

## **Importance of the NFPA 13 - 250# Hanger Safety Factor**

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*Necessary and Appropriate*

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To understand the grounds for the 250# safety factor in NFPA 13 fire sprinkler hangers, we must first address the importance of a fire sprinkler system. A fire sprinkler system is an emergency piping system, while a plumbing system is a convenience piping system. It is expected that a fire sprinkler system perform under the most challenging circumstances. Accordingly, the design of a fire sprinkler system must provide maximum survivability and reliability.

It is paramount that a fire sprinkler system survive "expected abuse". The pipe hanger system is the ultimate guarantor of this by providing additional durability. The 250# safety factor is prudent engineering, requiring hangers and structural components to be robust.

NFPA 13, chapter 9 quantifies this prudence for its emergency system with the 250# importance factor. Greater hanger and structural capacity enhances system durability and permanence and thus reliability. 250# might correspond to the weight of a fitter, but it is not about fall protection as is commonly and erroneously reported, even in the NFPA sprinkler hand book. A 250# safety factor addresses extra stress imposed by system installation including pipe make-up, future remodel construction activities and physical impact from equipment.

Hangers provide reliability by durably maintaining designed dimensions and locations of fire sprinkler system components. System performance requires all fire sprinklers to be at their installed locations to ensure success when called upon to activate, in a future emergency.

Fire sprinkler system impairment due to hanger or structural deformation or failure is not acceptable. The fire sprinkler system is the most important emergency system and this importance is reflected in the NFPA 13 design and installation requirements.