Lifeline® RC90: One-Hour and Two-Hour Fire Resistive Multiconductor Cables – ULC-S139

Fire Resistive Cable for Survivability in a Fire

APPLICATIONS

Lifeline® RC90 fire resistive cables were designed to meet and have successfully passed one-hour and two-hour fire rating certification tests per ULC-S139, *Standard for Fire Test for Circuit Integrity of Fire-Resistive Cables* and are classified in Electrical Circuit Integrity Systems Certified for Canada (FHIT7) No. 51 and No. 51A

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Lifeline® 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® RC90 Cables are preferred over Mineral Insulated (MI) cables, concrete encasement or the construction of fire rated assemblies based on the facts that Lifeline® RC90 Cables are less costly and easier to install for many applications.

Fire resistive cables are required per National Building Code of Canada Articles 3.2.6 and 3.2.7.10, NFPA 70/NEC, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72 and NFPA 101.

SPECIFICATIONS & RATINGS

- Listed to CSA C22.2 No.123 *Metal Sheathed Cables*, as the following type:
  - 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-S139, *Standard for Fire Test for Circuit Integrity of Fire- Resistive Cables*, with one-hour and two-hour Circuit Integrity Rating (CIR)
- Electrical Circuit Integrity System (FHIT7) No. 51 of the UL Fire Resistance Directory with 2-hour CIR at 600 volts utilization covers cable constructions in table below and optional taped splice for conductor sizes 2AWG and larger.
- Electrical Circuit Integrity System (FHIT7) No. 51A of the UL Fire Resistance Directory 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 compliant
- Corrugated Copper Armor meets Equipment Bonding Conductor requirements of CEC Rule 10-610

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® (cUL) RC90 600V SILICONE -40C (ULC) S139 CIR 2HR FHIT7 51[1] 600V UTILIZATION or CIR 1HR FHIT7 51A[2] 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] CIR 2HR FHIT7#51 includes taped splice for cables with conductor sizes 2AWG to 600MCM
[2] CIR 1HR FHIT7#51A applies ceramic stand-off splice for cables with 14AWG to 350MCM conductors

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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
LMC03014C	14AWG	3	0.55	0.85	20**	25**
LMC05014C	14AWG	5	0.66	0.96	20**	25**
LMC02012C	12AWG	2	0.56	0.85	25**	30**
LMC03012C	12AWG	3	0.59	0.90	25**	30**
LMC04012C	12AWG	4	0.64	0.96	25**	30**
LMC05012C	12AWG	5	0.70	0.96	25**	30**
LMC02010C	10AWG	2	0.61	0.85	35**	40**
LMC03010C	10AWG	3	0.64	0.96	35**	40**
LMC04010C	10AWG	4	0.70	0.96	35**	40**
LMC05010C	10AWG	5	0.77	1.08	35**	40**
LMC07010C	10AWG	7	0.85	1.27	35**	40**
LMC02008C	8AWG	2	0.70	0.96	50	55
LMC03008C	8AWG	3	0.75	1.08	50	55
LMC04008C	8AWG	4	0.82	1.20	50	55
LMC05008C	8AWG	5	0.90	1.27	50	55
LMC02006C	6AWG	2	0.78	1.08	65	75
LMC03006C	6AWG	3	0.83	1.20	65	75
LMC04006C	6AWG	4	0.91	1.27	65	75
LMC05006C	6AWG	5	1.00	1.35	65	75
LMC03004C	4AWG	3	0.95	1.35	85	95
LMC04004C	4AWG	4	1.04	1.35	85	95
LMC05004C	4AWG	5	1.15	1.57	85	95
LMC03003C	3AWG	3	1.00	1.35	100	115
LMC04003C	3AWG	4	1.11	1.40	100	115
LMC03002C	2AWG	3	1.07	1.40	115	130
LMC04002C	2AWG	4	1.18	1.57	115	130
LMC03001C	1AWG	3	1.24	1.77	130	145
LMC04001C	1AWG	4	1.37	1.77	130	145
LMC031/0C	1/0AWG	3	1.33	1.77	150	170
LMC041/0C	1/0AWG	4	1.47	1.83	150	170
LMC032/0C	2/0AWG	3	1.41	1.83	175	195
LMC042/0C	2/0AWG	4	1.56	1.98	175	195
LMC033/0C	3/0AWG	3	1.52	1.98	200	225
LMC043/0C	3/0AWG	4	1.69	2.15	200	225
LMC034/0C	4/0AWG	3	1.64	2.15	230	260
LMC044/0C	4/0AWG	4	1.82	2.27	230	260
LMC03250C	250MCM	3	1.81	2.27	255	290
LMC04250C	250MCM	4	2.00	2.48	255	290
LMC03350C	350MCM	3	2.04	2.48	310	350
LMC04350C	350MCM	4	2.26	2.73	310	350
LMC03400C	400MCM	3	2.13	2.73	335	380
LMC04400C	400MCM	4	2.37	2.79	335	380
LMC03500C	500MCM	3	2.31	2.79	380	430
LMC04500C	500MCM	4	2.57	3.08	380	430
LMC03600C	600MCM	3	2.54	3.08	420	475
LMC04600C	600MCM	4	2.83	3.35	420	475

* Ampacities are based on Table 2 of the Canadian Electrical Code (CEC) for 3 current carrying conductors at 30°C ambient.
** Overcurrent protection limitations per CEC Rule 14-104: (Subrule 2a) 14AWG – 15amps, (Subrule 2b) 12AWG – 20amps, (Subrule 2c) 10AWG – 30amps.
*** Refer to Table 5C of the Canadian Electrical Code (CEC) for more than 3 current-carrying conductors.
The above dimensions are approximate and subject to normal manufacturing tolerances. Information subject to change

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