



SOUTH CAROLINA STATE FIRE

a Division of South Carolina Department of Labor, Licensing and Regulation

Office of State Fire Marshal

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When You Need an Alternate Means and Methods...

May 2026 revision

When a hazard or the sprinkler protection technology does not fit within the prescriptive criteria of the adopted editions or most recently published editions of Codes and Standards, an Alternate Means and Method (AMM) may be needed for the design.

It is important to note that the engineer of record may choose to specify criteria that is more robust and at least equal to in all aspects (no decrease in any aspect) than the prescriptive minimum requirements without the need for an AMM. The specified Code and classification would still need to be NFPA. However, it is beneficial for clarity to have “why” the criteria specified is above the Code minimum in the notes section of the specification sheet.

AMM requests need to clearly state what aspect of the prescriptive requirements is being addressed by the alternate design. For example: the commodity is outside of those covered by NFPA (like storage of Lithium-ion batteries containing a combustible electrolyte), or the height criteria is beyond the prescriptive criteria of NFPA (including cases where the NFPA’s ESFR prescriptive criteria is not available due to the building height), are conditions for which use of an AMM is appropriate.

AMM proposals are design documents. Preparation, sealing and signing of these design documents must follow the applicable Engineering laws and regulations. Note that we need to see a “wet”/real signature. Use of a script type font or a number only electronic signature that does not also include a “wet”/real/hand written signature image is not considered sufficient.

Alternate means and methods are submittal specific. The details of each specific project must be taken into account. Sufficient location information must be on the alternate method request (Project Name, address, building number, etc.) to identify the specific project it is for. This information must be consistent with other documentation of the submittal.

Documents submitted for review that rely on an AMM design must make reference to that AMM. Since an AMM establishes the foundation for a design, the Fire Sprinkler System Specification Sheet (FSSSS) must reference the AMM (including the date of the AMM) in the Codes and Standard section of the FSSSS. Also, the design criteria specified for the design areas (and the hazard for those areas) using the AMM must be in agreement with the final submitted version of the AMM. (Note that the date of the FSSSS cannot be earlier than the date of the AMM, and the date of the Certificate of Compliance (COC) cannot be earlier than the date of the FSSSS)



Our mission is to be the focal point for service and support to save lives and property.

South Carolina Regulations Section 71-8300.3 is the regulation by which the Office of the State Fire Marshal (OSFM) accepts AMM proposals. An AMM request submitted to the OSFM needs to make reference to that regulation when asking for use of an AMM.

It is incumbent upon the design professional submitting the request to prove that their AMM design is at least equivalent to the prescriptive requirements in quality, strength, effectiveness, fire resistance, durability, and safety.

On the AMM, the engineer needs to cite the adopted Codes and standards (with their edition) they are proving an equivalency to. As a starting point in proving the equivalency of an AMM, the engineer should state the condition most closely addressed by NFPA, the criteria from it (or in some cases Building or Fire Code), and include the relevant sections or tables.

To prove the equivalency of the AMM proposal, the submitting design professional may need to cite (and provide) other nationally recognized fire safety standards, research reports, tests, and other technical documentation. Please ensure the information is currently valid. Please ensure date/edition information is included when referencing documentation. The AMM should provide specific sections and details as well as a step-by-step description of how the proposal demonstrates an equivalency. Enough detail is needed in the AMM to make the conditions and the analysis clear to the reviewer.

Factory Mutual Data Sheets (FMDS) are often used as reference material by engineers when they are developing an AMM. FMDS often have more current information for modern hazards. However, it is important to note that an FMDS is a guidance document from an insurance carrier, not the adopted code in South Carolina. FMDS designs are not always more robust, when compared to the adopted standards. Of particular note, as stated in the 2025 (language also in 2019 and 2022) NFPA 13- 24.1.8.1 says that regardless of the number of sprinklers that operated during the worst-case full-scale fire test, the number in the sprinkler system demand shall be no less than one of the following: (1) Twelve sprinklers for standard coverage sprinklers; (2) Eight sprinklers for extended-coverage sprinklers based on a spacing of 12 ft × 12 ft; (3) Six sprinklers for extended-coverage sprinklers based on a spacing of 14 ft × 14 ft. This “regardless” language from NFPA may mean that the number of sprinklers used in an AMM design will need to be increased in order to demonstrate an equivalency (without reducing the pressure at the sprinkler), even when test data from an insurance carrier would support fewer. It is also important to note that the AMM represents the engineer of record’s design, even when they are using guidance documentation from an insurance carrier for information.

A project that relies on an AMM cannot be approved prior to acceptance of the AMM. As an AMM often makes a submittal significantly more complicated, it should be expected that the review process will take more time than a prescriptive Codes and standards only review. Many AMMs are for unique conditions that may be unfamiliar. As such, care should be taken to make the conditions as to why an AMM is needed and the reasoning as to how it provides an equivalency to the adopted Codes and standard, abundantly clear. Once a reviewer with the Office of the State Fire Marshal has been assigned, it may be beneficial for the engineer of record to reach out to the reviewer to discuss the AMM and offer insight on the proposed methodologies of the AMM.

Note that an AMM is project and location specific, and is only valid for the specific project submitted. Furthermore, it is not a building permit, a certificate of occupancy, nor a substitute for any permits or inspections required by any State or local government entity.

