

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

Fire Resistive Cable for Survivability in a Fire



APPLICATIONS

Lifeline® RC90 LSZH 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.

Lifeline® RC90 LSZH 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® 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® 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 National Building Code of Canada Articles 3.2.6 and 3.2.7.10, NFPA 70, Articles 517, 695, 700, 708, 728 and 760 as well as NFPA 72, NFPA 101, NFPA 130 and NFPA 502.

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
- For Cable Tray Use IEEE 1202/ FT4 Rated, ST1 Limited Smoke
- Sunlight resistance
- Direct Burial
- 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, NFPA 130, NFPA 502 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

JACKET: Thermoplastic Flame Resistant LSZH Jacket

IDENTIFICATION:

ORIGIN USA PRYSMIAN MA P/N [#####] [X]/C [Y]AWG [Z]mm²
LIFELINE® (cUL) RC90 600V SILICONE -40C SUN RES FT4-ST1 (ULC)
S139 CIR 2HR FHIT7#51¹ 600V UTILIZATION or CIR 1HR FHIT7#51A² 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



RoHS
COMPLIANT

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



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
LMCJ03014C	14AWG	3	0.55	0.85	0.95	20**	25**
LMCJ05014C	14AWG	5	0.66	0.96	1.06	20**	25**
LMCJ02012C	12AWG	2	0.56	0.85	0.95	25**	30**
LMCJ03012C	12AWG	3	0.59	0.90	1.00	25**	30**
LMCJ04012C	12AWG	4	0.64	0.96	1.06	25**	30**
LMCJ05012C	12AWG	5	0.70	0.96	1.06	25**	30**
LMCJ02010C	10AWG	2	0.61	0.85	0.95	35**	40**
LMCJ03010C	10AWG	3	0.64	0.96	1.06	35**	40**
LMCJ04010C	10AWG	4	0.70	0.96	1.06	35**	40**
LMCJ05010C	10AWG	5	0.77	1.08	1.18	35**	40**
LMCJ07010C	10AWG	7	0.85	1.27	1.37	35**	40**
LMCJ02008C	8AWG	2	0.70	0.96	1.06	50	55
LMCJ03008C	8AWG	3	0.75	1.08	1.18	50	55
LMCJ04008C	8AWG	4	0.82	1.20	1.30	50	55
LMCJ05008C	8AWG	5	0.90	1.27	1.37	50	55
LMCJ02006C	6AWG	2	0.78	1.08	1.18	65	75
LMCJ03006C	6AWG	3	0.83	1.20	1.30	65	75
LMCJ04006C	6AWG	4	0.91	1.27	1.37	65	75
LMCJ05006C	6AWG	5	1.00	1.35	1.45	65	75
LMCJ03004C	4AWG	3	0.95	1.35	1.45	85	95
LMCJ04004C	4AWG	4	1.04	1.35	1.45	85	95
LMCJ05004C	4AWG	5	1.15	1.57	1.69	85	95
LMCJ03003C	3AWG	3	1.00	1.35	1.45	100	115
LMCJ04003C	3AWG	4	1.11	1.40	1.50	100	115
LMCJ03002C	2AWG	3	1.07	1.40	1.50	115	130
LMCJ04002C	2AWG	4	1.18	1.57	1.69	115	130
LMCJ03001C	1AWG	3	1.24	1.77	1.89	130	145
LMCJ04001C	1AWG	4	1.37	1.77	1.89	130	145
LMCJ031/0C	1/0AWG	3	1.33	1.77	1.89	150	170
LMCJ041/0C	1/0AWG	4	1.47	1.83	1.95	150	170
LMCJ032/0C	2/0AWG	3	1.41	1.83	1.95	175	195
LMCJ042/0C	2/0AWG	4	1.56	1.98	2.10	175	195
LMCJ033/0C	3/0AWG	3	1.52	1.98	2.10	200	225
LMCJ043/0C	3/0AWG	4	1.69	2.15	2.27	200	225
LMCJ034/0C	4/0AWG	3	1.64	2.15	2.27	230	260
LMCJ044/0C	4/0AWG	4	1.82	2.27	2.42	230	260
LMCJ03250C	250MCM	3	1.81	2.27	2.42	255	290
LMCJ04250C	250MCM	4	2.00	2.48	2.63	255	290
LMCJ03350C	350MCM	3	2.04	2.48	2.63	310	350
LMCJ04350C	350MCM	4	2.26	2.73	2.88	310	350
LMCJ03400C	400MCM	3	2.13	2.73	2.88	335	380
LMCJ04400C	400MCM	4	2.37	2.79	2.94	335	380
LMCJ03500C	500MCM	3	2.31	2.79	2.94	380	430
LMCJ04500C	500MCM	4	2.57	3.08	3.25	380	430
LMCJ03600C	600MCM	3	2.54	3.08	3.25	420	475
LMCJ04600C	600MCM	4	2.83	3.35	3.52	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