Manufacturer's Instructions for Lifeline® MC and MC LSZH Jacketed: One Hour and Two-Hour Fire-Resistive Cables – UL 2196

Technical Information Sheet #400

This Technical Information Sheet (TIS) covers Lifeline® MC and MC LSZH Jacketed Single and Multi-Conductor: UL Certified and Listed One-Hour and Two-Hour Fire-Resistive Power Cables.

Applications

Lifeline® MC Cables have been qualified and listed to the demanding requirements of UL 2196, *Tests for Fire-Resistive Cables*, and are UL Listed Type MC.

Lifeline® MC Cables meet various industry code requirements of NFPA 70, NFPA 72 and NFPA 101 (Lifeline® MC LSZH Jacketed also meet NFPA 130 and NFPA 502) for fire resistance according to UL 2196 standard when selected and installed per applicable codes including federal, state, local and municipal rules, laws and regulations as well as Electrical Circuit Integrity Systems 50 and 50A (FHIT.50 and FHIT.50A). Note that Authorities Having Jurisdiction (AHJ) should be consulted for approval prior to cable purchase and installation.

Requirements

1) Codes / Laws / Regulations

Selection and installation compliance is dependent on the applicable issue of any code or addendum that covers the use of Lifeline® MC, Fire-Resistive Cables.

2) UL Electrical Circuit Integrity System #50 and #50A(FHIT.50 and FHIT.50A)

The most current listing details and supporting information applicable to Lifeline® MC Cables' fire-resistive rating (FRR) classification can be obtained from UL's UL Product IQ website by searching for keywords: FHIT.50 or FHIT.50A.

Where:

FHIT.50 covers single-conductor and multi-conductor cables with 2-hour FRR at 480 volts utilization and includes optional taped splice for conductor sizes 2AWG and larger. Refer to TIS 403 for splice installation instructions.

FHIT.50A covers single-conductor and multi-conductor cables with 1-hour CIR at 480 volts utilization and optional ceramic stand-off splice for use with conductor sizes 14AWG to 350MCM. Refer to TIS 402 for splice installation instructions.

3) Manufacturer's Instructions – TIS #400

All Lifeline® MC Cable products are covered by specific datasheets and supporting Technical Information Sheets that provide the user with information to properly select and install Lifeline® MC Cables in a reliable and trouble-free manner. Do not hesitate to contact your Lifeline® MC Cable representative should you have any questions.

Additional Features Available

1) Optional Outer Jacket

A corrosion resistant outer jacket is available over copper armor for applications with destructive corrosive conditions.

2) Splices

A two-hour and one-hour UL Classified fire resistive splices are available for Lifeline MC and Lifeline MC LSZH Cable. See FHIT.50 and FHIT.50A and contact your Lifeline® MC Cable representative for additional instructions.

Installation Parameters

1) Cable: Lifeline® MC

Code compliant cable classified as one-hour or two-hour fire-resistive according to UL 2196 when installed in accordance with FHIT.50, or FHIT.50A, the National Electric Code (NEC), and all applicable federal, state, and municipal regulations.

2) Securing and Supporting Spacing

Code compliant fire-resistive installation in both horizontal and vertical orientations requires the cable be secured and supported at intervals not exceeding four feet (48 inches), at each side cable bends, and within one foot (12 inches) of cable connector terminations. Noted exception: support spacing described above is in lieu of support spacing allowed in the NEC and CEC, and is required for compliant two-hour fire-resistive installation.

3) Supports and Fasteners

Cables shall be secured to supports using steel two-piece single-bolt pipe clamps. Supports shall be steel components or other fire rated components (described in FHIT.50 and FHIT.50A) proven to meet the required fire resistance ratings. No substitute components are allowed.

4) Cable Trays

Cable shall be installed in steel cable trays in accordance with NEC and tray manufacturer's instructions. Trays shall be supported at intervals not exceeding four feet (48 inches) and cables shall be secured to trays with steel clamps or straps at intervals not exceeding four feet (48 inches).

5) Cable Bending

The minimum bending radius for Lifeline® MC cable is defined in two conditions.

1. The minimum pulling radius is 10 times the cable diameter when the cable is under tension and is being pulled around bends during installation (Example: if cable diameter is 1 inch, the minimum bend radius is 10 inches, and minimum diameter of sheaves or rollers used during installation is 20 inches).
2. The minimum training radius is 7 times the cable diameter in accordance with NEC Article 330 when the cable is not under tension and when the cable is in final installation position. During installation and handling, the bend radius should be kept as large as possible using a sheave with the full minimum bending radius of the cable.

6) Cable Pulling and Handling

Proper cable pulling and handling techniques are essential to ensure a damage free installation. The Lifeline® MC Installation Manual (TIS #401) describes the recommended best practices.

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TIS 400-Jun 2024

Lifeline® MC: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire

APPLICATIONS

Lifeline® MC fire resistive cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per UL 2196, *Standard for Tests for Fire Resistive Cables* and are classified in Electrical Circuit Integrity Systems (FHIT) No. 50 and No. 50A.

Lifeline® MC Cables can be used in the following applications to provide survivability during a fire:

- Tall Buildings
- Emergency Feeder Cables
- Stairwell Pressurization
- Elevators / OEO
- Fire Pumps
- Ventilating Fans
- Exit Lighting
- Emergency lighting for roadway and transit tunnels when cables include optional LSZH jacket over armor

Lifeline® MC Cables are preferred over Mineral Insulated (MI) cables, concrete encasement or the construction of fire rated assemblies based on the facts that Lifeline® MC Cables are less costly and easier to install for many applications.

Fire resistive cables are required per NFPA 70/NEC, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72 and NFPA 101.

CLASSIFIED UL

UL LISTED

RoHS COMPLIANT

SPECIFICATIONS & RATINGS

- Listed to UL 1569, *Metal Clad Cables*, as the following type:
  - Type MC 600 Volt, Rated 90°C
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke
- Classified to UL 2196, *Standard for Tests for Fire Resistive Cables*, with one-hour and two-hour Fire Resistive Rating (FRR)
- Electrical Circuit Integrity System (FHIT) No. 50 of the UL Fire Resistance Directory with 2-hour FRR at 480 volts utilization covers cable constructions in table below and optional taped splice for conductor sizes 2AWG and larger.
- Electrical Circuit Integrity System (FHIT) No. 50A of the UL Fire Resistance Directory with 1-hour FRR at 480 volts utilization, covers multi-conductor cable constructions in the table below and optional ceramic stand-off splice for conductor sizes 14AWG to 350MCM.
- NFPA 70, NFPA 72, NFPA 101 compliant
- Corrugated Copper Armor meets Equipment Grounding Conductor requirements of NEC Table 250.122

DESIGN PARAMETERS

CONDUCTORS: Bare stranded copper, 14 AWG through 600 kcmil

INSULATION: Ceramifiable Silicone Zero Halogen (LSZH)

INNER BINDER JACKET: Ceramifiable Silicone Zero Halogen (LSZH)

ARMOR: Continuously Welded and Corrugated Copper

IDENTIFICATION:
ORIGIN USA PRYSMIAN GROUP MA P/N [#########] [X]/C [Y]AWG [Z]mm² LIFELINE ® (UL) MC-ST1 600V 90C FOR CT USE IEEE 1202/ FT4 ST1 (UL) 2196 FRR 2HR FHIT 50[1] or FRR 1HR FHIT 50A[2] 480V UTILIZATION ([mm]/[yr]) (SEQUENTIAL FOOTAGE)

Notes: [#] is cable part number
[X] is the number of conductors
[Y] is cable size in AWG or kcmil
[Z] is cable size in mm²
[1] FRR 2HR FHIT#50 includes taped splice for cables with conductor sizes 2AWG to 600MCM
[2] FRR 1HR FHIT#50A applies ceramic stand-off splice for cables with 14AWG to 350MCM conductors

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Lifeline® MC: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire

LIFELINE® Part Number	Conductor Size AWG /MCM	Number of Conductors	Nominal Core Diameter (in)	Nominal Armor Diameter (in)	Ampacity* 75°C Amps	Ampacity* 90°C Amps
LMC03014	14AWG	3	0.55	0.85	20**	25**
LMC05014	14AWG	5	0.66	0.96	20**	25**
LMC02012	12AWG	2	0.56	0.85	25**	30**
LMC03012	12AWG	3	0.59	0.90	25**	30**
LMC04012	12AWG	4	0.64	0.96	25**	30**
LMC05012	12AWG	5	0.70	0.96	25**	30**
LMC02010	10AWG	2	0.61	0.85	35**	40**
LMC03010	10AWG	3	0.64	0.96	35**	40**
LMC04010	10AWG	4	0.70	0.96	35**	40**
LMC05010	10AWG	5	0.77	1.08	35**	40**
LMC07010	10AWG	7	0.85	1.27	35**	40**
LMC02008	8AWG	2	0.70	0.96	50	55
LMC03008	8AWG	3	0.75	1.08	50	55
LMC04008	8AWG	4	0.82	1.20	50	55
LMC05008	8AWG	5	0.90	1.27	50	55
LMC02006	6AWG	2	0.78	1.08	65	75
LMC03006	6AWG	3	0.83	1.20	65	75
LMC04006	6AWG	4	0.91	1.27	65	75
LMC05006	6AWG	5	1.00	1.35	65	75
LMC03004	4AWG	3	0.95	1.35	85	95
LMC04004	4AWG	4	1.04	1.35	85	95
LMC05004	4AWG	5	1.15	1.57	85	95
LMC03003	3AWG	3	1.00	1.35	100	115
LMC04003	3AWG	4	1.11	1.40	100	115
LMC03002	2AWG	3	1.07	1.40	115	130
LMC04002	2AWG	4	1.18	1.57	115	130
LMC03001	1AWG	3	1.24	1.77	130	145
LMC04001	1AWG	4	1.37	1.77	130	145
LMC031/0	1/0AWG	3	1.33	1.77	150	170
LMC041/0	1/0AWG	4	1.47	1.83	150	170
LMC032/0	2/0AWG	3	1.41	1.83	175	195
LMC042/0	2/0AWG	4	1.56	1.98	175	195
LMC033/0	3/0AWG	3	1.52	1.98	200	225
LMC043/0	3/0AWG	4	1.69	2.15	200	225
LMC034/0	4/0AWG	3	1.64	2.15	230	260
LMC044/0	4/0AWG	4	1.82	2.27	230	260
LMC03250	250MCM	3	1.81	2.27	255	290
LMC04250	250MCM	4	2.00	2.48	255	290
LMC03350	350MCM	3	2.04	2.48	310	350
LMC04350	350MCM	4	2.26	2.73	310	350
LMC03400	400MCM	3	2.13	2.73	335	380
LMC04400	400MCM	4	2.37	2.79	335	380
LMC03500	500MCM	3	2.31	2.79	380	430
LMC04500	500MCM	4	2.57	3.08	380	430
LMC03600	600MCM	3	2.54	3.08	420	475
LMC04600	600MCM	4	2.83	3.35	420	475

* Ampacities are based on Table 310.16 of the National Electrical Code (NEC) (NFPA 70-2023) for 3 current carrying conductors at 30°C ambient.

** Small overcurrent protection limitations per NEC Article 240.4(D): (4) 14AWG – 15amps, (6) 12AWG – 20amps, (30) 10AWG – 30amps.

*** Refer to Table 310.15(C)(1) of the National Electrical Code (NEC) (NFPA 70-2023) for more than three current-carrying conductors.

The above dimensions are approximate and subject to normal manufacturing tolerances. Information subject to change

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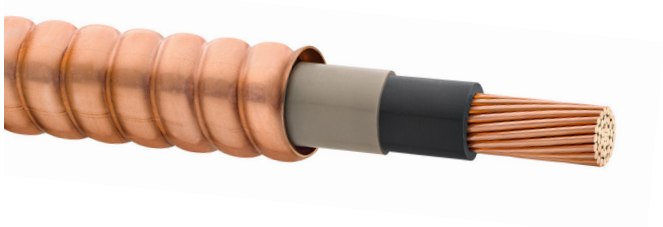
Lifeline® MC: One-Hour and Two-Hour Fire Resistive Single Conductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire



APPLICATIONS

Lifeline® MC fire-resistive single conductor cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per UL 2196, *Standard for Tests for Fire-Resistive Cables* and are classified in Electrical Circuit Integrity Systems (FHIT) No. 50 and No. 50A.

Lifeline® MC Single Conductor Cables can be used in the following applications to provide survivability during a fire:

- Tall Buildings
- Emergency Feeder Cables
- Stairwell Pressurization
- Elevators / OEO
- Fire Pumps
- Ventilating Fans
- Exit Lighting
- Emergency lighting for roadway and transit tunnels when cables include optional LSZH jacket over armor

Lifeline® MC Single Conductor Cables are preferred over Mineral Insulated (MI) cables, concrete encasement or the construction of fire rated assemblies based on the facts that Lifeline® MC Cables are less costly and easier to install for many applications.

Fire resistive cables are required per NFPA 70/NEC, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72 and NFPA 101.

CLASSIFIED UL

UL LISTED

RoHS COMPLIANT

SPECIFICATIONS & RATINGS

- Listed to UL 1569, *Metal Clad Cables*, as the following type:
  - Type MC 600 Volt, Rated 90°C
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke
- Classified to UL 2196, *Standard for Tests for Fire Resistive Cables*, with one-hour and two-hour Fire Resistive Rating (FRR)
- Electrical Circuit Integrity System (FHIT) No. 50 of the UL Fire Resistance Directory with 2-hour FRR at 480 volts utilization covers cable constructions in table below and optional taped splice.
- Electrical Circuit Integrity System (FHIT) No. 50A of the UL Fire Resistance Directory with 1-hour FRR at 480 volts utilization, covers cable constructions in the table below and optional ceramic stand-off splice for conductor sizes up to 350MCM.
- NFPA 70, NFPA 72, NFPA 101 compliant
- Corrugated Copper Armor meets Equipment Grounding Conductor requirements of NEC Table 250.122

DESIGN PARAMETERS

CONDUCTORS: Bare stranded copper, 1/0 AWG through 750 kcmil

INSULATION: Ceramifiable Silicone Zero Halogen (LSZH)

INNER BINDER JACKET: Ceramifiable Silicone Zero Halogen (LSZH)

ARMOR: Continuously Welded and Corrugated Copper

IDENTIFICATION:

ORIGIN USA PRYSMIAN GROUP MA P/N [#########] [X]AWG [Y] mm² LIFELINE® (UL) MC-ST1 600V 90C FOR CT USE IEEE 1202/FT4 ST1 (UL) 2196 FRR 2HR FHIT 50[1] 480V UTILIZATION or FRR 1HR FHIT 50A[2] 480V UTILIZATION ([mm]/[yr]) (SEQUENTIAL FOOTAGE)

Notes: [#] is cable part number
[X] is cable size in AWG or kcmil
[Y] is cable size in mm²

[1] FRR 2HR FHIT#50 includes taped splice for cables with conductor sizes 1/0AWG to 750MCM

[2] FRR 1HR FHIT#50A applies ceramic stand-off splice for cables with 1/0AWG to 350MCM conductors

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Lifeline® MC: One-Hour and Two-Hour Fire Resistive Single Conductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire

LIFELINE® Part Number	Conductor Size AWG /MCM	Number of Conductors	Nominal Core Diameter (in)	Nominal Armor Diameter (in)	Ampacity* 75°C Amps	Ampacity* 90°C Amps
LMC011/0	1/0AWG	1	0.65	0.90	230	260
LMC012/0	2/0AWG	1	0.69	0.96	265	300
LMC013/0	3/0AWG	1	0.74	1.08	310	350
LMC014/0	4/0AWG	1	0.80	1.20	360	405
LMC01250	250MCM	1	0.87	1.27	405	455
LMC01300	300MCM	1	0.93	1.27	445	500
LMC01350	350MCM	1	0.98	1.35	505	570
LMC01400	400MCM	1	1.03	1.40	545	615
LMC01500	500MCM	1	1.11	1.57	620	700
LMC01600	600MCM	1	1.22	1.77	690	780
LMC01750	750MCM	1	1.32	1.77	785	885

* Ampacities are based on Table 310.17 of the National Electric Code (NEC) NFPA 70-2023 for single insulated conductors in free air at 30°C

The above dimensions are approximate and subject to normal manufacturing tolerances. Information subject to change

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Lifeline® MC LSZH: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire

APPLICATIONS

Lifeline® MC LSZH fire resistive cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per UL 2196, *Standard for Tests for Fire Resistive Cables* and are classified in Electrical Circuit Integrity Systems (FHIT) No. 50, and No. 50A.

Lifeline® MC Cables can be used in the following applications to provide survivability during a fire:

- Emergency Feeder Cables
- Ventilating Fans
- Exit Lighting
- Emergency lighting and ventilation for roadway and transit tunnels

Lifeline® MC LSZH Cables are preferred over Mineral Insulated (MI) cables, concrete encasement or the construction of fire rated assemblies based on the facts that Lifeline® MC LSZH Cables are less costly and easier to install for many life safety fire resistive applications in roadway and tunnel environments with a LSZH jacket to protect against corrosion.

Fire resistive cables are required per NFPA 70, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72, NFPA 101, NFPA 130 and NFPA 502.

CLASSIFIED UL

UL LISTED

RoHS COMPLIANT

SPECIFICATIONS & RATINGS

- Listed to UL 1569, *Metal Clad Cables*, as the following type:
  - Type MC 600 Volt, Rated 90°C
- For Wet Locations
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke
- Sunlight resistance
- Direct Burial
- Classified to UL 2196, *Standard for Tests for Fire Resistive Cables*, with one-hour and two-hour Fire Resistive Rating (FRR)
- Electrical Circuit Integrity System (FHIT) No. 50 of the UL Fire Resistance Directory with 2-hour FRR at 480 volts utilization covers cable constructions in table below and optional taped splice for conductor sizes 2AWG and larger.
- Electrical Circuit Integrity System (FHIT) No. 50A of the UL Fire Resistance Directory with 1-hour FRR at 480 volts utilization, covers multi-conductor cable constructions in the table below and optional ceramic stand-off splice for conductor sizes 14AWG to 350MCM.
- NFPA 70, NFPA 72, NFPA 101, NFPA 130, NFPA 502 compliant
- Corrugated Copper Armor meets Equipment Grounding Conductor requirements of NEC Table 250.122

DESIGN PARAMETERS

CONDUCTORS: Bare stranded copper, 14 AWG through 600 kcmil

INSULATION: Ceramifiable Silicone Zero Halogen (LSZH)

INNER BINDER JACKET: Ceramifiable Silicone Zero Halogen (LSZH)

ARMOR: Continuously Welded and Corrugated Copper

JACKET: Thermoplastic Flame Resistant LSZH Jacket

IDENTIFICATION:

ORIGIN USA PRYSMIAN GROUP MA P/N [#########] [X]/C [Y]AWG [Z]mm² LIFELINE® (UL) MC 600V 90C WET LOCS FOR CT USE IEEE 1202/FT4 ST1 SUN RES DIR BUR (UL) 2196 FRR 2HR FHIT 50[1] or FRR 1HR FHIT 50A[2] 480V UTILIZATION ([mm]/[yr]) (SEQUENTIAL FOOTAGE)

Notes: [#] is cable part number
[X] is the number of conductors
[Y] is cable size in AWG or kcmil
[Z] is cable size in mm²
[1] FRR 2HR FHIT#50 includes taped splice for cables with conductor sizes 2AWG to 600MCM
[2] FRR 1HR FHIT#50A applies ceramic stand-off splice for cables with 14AWG to 350MCM conductors

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Lifeline® MC LSZH: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire

LIFELINE® Part Number	Conductor Size AWG /MCM	Number of Conductors	Nominal Core Diameter (in)	Nominal Armor Diameter (in)	Nominal Jacket Diameter (in)	Ampacity* 75°C Amps	Ampacity* 90°C Amps
LMCJ03014	14AWG	3	0.55	0.85	0.95	20**	25**
LMCJ05014	14AWG	5	0.66	0.96	1.06	20**	25**
LMCJ02012	12AWG	2	0.56	0.85	0.95	25**	30**
LMCJ03012	12AWG	3	0.59	0.90	1.00	25**	30**
LMCJ04012	12AWG	4	0.64	0.96	1.06	25**	30**
LMCJ05012	12AWG	5	0.70	0.96	1.06	25**	30**
LMCJ02010	10AWG	2	0.61	0.85	0.95	35**	40**
LMCJ03010	10AWG	3	0.64	0.96	1.06	35**	40**
LMCJ04010	10AWG	4	0.70	0.96	1.06	35**	40**
LMCJ05010	10AWG	5	0.77	1.08	1.18	35**	40**
LMCJ07010	10AWG	7	0.85	1.27	1.37	35**	40**
LMCJ02008	8AWG	2	0.70	0.96	1.06	50	55
LMCJ03008	8AWG	3	0.75	1.08	1.18	50	55
LMCJ04008	8AWG	4	0.82	1.20	1.30	50	55
LMCJ05008	8AWG	5	0.90	1.27	1.37	50	55
LMCJ02006	6AWG	2	0.78	1.08	1.18	65	75
LMCJ03006	6AWG	3	0.83	1.20	1.30	65	75
LMCJ04006	6AWG	4	0.91	1.27	1.37	65	75
LMCJ05006	6AWG	5	1.00	1.35	1.45	65	75
LMCJ03004	4AWG	3	0.95	1.35	1.45	85	95
LMCJ04004	4AWG	4	1.04	1.35	1.45	85	95
LMCJ05004	4AWG	5	1.15	1.57	1.69	85	95
LMCJ03003	3AWG	3	1.00	1.35	1.45	100	115
LMCJ04003	3AWG	4	1.11	1.40	1.50	100	115
LMCJ03002	2AWG	3	1.07	1.40	1.50	115	130
LMCJ04002	2AWG	4	1.18	1.57	1.69	115	130
LMCJ03001	1AWG	3	1.24	1.77	1.89	130	145
LMCJ04001	1AWG	4	1.37	1.77	1.89	130	145
LMCJ031/0	1/0AWG	3	1.33	1.77	1.89	150	170
LMCJ041/0	1/0AWG	4	1.47	1.83	1.95	150	170
LMCJ032/0	2/0AWG	3	1.41	1.83	1.95	175	195
LMCJ042/0	2/0AWG	4	1.56	1.98	2.10	175	195
LMCJ033/0	3/0AWG	3	1.52	1.98	2.10	200	225
LMCJ043/0	3/0AWG	4	1.69	2.15	2.27	200	225
LMCJ034/0	4/0AWG	3	1.64	2.15	2.27	230	260
LMCJ044/0	4/0AWG	4	1.82	2.27	2.42	230	260
LMCJ03250	250MCM	3	1.81	2.27	2.42	255	290
LMCJ04250	250MCM	4	2.00	2.48	2.63	255	290
LMCJ03350	350MCM	3	2.04	2.48	2.63	310	350
LMCJ04350	350MCM	4	2.26	2.73	2.88	310	350
LMCJ03400	400MCM	3	2.13	2.73	2.88	335	380
LMCJ04400	400MCM	4	2.37	2.79	2.94	335	380
LMCJ03500	500MCM	3	2.31	2.79	2.94	380	430
LMCJ04500	500MCM	4	2.57	3.08	3.25	380	430
LMCJ03600	600MCM	3	2.54	3.08	3.25	420	475
LMCJ04600	600MCM	4	2.83	3.35	3.52	420	475

* Ampacities are based on Table 310.16 of the National Electrical Code (NEC) (NFPA 70-2023) for 3 current carrying conductors at 30°C ambient.

** Small overcurrent protection limitations per NEC Article 240.4(D): (4) 14AWG – 15amps, (6) 12AWG – 20amps, (8) 10AWG – 30amps.

*** Refer to Table 310.15(C)(1) of the National Electrical Code (NEC) (NFPA 70-2023) for more than three current-carrying conductors.

The above dimensions are approximate and subject to normal manufacturing tolerances. Information subject to change

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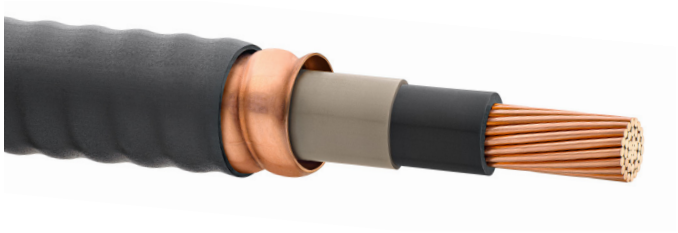
Lifeline® MC LSZH: One-Hour and Two-Hour Fire Resistive Single Conductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire



APPLICATIONS

Lifeline® MC LSZH fire-resistive single conductor cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per UL 2196, S*tandard for Tests for Fire-Resistive Cables* and are classified in Electrical Circuit Integrity Systems (FHIT) No. 50 and No. 50A.

Lifeline® MC LSZH Single Conductor Cables can be used in the following applications to provide survivability during a fire:

- Emergency Feeder Cables
- Ventilating Fans
- Exit Lighting
- Emergency lighting and ventilation for roadway and transit tunnels

Lifeline® MC LSZH Cables are preferred over Mineral Insulated (MI) cables, concrete encasement or the construction of fire rated assemblies based on the facts that Lifeline® MC LSZH Cables are less costly and easier to install for many life safety fire resistive applications in roadway and tunnel environments with a LSZH jacket to protect against corrosion.

Fire resistive cables are required per NFPA 70, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72, NFPA 101, NFPA 130 and NFPA 502.

CLASSIFIED UL

UL LISTED

RoHS COMPLIANT

SPECIFICATIONS & RATINGS

- Listed to UL 1569, *Metal Clad Cables*, as the following type:
  - Type MC 600 Volt, Rated 90°C
- For Wet Locations
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke
- Sunlight Resistance
- Direct Burial
- Classified to UL 2196, Standard for Tests for Fire-Resistive Cables, with one-hour and two-hour Fire Resistive Rating (FRR)
- Electrical Circuit Integrity System (FHIT) No. 50 of the UL Fire Resistance Directory with 2-hour FRR at 480 volts utilization covers cable constructions in table below and optional taped splice.
- Electrical Circuit Integrity System (FHIT) No. 50A of the UL Fire Resistance Directory with 1-hour FRR at 480 volts utilization, covers cable constructions in the table below and optional ceramic stand-off splice for conductor sizes up to 350MCM.
- NFPA 70, NFPA 72, NFPA 101, NFPA 130, NFPA 502 compliant
- Corrugated Copper Armor meets Equipment Grounding Conductor requirements of NEC Table 250.122

DESIGN PARAMETERS

CONDUCTORS: Bare stranded copper, 1/0 AWG through 750 kcmil

INSULATION: Ceramifiable Silicone Zero Halogen (LSZH)

INNER BINDER JACKET: Ceramifiable Silicone Zero Halogen (LSZH)

ARMOR: Continuously Welded and Corrugated Copper

JACKET: Thermoplastic Flame Resistant LSZH Jacket

IDENTIFICATION:
ORIGIN USA PRYSMIAN GROUP MA P/N [#########] [X]AWG [Y] mm² LIFELINE® (UL) MC 600V 90C WET LOCS FOR CT USE IEEE 1202/FT4 ST1 SUN RES DIR BUR (UL) 2196 FRR 2HR FHIT 50[1] 480V UTILIZATION FRR 1HR or FHIT 50A[2] 480V UTILIZATION (MONTH/YEAR) ([mm]/[yr]) (SEQUENTIAL FOOTAGE)

Notes: [#] is cable part number
[X] is cable size in AWG or kcmil
[Y] is cable size in mm²
[1] FRR 2HR FHIT#50 includes taped splice for cables with conductor sizes 1/0AWG to 750MCM
[2] FRR 1HR FHIT#50A applies ceramic stand-off splice for cables with 1/0AWG to 350MCM conductors

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TIS 400-Jun 2024

Lifeline® MC LSZH: One-Hour and Two-Hour Fire Resistive Single Conductor Cables – UL 2196

Fire Resistive Cable for Survivability in a Fire

LIFELINE® Part Number	Conductor Size AWG /MCM	Number of Conductors	Nominal Core Diameter (in)	Nominal Armor Diameter (in)	Nominal Jscket Diameter (in)	Ampacity* 75°C Amps	Ampacity* 90°C Amps
LMCJ011/0	1/0AWG	1	0.65	0.90	1.00	230	260
LMCJ012/0	2/0AWG	1	0.69	0.96	1.06	265	300
LMCJ013/0	3/0AWG	1	0.74	1.08	1.18	310	350
LMCJ014/0	4/0AWG	1	0.80	1.20	1.30	360	405
LMCJ01250	250MCM	1	0.87	1.27	1.37	405	455
LMCJ01300	300MCM	1	0.93	1.27	1.37	445	500
LMCJ01350	350MCM	1	0.98	1.35	1.45	505	570
LMCJ01400	400MCM	1	1.03	1.40	1.50	545	615
LMCJ01500	500MCM	1	1.11	1.57	1.69	620	700
LMCJ01600	600MCM	1	1.22	1.77	1.89	690	780
LMCJ01750	750MCM	1	1.32	1.77	1.89	785	885

* Ampacities are based on Table 310.17 of the National Electric Code (NEC) NFPA 70-2023 for single insulated conductors in free air at 30°C

The above dimensions are approximate and subject to normal manufacturing tolerances. Information subject to change

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