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NEW EDITION

Third Edition of CAN/ULC-S139:2017

STANDARD FOR FIRE TEST FOR CIRCUIT INTEGRITY OF FIRE-RESISTIVE POWER, INSTRUMENTATION, CONTROL, AND DATA CABLES

ULC Standards is pleased to announce the publication of the Third Edition of CAN/ULC-S139, Standard for Fire Test for Circuit Integrity of Fire-Resistive Power, Instrumentation, Control, and Data Cables. This Standard has been approved by the ULC Standards Committee on Fire Tests and has been published under the date of August 2017.

This is a ULC/UL Binational Standard and the requirements contained in CAN/ULC-S139 are identical to the Second Edition of ANSI/UL-2196 used in the United States. There are some requirements that are unique to one country or the other and these have been identified as country-specific.

This Standard is to evaluate the integrity of power, control, instrumentation, and data cables for their ability to maintain circuit integrity when subjected to standard fire test exposure and associated hose stream test.

The power, control, instrumentation, and data cables covered by this Standard are intended to comply with the following requirements:

In Canada: Canadian Electrical Code and the National Building Code of Canada;

In the United States: National Electrical Code, and/or the National Fire Alarm and Signaling Code, and/or the Standard for Fixed Guideway Transit and Passenger Rail Systems, and/or the Standard for Road Tunnels, Bridges, and Other Limited Access Highways.

Power, control, and instrumentation cables are subjected to the fire exposure in accordance with CAN/ULC-S101, Standard Methods of Fire Endurance Tests of Building Construction and Materials, and ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials. During the fire test, cables are continuously energized at their maximum rated voltage or maximum utilization voltage (power cables); or at their maximum utilization voltage (control and instrumentation cables) and evaluated for circuit integrity. Insulation resistance measurements are also taken to quantify leakage current. Following the fire test, the assembly shall be subjected to a hose stream test.

Data cables are subjected to the fire exposure in accordance with CAN/ULC-S101, Standard Methods of Fire Endurance Tests of Building Construction and Materials, and ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials. During the fire tests, the data cables are evaluated for their ability to maintain error free data transfer and retrieval at the specified protocol and data rates. Following the fire test, the assembly shall be subjected to a hose stream test.

The fire exposure and hose stream tests are not intended to be representative of all fire conditions and impact conditions, respectively. It is likely that conditions will vary with changes in the amount, nature, distribution of fire loading, ventilation, compartment size and configuration, and heat conducting and dissipating characteristics of the compartment in which the cables are installed. These requirements provide a relative measure of fire performance of comparable assemblies under these specified fire exposure conditions. It is possible that any variation from the construction or operating condition tested, such as size, method of assembly and materials, will substantially change the performance characteristics of the cables.

The standardized fire and hose stream exposures for comparing the performance of cables represents one factor in determining the acceptability of cables for use in specific applications.

The construction and operation of the furnace and the general test conditions are intended to be in accordance with the requirements in CAN/ULC S101, Standard Methods of Fire Endurance Tests of Building Construction and Materials, and ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials.

If you require any additional information, please contact Mary Huras at (613) 755-2729 ext. 61425 or by email at Mary.Huras@ul.com.

This Standard can be ordered for \$250.00 CAD (Hardcopy) or \$200.00 CAD (PDF) from the ULC Standards website at <http://canada.ul.com/ulcstandards/>. Click on *Sales of ULC Standards Materials* for further details.

Yours truly,

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Brian Murphy
Standards Operations Manager
Brian.P.Murphy@ul.com



Mary Huras
Project Manager
Mary.Huras@ul.com