

Lifeline® MC/RC90: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – UL 2196/ULC-S319



Fire Resistive Cable for Survivability in a Fire



APPLICATIONS

Lifeline® MC/RC90 fire resistive cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per UL 2196 and ULC-S319, and are classified in Electrical Circuit Integrity Systems FHIT No. 50 and No. 50A for USA and FHIT7 No. 51 and No. 51A for Canada.

Lifeline® MC/RC90 Cables can be used in the following applications to provide survivability during a fire:

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

Lifeline® MC/RC90 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 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. 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

IDENTIFICATION:

ORIGIN USA PRYSMIAN MA P/N [#####] [X]/C [Y]AWG [Z]mm²
LIFELINE® UL MC-ST1 600V 90C FOR CT USE IEEE 1202/FT4 (cUL)
RC90 600V SILICONE -40C (UL) 2196 FRR 2HR FHIT 50 or FRR 1HR
FHIT 50A 480V UTILIZATION (ULC) S319 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 FHIT7 No. 51 includes taped splice for cables with conductor sizes 2AWG to 600MCM

² FRR 1HR FHIT#50A & CIR 2HR FHIT7 No. 51A applies ceramic stand-off splice for cables with 14AWG to 350MCM conductors

LIFELINE® MC SPECIFICATIONS & RATINGS IN USA

- Listed to UL 1569, *Metal Clad Cables*, as Type MC 600 Volt, Rated 90°C.
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke.
- 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 compliant.
- Corrugated Copper Armor meets Equipment Grounding Conductor requirements of NEC Table 250.122.

LIFELINE® RC90 SPECIFICATIONS & RATINGS IN CANADA

- Listed to CSA C22.2 No. 123 *Metal Sheathed Cables* as Type RC90 600 Volt, Rated 90°C.
- For Wet Locations per CEC Rule 12-702.
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke.
- Classified to ULC-S319 with one-hour and two-hour CIR.
- ULC FHIT7 No. 51 for 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 for 1-hour CIR at 600 volts utilization, covers multiconductor 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 Bonding Conductor requirements of CEC Rule 10-610.



RoHS
COMPLIANT



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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	Cable Nominal Weight lbs/kft (kg/km)
LMC03014	14AWG	3	0.55	0.85	20**	25**	444 (660)
LMC05014	14AWG	5	0.66	0.96	20**	25**	561 (835)
LMC02012	12AWG	2	0.56	0.85	25**	30**	468 (696)
LMC03012	12AWG	3	0.59	0.90	25**	30**	505 (752)
LMC04012	12AWG	4	0.64	0.96	25**	30**	569 (847)
LMC05012	12AWG	5	0.70	0.96	25**	30**	606 (902)
LMC02010	10AWG	2	0.61	0.85	35**	40**	510 (758)
LMC03010	10AWG	3	0.64	0.96	35**	40**	579 (862)
LMC04010	10AWG	4	0.70	0.96	35**	40**	636 (946)
LMC05010	10AWG	5	0.77	1.08	35**	40**	743 (1,105)
LMC07010	10AWG	7	0.85	1.27	35**	40**	915 (1,362)
LMC02008	8AWG	2	0.70	0.96	50	55	648 (964)
LMC03008	8AWG	3	0.75	1.08	50	55	722 (1,074)
LMC04008	8AWG	4	0.82	1.20	50	55	852 (1,268)
LMC05008	8AWG	5	0.90	1.27	50	55	980 (1,458)
LMC02006	6AWG	2	0.78	1.08	65	75	747 (1,112)
LMC03006	6AWG	3	0.83	1.20	65	75	882 (1,313)
LMC04006	6AWG	4	0.91	1.27	65	75	1,036 (1,542)
LMC05006	6AWG	5	1.00	1.35	65	75	1,189 (1,770)
LMC03004	4AWG	3	0.95	1.35	85	95	1,147 (1,706)
LMC04004	4AWG	4	1.04	1.35	85	95	1,324 (1,970)
LMC05004	4AWG	5	1.15	1.57	85	95	1,717 (2,555)
LMC03003	3AWG	3	1.00	1.35	100	115	1,297 (1,930)
LMC04003	3AWG	4	1.11	1.40	100	115	1,544 (2,298)
LMC03002	2AWG	3	1.07	1.40	115	130	1,444 (2,149)
LMC04002	2AWG	4	1.18	1.57	115	130	1,887 (2,808)
LMC03001	1AWG	3	1.24	1.77	130	145	2,007 (2,987)
LMC04001	1AWG	4	1.37	1.77	130	145	2,355 (3,505)
LMC031/0	1/0AWG	3	1.33	1.77	150	170	2,235 (3,326)
LMC041/0	1/0AWG	4	1.47	1.83	150	170	2,700 (4,018)
LMC032/0	2/0AWG	3	1.41	1.83	175	195	2,616 (3,893)
LMC042/0	2/0AWG	4	1.56	1.98	175	195	3,176 (4,726)
LMC033/0	3/0AWG	3	1.52	1.98	200	225	3,029 (4,508)
LMC043/0	3/0AWG	4	1.69	2.15	200	225	3,762 (5,599)
LMC034/0	4/0AWG	3	1.64	2.15	230	260	3,624 (5,394)
LMC044/0	4/0AWG	4	1.82	2.27	230	260	4,479 (6,666)
LMC03250	250MCM	3	1.81	2.27	255	290	4,195 (6,242)
LMC04250	250MCM	4	2.00	2.48	255	290	5,271 (7,844)
LMC03350	350MCM	3	2.04	2.48	310	350	5,359 (7,976)
LMC04350	350MCM	4	2.26	2.73	310	350	6,733 (10,019)
LMC03400	400MCM	3	2.13	2.73	335	380	6,091 (9,064)
LMC04400	400MCM	4	2.37	2.79	335	380	7,606 (11,320)
LMC03500	500MCM	3	2.31	2.79	380	430	7,182 (10,688)
LMC04500	500MCM	4	2.57	3.08	380	430	9,119 (13,571)
LMC03600	600MCM	3	2.54	3.08	420	475	8,516 (12,673)
LMC04600	600MCM	4	2.83	3.35	420	475	10,833 (16,122)

* 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