

Lifeline® MCRC90 LSZH: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – UL 2196/ULC-S139



Fire Resistive Cable for Survivability in a Fire



APPLICATIONS

Lifeline® MC/RC90 LSZH fire resistive cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per UL 2196 and are classified in FHIT No. 50, and No. 50A, and FHIT7 No. 51 and No. 51A.

Lifeline® MC/RC90 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/RC90 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/RC90 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/NEC, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72 and NFPA 101 in USA and in Canada in addition to National Building Code of Canada Articles 3.2.6 and 3.2.7.10.

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 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 (cUL) RC90 600V SILICONE -40C SUN RES FT4-ST1 (UL) 2196 FRR 2HR FHIT 50 or FRR 1HR FHIT 50A 480V UTILIZATION (ULC) S139 CIR 2HR FHIT7 51 or CIR 1HR FHIT7 51A 600V 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 & CIR 2HR FHIT#51 includes taped splice for cables with conductor sizes 2AWG to 600MCM

² FRR 1HR FHIT#50A & CIR 1HR FHIT#51A includes ceramic stand-off splice for cables with 14AWG to 350MCM conductors

LIFELINE MC SPECIFICATIONS & RATINGS FOR USA

- Listed to UL 1569, *Metal Clad Cables*, as 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 with one-hour and two-hour FRR.
- UL FHIT No. 50 with 2-hour FRR at 480 volts utilization covers cable constructions in table below and optional taped splice for conductor sizes 2AWG and larger.
- UL FHIT No. 50A 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.

LIFELINE RC90 SPECIFICATIONS & RATINGS FOR CANADA

- Listed to CSA C22.2 No. 123 *Metal Sheathed Cables* as Type RC90 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 ULC-S139 with one-hour and two-hour CIR
- ULC FHIT7 No. 51 with 2-hour CIR at 600 volts utilization covers cable constructions in table below and optional taped splice for conductor sizes 2AWG and larger.
- ULC FHIT7 No. 51A with 1-hour FRR at 600 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 Bonding Conductor requirements of CEC Rule 10-610.



RoHS
COMPLIANT



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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	Cable Nominal Weight lbs/kft (kg/km)
LMCJ03014	14AWG	3	0.55	0.85	0.95	20**	25**	541 (805)
LMCJ05014	14AWG	5	0.66	0.96	1.06	20**	25**	664 (989)
LMCJ02012	12AWG	2	0.56	0.85	0.95	25**	30**	563 (838)
LMCJ03012	12AWG	3	0.59	0.90	1.00	25**	30**	607 (904)
LMCJ04012	12AWG	4	0.64	0.96	1.06	25**	30**	677 (1,007)
LMCJ05012	12AWG	5	0.70	0.96	1.06	25**	30**	720 (1,072)
LMCJ02010	10AWG	2	0.61	0.85	0.95	35**	40**	605 (901)
LMCJ03010	10AWG	3	0.64	0.96	1.06	35**	40**	686 (1,021)
LMCJ04010	10AWG	4	0.70	0.96	1.06	35**	40**	743 (1,106)
LMCJ05010	10AWG	5	0.77	1.08	1.18	35**	40**	862 (1,282)
LMCJ07010	10AWG	7	0.85	1.27	1.37	35**	40**	1,050 (1,563)
LMCJ02008	8AWG	2	0.70	0.96	1.06	50	55	755 (1,123)
LMCJ03008	8AWG	3	0.75	1.08	1.18	50	55	840 (1,251)
LMCJ04008	8AWG	4	0.82	1.20	1.30	50	55	982 (1,462)
LMCJ05008	8AWG	5	0.90	1.27	1.37	50	55	1,105 (1,645)
LMCJ02006	6AWG	2	0.78	1.08	1.18	65	75	901 (1,340)
LMCJ03006	6AWG	3	0.83	1.20	1.30	65	75	1,013 (1,507)
LMCJ04006	6AWG	4	0.91	1.27	1.37	65	75	1,175 (1,749)
LMCJ05006	6AWG	5	1.00	1.35	1.45	65	75	1,352 (2,013)
LMCJ03004	4AWG	3	0.95	1.35	1.45	85	95	1,301 (1,936)
LMCJ04004	4AWG	4	1.04	1.35	1.45	85	95	1,478 (2,200)
LMCJ05004	4AWG	5	1.15	1.57	1.69	85	95	1,889 (2,811)
LMCJ03003	3AWG	3	1.00	1.35	1.45	100	115	1,445 (2,151)
LMCJ04003	3AWG	4	1.11	1.40	1.50	100	115	1,698 (2,527)
LMCJ03002	2AWG	3	1.07	1.40	1.50	115	130	1,598 (2,378)
LMCJ04002	2AWG	4	1.18	1.57	1.69	115	130	2,093 (3,114)
LMCJ03001	1AWG	3	1.24	1.77	1.89	130	145	2,248 (3,346)
LMCJ04001	1AWG	4	1.37	1.77	1.89	130	145	2,596 (3,863)
LMCJ031/0	1/0AWG	3	1.33	1.77	1.89	150	170	2,468 (3,673)
LMCJ041/0	1/0AWG	4	1.47	1.83	1.95	150	170	2,949 (4,388)
LMCJ032/0	2/0AWG	3	1.41	1.83	1.95	175	195	2,857 (4,252)
LMCJ042/0	2/0AWG	4	1.56	1.98	2.10	175	195	3,424 (5,096)
LMCJ033/0	3/0AWG	3	1.52	1.98	2.10	200	225	3,285 (4,889)
LMCJ043/0	3/0AWG	4	1.69	2.15	2.27	200	225	4,034 (6,003)
LMCJ034/0	4/0AWG	3	1.64	2.15	2.27	230	260	3,913 (5,824)
LMCJ044/0	4/0AWG	4	1.82	2.27	2.42	230	260	4,774 (7,104)
LMCJ03250	250MCM	3	1.81	2.27	2.42	255	290	4,490 (6,681)
LMCJ04250	250MCM	4	2.00	2.48	2.63	255	290	5,676 (8,447)
LMCJ03350	350MCM	3	2.04	2.48	2.63	310	350	5,764 (8,578)
LMCJ04350	350MCM	4	2.26	2.73	2.88	310	350	7,169 (10,668)
LMCJ03400	400MCM	3	2.13	2.73	2.88	335	380	6,538 (9,730)
LMCJ04400	400MCM	4	2.37	2.79	2.94	335	380	8,071 (12,012)
LMCJ03500	500MCM	3	2.31	2.79	2.94	380	430	7,647 (11,380)
LMCJ04500	500MCM	4	2.57	3.08	3.25	380	430	9,694 (14,427)
LMCJ03600	600MCM	3	2.54	3.08	3.25	420	475	9,091 (13,529)
LMCJ04600	600MCM	4	2.83	3.35	3.52	420	475	11,463 (17,058)

* Ampacities are based on Table 310.16 of the National Electrical Code (NEC) (NFPA 70-2023) & Table 2 of the Canadian Electrical Code (CEC) 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. & CEC Rule 14-104: (Subrule 2a) 14AWG – 15amps, (Subrule 2b) 12AWG – 20amps, (Subrule 2c) 10AWG – 30amps

*** Refer to Table 310.15(C)(1) of the National Electrical Code (NEC) (NFPA 70-2023) or Table 5C of the Canadian Electrical Code (CEC) for more than three current-carrying conductors.

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