

Reasons for Proposed Amendments

1. The purpose of this proposal is to provide additional options for survivability protection of smoke control system circuits (fire alarm detection & control circuits) that are applied elsewhere in the code for critical circuits, and this is the proposed language in code change proposal F139-24 for the 2027 edition of the International Codes. The Fire Code Committee approved it as submitted (13 - 0).

F139-24 Fire Code Committee Reason : The committee stated that the reasons for the approval of the proposal were : This has been a big hole in the code for a long time. Smoke Control wiring is not fire alarm wiring in some cases. It can be BMS wiring, or it is power wiring that is outside what is called the fire alarm system. This level of protection is consistent with the fire alarm passive protection requirements and the controls that are currently in other sections. This provides additional options for the survivability of the wiring. This mirrors language that is in other sections where it is important to protect things like electric fire pumps (913.2.2). Vote : 13 - 0

2. The proposed amendment 24-GP1-074 does not decrease the survivability protection requirements of equipment, control wiring, and power wiring serving ventilation systems as required in IBC 909.20.6.1 and IFC 909.20.5.1.
3. Raceway is not defined in the IBC, IFC, or IMC, it is defined in the NFPA-70. IBC/IFC 909.12.2 & IMC 512.12.2 mandates that all wiring, regardless of voltage, must be enclosed within a continuous raceway. This requirement is not covered by the NEC (NFPA 70), which is the primary standard enforced by electrical inspectors (L&I or city electrical inspectors). Fire Prevention Authorities Having Jurisdiction (AHJs) typically do not enforce electrical code requirements or conduct electrical rough-in inspections, leaving this responsibility to electrical inspectors who conduct their inspections per the requirements of NFPA 70, not IBC, IFC, or the IMC. Currently IBC/IFC 909.12.2 and 2021 IMC 513.12.2 (2024 IMC 512.12.2) are typically not enforced by the AHJs, L&I electrical inspectors, or city electrical inspectors.
4. Builders/owners/contractors that follow IBC/IFC 909.12.2 and 2021 IMC 513.12.2 (2024 IMC 512.12.2) are spending additional money to have these raceways installed for fire alarm wiring/devices that are not part of the smoke control system. Contractors that bid projects correctly are often not awarded these projects because their bid reflects the cost to provide the continuous raceways for fire alarm wiring/devices not part of the smoke control system. This is perpetuating inconsistent installations for projects with similar scopes.
5. The proposed amendment provides options for AHJs to refer to when reviewing and approving fire alarm smoke control system designs. The amendment also provides contractors with options that meet the survivability protection required for these systems.

I have included the ICC code change proposal F139-24

F139-24

IFC: 909.12.2; IBC: [F] 909.12.2; IMC@: [F] 512.12.2

Proponents: Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2024 International Fire Code

Revise as follows:

909.12.2 Wiring.

In addition to meeting requirements of NFPA 70, all wiring, regardless of voltage used for circuits supplying detection and control functions shall be protected using one of the following methods; ~~shall be fully~~

1. Fully enclosed within continuous raceways.
2. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 1 hour.
3. Electrical circuit protective systems shall have a fire-resistance rating of not less than 1 hour. Electrical circuit protective systems shall be installed in accordance with their listing requirements.
4. Construction having a fire-resistance rating of not less than 1 hour.
5. The cable is encased in a minimum of 2 inches (51 mm) of concrete.

2024 International Building Code

Revise as follows:

[F] 909.12.2 Wiring.

In addition to meeting requirements of NFPA 70, all wiring, regardless of voltage used for circuits supplying detection and control functions shall be protected using one of the following methods; ~~shall be fully~~

1. Fully enclosed within continuous raceways.
2. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 1 hour.
3. Electrical circuit protective systems shall have a fire-resistance rating of not less than 1 hour. Electrical circuit protective systems shall be installed in accordance with their listing requirements.
4. Construction having a fire-resistance rating of not less than 1 hour.
5. The cable is encased in a minimum of 2 inches (51 mm) of concrete

2024 International Mechanical Code

Revise as follows:

[F] 512.12.2 Wiring. In addition to meeting the requirements of NFPA 70, all wiring, regardless of voltage used for circuits supplying detection and control functions shall be protected using one of the following methods; ~~shall be fully~~

1. Fully enclosed within continuous raceways.
2. Cables used for survivability of required critical circuits shall be listed in accordance with UL 2196 and shall have a fire-resistance rating of not less than 1 hour.
3. Electrical circuit protective systems shall have a fire-resistance rating of not less than 1 hour. Electrical circuit protective systems shall be installed in accordance with their listing requirements.

4. Construction having a fire-resistance rating of not less than 1 hour.
5. The cable is encased in a minimum of 2 inches (51 mm) of concrete.

Reason: The purpose of this proposal is to provide additional options for survivability protection of smoke control system circuits that are applied elsewhere in the code for critical circuits. The language added was from Section 913.2.2.

FCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2023 and early 2024 the FCAC has held several virtual meetings and one in-person meeting open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the [FCAC Website](#)

Cost Impact: Decrease

Estimated Immediate Cost Impact:

\$0.00

Estimated Immediate Cost Impact Justification (methodology and variables):

This simply provides additional options for compliance beyond continuous raceways. Will likely not change construction cost or possibly reduce.

F139-24

Committee Reason: The committee stated that the reasons for the disapproval of the proposal were: The existing code language and the definition of public use and common areas do not need a list. Generally it was felt that lists should be avoided. It could be addressed in NFPA 72 and be in an annex with guidance about where these should be if there is really a gap in understanding the requirements. (Vote: 12-1)

F137-24

F138-24

Committee Action:

As Submitted

Committee Reason: The reason for the approval of the proposal was based on the proponent's reason statement. (Vote: 13-0)

F138-24

F139-24

Committee Action:

As Submitted

Committee Reason: The committee stated that the reasons for the approval of the proposal were: This has been a big hole in the code for a long time. Smoke control wiring is not fire alarm wiring in some cases. It can be BMS wiring, or it is power wiring that is outside what is called the fire alarm system. This level of protection is consistent with the fire alarm passive protection requirements and the controls that are currently in other sections. This provides additional options for the survivability of the wiring. This mirrors language that is in other sections where it is important to protect things like electric fire pumps. (Vote: 13-0)

F139-24

F140-24

Committee Action:

As Submitted

Committee Reason: The reason for the approval of the proposal was based on the proponent's reason statement and it was stated by the committee that it is a good cleanup. (Vote: 12-2)

F140-24

F141-24

Committee Action:

As Submitted

Committee Reason: The committee stated that the reason for the approval of the proposal was that it clarifies the intent of the