



Lifeline® Fire Protection Cable Systems



Lifeline® - Superior Innovation in Fire Protection Cable Systems

Leadership in two-hour cables

Introduced by Draka Engineered Specialties, Lifeline two hour fire rated cables are designed for use in critical circuits that necessitate electrical operation in conditions of direct exposure to fire and water. Under these conditions, Lifeline cables will provide the absolute cable operation required for emergency power to fire pumps and power panels for lighting and other powered functions that may support safe and rapid building egress. Lifeline cables are also designed for critical circuit applications in fire alarm systems including detection, notification, signaling line circuits and communications. Lifeline cable use improves first responder effectiveness by allowing for active surveillance and data retrieval, firefighter communications and firefighter elevators.

A critical difference in protecting critical circuits

Lifeline products utilize a unique Ceramified Silicone technology to safeguard fire alarm systems and emergency circuits. Unlike other protective cable systems, Lifeline is a flexible, non-armored cable that installs like standard cables.

Performance with cost-effectiveness

Lifeline cables are designed to provide a cost-effective means for achieving two-hour fire protection. Product is available from stock in long lengths or can be supplied as customer required lengths. Easy to install, there are no special tools, connectors or techniques required. The result is unquestioned fire rating with lower installed costs as compared to alternative methods.

Markets

- Building - High-rise, educational & healthcare facilities
- Industrial - Manufacturing, mining, pulp & paper
- Transit - Tunnels, railways, airports
- Defense - Government, security, military

Applications

Emergency power & fire alarm systems including:

- Fire pumps
- Exhaust & pressurization fans
- Lighting & signage
- Emergency generators
- Communications
- Sound & security
- Control panels



Ceramified Silicone Technology: The Key to Lifeline's Performance

Ceramified Silicone Technology

Most of the electrical systems that we use in our daily lives are powered by standard electrical cables. Even the systems that we depend upon in the times of danger and emergency are powered by standard power, interconnect or control cables.

Unfortunately, these cables do not have a tolerance for high temperature or fire, both of which may occur during emergency conditions. In such conditions, thermoplastic cables melt and thermoset cables form a conductive ash causing both types to quickly short electrically.

The Lifeline family of cables are produced with electrical grade ceramified silicone rubber which is proven to protect the critical circuits for your emergency systems against attack by fire and water.

Ceramified Silicone Technology is the hardening of a standard silicone rubber insulating material into an insulating glass-like structure which protects the conductors against attack by fire and the water which may be present during fire fighting efforts.

To insure the total quality and reliability of Lifeline cables most critical component, all silicone rubber is compounded in-house at Draka Engineered Specialties utilizing proprietary formulations. All Lifeline cables utilize ceramified silicone technology to achieve their fire rating. Use of silicone ensures that each Lifeline cable is flexible and has equivalent or improved electrical performance over its non-fire rated counterpart.

Proven performance

All Lifeline cables are two-hour fire rated per UL 2196 - "Standard for Tests of Fire Resistive Cables" and are UL listed for the appropriate service.



Lifeline cable undergoing
UL 2196 testing

Lifeline® Qualifications

Qualifications

UL 2196 - "Standard for Tests for Fire Resistive Cables"

The best way to separate cables that maintain circuit integrity from cables that do not is qualification to UL 2196. This standard fire rates cables in accordance with their ability to operate for given periods of time (one-hour fire rated, two-hour fire rated, etc.) under fire conditions. The four distinctive reasons this standard exceeds other all qualification methods and is the standard of choice for the USA are as follows:



1. Large Scale Test (10 ft. x 10 ft. test wall)

This furnace test was developed for the fire rating of doors, windows, walls, etc.

2. Standard Time Temperature Curve

Accepted as representing an intense, fully developed fire within a building - see graph below

3. Water Application Following Two-hour Fire Exposure

2 1/2" hose stream test for feeder or branch circuit cables normally installed in conduit or metal sheaths

Fog nozzle test (75 gal/min) for Lifeline® CI cables installed per NEC Article 760

4. Electrically Energized and Monitored

Insulation resistance measurements before and after test

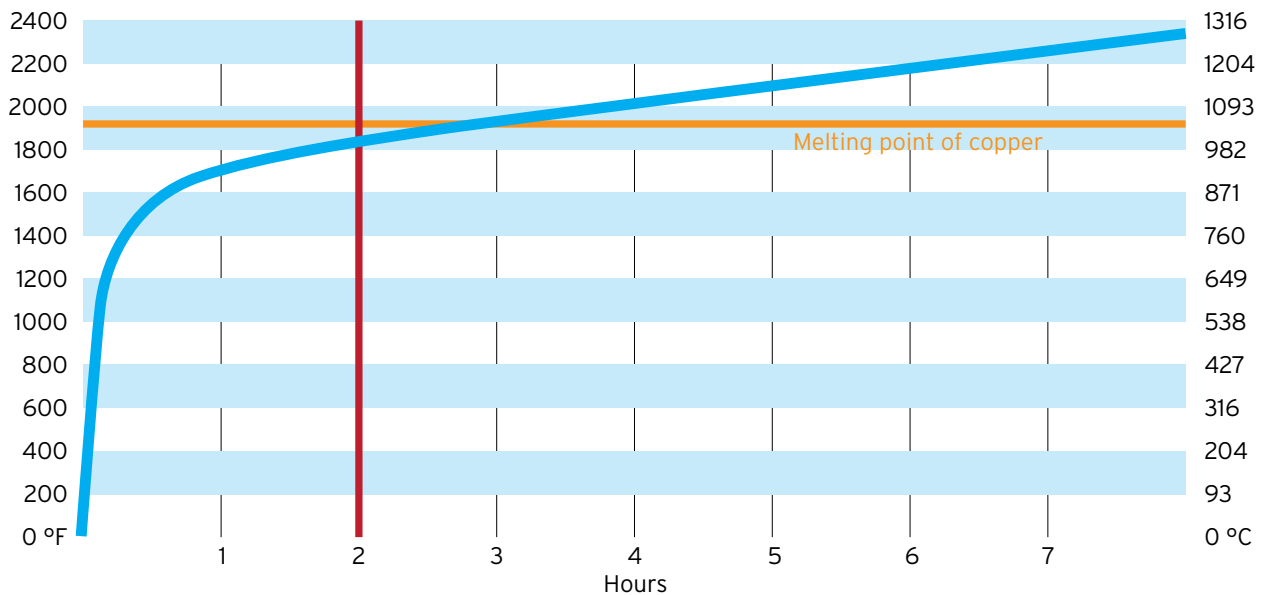
Utilization voltage applied during test and after water

Current leakage measured during test and after voltage

Low amperage fuse for failure measurement

Dual light bulbs for monitoring and load

Standard Time / Temperature Curve



Lifeline® Code Compliance: Qualified to the Strictest Standards

NFPA 70 / National Electric Code

Article 695 Fire Pumps

"Be a listed electrical circuit protective system with a minimum two-hour fire rating."

Article 700 Emergency Systems

"Be a listed electrical circuit protective system with a minimum two-hour fire rating."

"Be a cable listed to maintain circuit integrity for not less than two hours when installed in accordance with the listing requirements."

Article 708 Critical Operations Power Systems (COPS)

"Feeders shall meet one of the following conditions: (1) Be a listed electrical circuit protective system with a minimum two-hour fire rating."

"Riser communication cables shall be two-hour fire resistive cable or a classified two-hour electrical circuit protective system."

"Control, monitoring and power wiring to HVAC systems shall be two-hour fire resistive cable or a classified 2-hour electrical circuit protective system."

Article 760 Fire Alarm Systems

"Fire Alarm Circuit Integrity (CI) Cable. Cable used in fire alarm systems to ensure continued operation of critical circuits during a specified time under fire conditions."

NFPA 72 / National Fire Alarm and Signaling Code

Chapter 12.4 Pathway Survivability

Chapter 12.4.3 Pathway Survivability Level 2, two-hour fire rated cable, cable system, enclosure or protected area.

Chapter 12.4.4 - Pathway Survivability Level 3, Fully sprinklered building plus two hour fire rated cable, cable system, enclosure or protected area.

Chapter 24 - Emergency Communication systems

Chapter 24.3.5 - Pathway Survivability

Chapter 24.3.5.4.1 - Systems requiring relocation or partial evacuation, Level 2 or Level 3.

Chapter 24.3.5.7 - Two-way in-building wired emergency communications systems, Level 2 or Level 3.

Chapter 24.3.5.9.1 - Area of refuge emergency communication, Level 2 or Level 3.

NFPA 130 / Standard for Fixed Guideway Transit and Passenger Rail Systems

Chapter 5 Stations:

Emergency Lighting and Communications

Chapter 7 Emergency Ventilation System:

Ventilating System Wiring

Chapter 8 Vehicles: Communications & Fire Alarm Cables

NFPA 502 / Standard for Road Tunnels, Bridges, and Other Limited Access Highways

Chapter 12: Electrical Systems

12.1.2 Emergency circuits:

(1) A fire-resistive cable listed for 2 hours in accordance with ANSI/UL 2196 . . .

(2) Circuits embedded in concrete or protected by a 2-hour fire barrier system in accordance with UL 1724.

NFPA 101 / Life Safety Code

"Elevator equipment, elevator communications, two-way communication systems shall be located and properly protected to ensure a minimum one-hour of operation in the event of a fire."

"Annex B: Elevators for Occupant-Controlled Evacuation prior to phase 1 emergency recall operations."

International Building Code

"Mechanical smoke exhaust - Wiring for operation and control of smoke exhaust fans shall be connected ahead of the main disconnect and protect against exposure to temperatures in excess of 1000° F (538°C) for a period of not less than 15 minutes."



Installed Reliability: Superior Performance with Standard Installation

Installed Reliability

The Lifeline® family of fire rated cables are easy to install, do not require any special tools or techniques and do not have any length restrictions. They feature:

Unquestioned fire rating - Lifeline cables cover all applicable codes and are UL listed/CSA certified.

Ease of installation - Lifeline cables install just like standard cables - no special techniques to learn or tools to buy.

Lower installed cost - Ceramified silicone technology eliminates the need for concrete encasement or construction of unnecessary fire barriers.

Unequaled Benefits

Unquestioned two-hour fire rating

Ease of installation

Lower installed cost

Standard code installation procedures

Available in long lengths

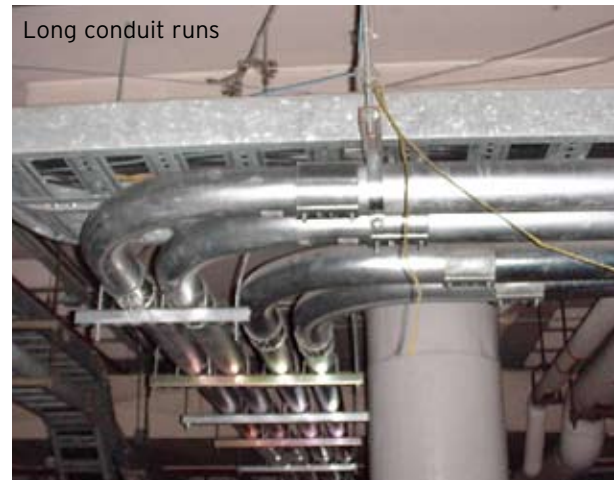
No special tools, connectors or procedures

Code compliant

Low smoke/zero halogen (LSZH) construction

RoHS compliant

Stocked nationally/locally



Draka Engineered Specialties - It's All in our Name.

All Lifeline cables offer:

- ✓ Unquestioned two-hour fire rating
- ✓ Ease of installation
- ✓ Lower installed cost
- ✓ Standard code installation procedures
- ✓ Available in long lengths
- ✓ No special tools, connectors or procedures
- ✓ Code compliant
- ✓ Low smoke/zero halogen (LSZH) construction
- ✓ RoHS compliant
- ✓ Stocked nationally/locally

Draka is committed to leading the way in the development, qualification and application of fire protection cable systems. Lifeline cables are the highest performing fire protection cables available today, because of Draka's:

Engineering experience - Our product and materials development ingenuity allows us to provide innovative solutions.

Technical expertise - Extensive code knowledge permits us to assist in specification, design and field support.

Highest quality - We have an ISO 9001 & 14001 registered manufacturing facility, a state of the art Certified Test Laboratory with certifications from UL, CSA and ITS / ETL / Semko, and an ERP system for complete product traceability.

Customer service - Lifeline cables are inventoried nationally, with special services (striping, parallels, same day delivery) and customizable solutions (matched lengths, colored jackets, etc.) available upon request.



Draka Engineered Specialties

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