

## **Hangers Are Not Sway Braces**

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### *Beware Of Contrary Opinions*

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With or without rod stiffeners, hangers are not sway braces per NFPA 13. Any installation using hangers to resist seismic force in lieu of required sway braces is in violation of NFPA 13. Chapter 9 requires sway braces to resist lateral and longitudinal horizontal seismic force and upward vertical seismic force. Chapter 9 does not require sway braces to resist downward vertical seismic force because the Technical Committee of Hanging and Bracing deems the hanger load rating at 5wt. plus its 250lb. safety factor sufficient to address this force. NFPA 13 chapter 9 defines hangers and sway braces in separate sections addressing the use and characteristics required of and specific to each. Accordingly, UL lists sway braces in standard 203A and hangers in standard 203.

NFPA 13 chapter 9 specifies that sway braces are required to resist seismic force. Some of the chapter 9 sections that address sway braces are:

- 9.3.5.1.1 "... braced ... to prevent vertical motion resulting from seismic loads"
- 9.3.5.7 "... braces shall be arranged to resist...."
- 9.3.5.10.2 "... brace fittings and connections ... shall be listed ...."

A common misapplication of hangers in fire sprinkler systems is when they are incorrectly used to resist upward vertical seismic force. Erroneously promoting hangers as an acceptable alternative to listed sway braces violates Chapter 9 of the NFPA 13 Fire Sprinkler Standard. The 2007 NFPA 13 Hanging and Bracing Technical Committee specifically addressed the use of hangers to resist upward vertical seismic force during its ROP and ROC meetings. All proposals and comments promoting hangers to resist upward vertical seismic force were specifically rejected, even when the hanger assembly included a rod stiffener.

NFPA 13 has a long history as the ultimate authority for fire sprinkler design and installation. It stands to reason that 2007 NFPA 13 is the fire sprinkler reference standard for authorities and codes including FEMA, NEHRP, ASCE 7 and the I-Codes. Chapter 9 is clear and precise regarding the design and installation of sway bracing. Contractors should install and AHJ's should require sway bracing that conforms to the NFPA 13 fire sprinkler standard.