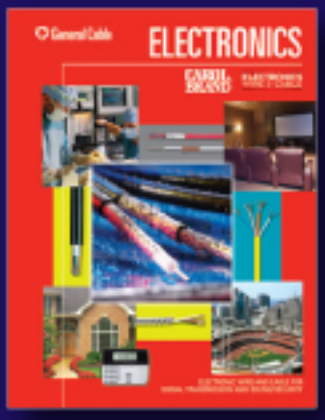

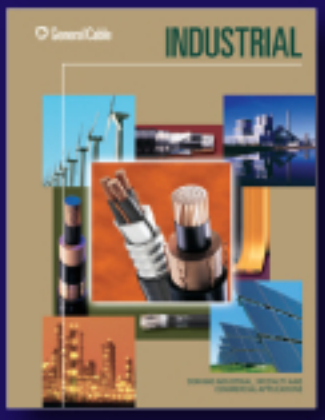

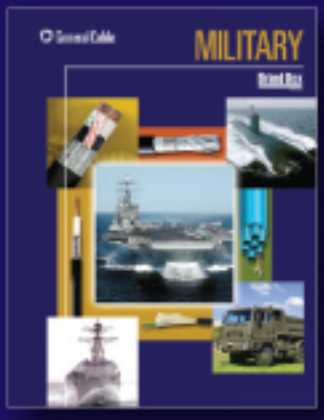

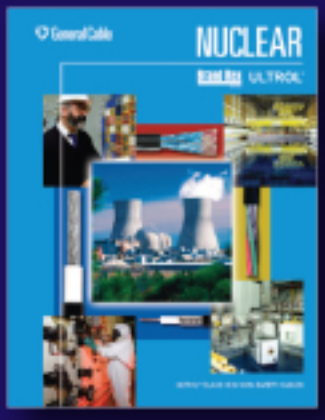

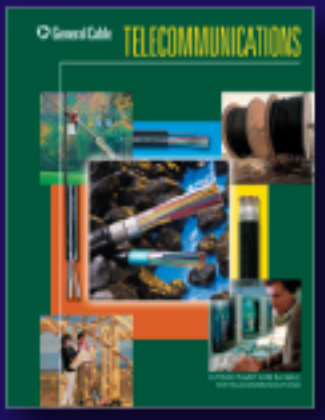

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