



# SPEAKING IN CODE *BLAST*

## BOND STRENGTH OF SFRM INCREASES AS HEIGHT OF BUILDING INCREASES 9.18.2025

IBC code, Chapter 17, Section 1705.15.6, specifies a minimum bond strength of the sprayed fire-resistant material (SFRM) of 150 psf (*See the narrative box at the bottom of the page*). If you fail to read the IBC code commentary, you will never know from the Section 1705.15.6 verbiage that there are additional higher SFRM bond strength requirements for high-rise buildings. The 150 psf requirement is only applicable to low-rise buildings, which the code defines as building heights of less than 75 feet. High-rise SFRM bond strength applications in buildings 75 feet in height or greater shall be in accordance with Table 403.2.3, shown below and located in IBC Chapter 4, Section 403.2.3.

TABLE 403.2.3  
MINIMUM BOND STRENGTH

HEIGHT OF BUILDING*	SFRM MINIMUM BOND STRENGTH
Up to 420 feet	430 psf
Greater than 420 feet	1,000 psf

It is important to note that whenever a building height is tall enough to require the increased bond strength invoked in Table 403.2.3, that specific minimum bond strength is required on every floor all the way to the ground. Where do you start the physical count regarding building height at the project site? You start on the ground where the tires of the fire truck will rest if the fire truck is at the building because of a fire. Basement floors below grade do not count when calculating the height of the building relative to the minimum bond strength of SFRM.

The National Institute of Standards and Technology (NIST) created SFRM bond strength changes because they believed the impact of the planes on the World Trade Center on 9/11 caused the SFRM to fall off the structural steel of the building, which then contributed to the building's collapse. Keeping the SFRM on the steel elements, of course, maintains the integrity of the SFRM/steel system fire rating.

**IBC Code, Section 170.15.6** The cohesive/adhesive bond strength of the cured sprayed fire-resistant material applied to floor, roof and wall assemblies and structural members shall be not less than 150 pounds per square foot.

The International Code Council (ICC) made dramatic and comprehensive code changes to the IBC code based on recommendations from the National Institute of Standards and Technology (**NIST**) in the wake of the World Trade Center collapse on September 11, 2001.



For more information or further enthusiastic discourse on topics of **CODE**, please contact Alan Tuck at: [atuck@fandr.com](mailto:atuck@fandr.com) or 540.344.7939.