Δ **(F) Circuit Integrity (CI) Cable, Fire-Resistive Cable System, or Electrical Circuit Protective System.** Cables that are used for survivability of critical circuits under fire conditions shall be listed and meet the requirements of 760.176(F)(1), (F)(2), or (F)(3).

Informational Note: See *NFPA 72, National Fire Alarm and Signaling Code*, 12.4.3 and 12.4.4, for additional information on circuit integrity (CI) cable, fire-resistive cable systems, or electrical circuit protective systems used for fire alarm circuits to comply with the survivability requirements to maintain the circuit's electrical function during fire conditions for a defined period of time.

Type CI cable is designed to retain vital electrical performance during and immediately after fire exposure.

Δ **(1) Circuit Integrity (CI) Cables.** Circuit integrity (CI) cables specified in 760.176(C), (D), and (E) and used for survivability of critical circuits shall be marked for an additional classification using the suffix "-CI." In order to maintain its listed fire-resistive rating, CI cables shall only be installed in free air in accordance with 760.24(B). CI cables shall only be permitted to be installed in a raceway where specifically listed and marked as part of an electrical circuit protective fire-resistive cable system as covered in 760.176(F)(2). CI cables shall only be permitted to be installed in a raceway where specifically listed and marked as part of an electrical circuit protective system as covered in 760.176(F)(2).

Informational Note: See UL 2196, *Fire Test for Circuit Integrity of Fire-Resistive Power, Instrumentation, Control and Data Cables*, and UL 1425, *Cables for Non-Power-Limited Fire-Alarm Circuits*, for information on establishing a rating for CI cable. The *UL Guide Information for Nonpower-limited Fire Alarm Circuits* (HNHT) contains information for identifying the cable and its installation limitations to maintain the fire-resistive rating.

Δ **(2) Fire-Resistive Cable Systems.** Cables specified in 760.176(C), (D), (E), and (F)(1) that are part of a fire-resistive cable system shall be identified with the system identifier and hourly rating marked on the protectant or the smallest unit container and installed in accordance with the listing of the system.

Informational Note: See UL 2196, *Fire Test for Circuit Integrity of Fire-Resistive Power, Instrumentation, Control and Data Cables*, for information on establishing a rating for a fire-resistive cable system. The *UL Guide Information for Electrical Circuit Integrity Systems* (FHIT) contains information for identifying the system and its installation limitations to maintain a minimum fire-resistive rating.

N **(3) Electrical Circuit Protective System.** Protectants for cables specified in 760.176(C), (D), and (E) that are part of an electrical circuit protective system shall be identified with the protective system identifier and hourly rating marked on the protectant or the smallest unit container and installed in accordance with the listing of the protective system.

Informational Note: See UL 1724, *Fire Tests for Electrical Circuit Protective Systems*, for information on establishing a rating for an electrical circuit protective system. The *UL Guide Information for Electrical Circuit Integrity Systems* (FHIT) contains information for identifying the system and its installation limitations to maintain the fire-resistive rating.

(G) NPLFA Cable Markings. Multiconductor non–power-limited fire alarm cables shall be marked in accordance with Table 760.176(G). Non–power-limited fire alarm circuit cables shall be permitted to be marked with a maximum usage voltage rating of 150 volts. Cables that are listed for circuit integrity shall be identified with the suffix "-CI" as defined in 760.176(F). The temperature rating shall be marked on the jacket of NPLFA cables that have a temperature rating exceeding 60°C (140°F). The jacket of NPLFA cables shall be marked with the conductor size.

Informational Note: Cable types are listed in descending order of fire performance.

Δ ***TABLE 760.176(G)*** *NPLFA Cable Markings*

Cable Marking	Type	Reference
NPLFP	Non–power-limited fire alarm circuit cable for use in other space used for environmental air	760.176(C) and (G)
NPLFR	Non–power-limited fire alarm circuit riser cable	760.176(D) and (G)
NPLF	Non–power-limited fire alarm circuit cable	760.176(E) and (G)

Notes:
1. Cables identified in 760.176(C), (D), and (E) and meeting the requirements for circuit integrity shall have the additional classification using the suffix "-CI" (for example, NPLFP-CI, NPLFR-CI, and NPLF-CI).
2. Cables containing optical fibers shall be provided with the suffix "-OF".

Δ **760.179 Listing and Marking of Insulated Continuous Line-Type Fire Detectors.** Insulated continuous line-type fire detectors shall be listed in accordance with 760.179(A) through (D). Cable used in a wet location shall be listed for use in wet locations or have a moisture-impervious metal sheath.

N **(A) Listing.** The cable shall be listed as being resistant to the spread of fire in accordance with 722.179(A)(1), (A)(2), and (A)(3).

N **(B) Voltage and Temperature Rating.** The cable shall have a voltage rating of not less than 300 volts. The cable shall have a temperature rating of not less than 60°C (140°F).

N **(C) Markings.** The cable shall be marked as fire resistance Type FPLP, Type FPLR, or Type FPL in accordance with 722.179(B). The voltage rating shall not be marked on the cable. The temperature rating shall be marked on the jacket of cables that have a temperature rating exceeding 60°C (140°F). The jacket of PLFA cables shall be marked with the conductor size.

Informational Note: Voltage ratings on cables might be misinterpreted to suggest that the cables could be suitable for Class 1, electric light, and power applications.