Q Where can I find references that explain the procedure for identifying the structural steel members to receive spray applied fire resistant material, and the appropriate thickness when reading blueprints? —B.C., Denver

A As is my usual routine, I checked the ASTM materials and then the building codes to see if there were any instructions that might help me avoid pestering the SFRM manufacturers and other personal gurus in finding the correct answer to this question. I found a lone passage in the BOCA’s 1999 National Building Code, Section 703.1 that states the following:

“Construction documents for all buildings shall designate the type of construction and the fire-resistance rating of all structure elements as required by this code. The construction documents shall include documentation or supporting data substantiating all required fire-resistance rating . . . .”

Other than that, I found no written specifics regarding blueprints and about how they show (or don’t show) where and how much SFRM to use.

The Association of the Wall and Ceiling Industries—International is vigorously pursuing changes to the language in the International Building Code that will improve life safety through stricter fire resistance ratings. In the process, I have spent many hours with several of the folks who manufacture SFRM, along with several others involved in the fireproofing industry. So as a last resort, I did pester several of them to get to the bottom of this question. Without exception; I was told that each specifier is responsible for developing a system that indicates on the blueprints which pieces of steel get how much of what weight of SFRM. But again, each specifier is free to create his own system.

Q What type of screw should be used to attach 18-gauge non-load bearing studs to the floor and ceiling track? —C.G., Clearwater, FL

A This was not an easy question to run to ground either. As it turns out, by some accounts it is not recommended that studs used for non-bearing interior walls be fastened to the top and bottom track (also known as runners) unless the studs abut a corner or an opening. When, after finding next to nothing in writing on the topic, I asked an engineer friend of mine about it, he explained that this is one of those situations where an absence of direct instruction suggests a lack of consensus. In other words, what the theoretical world would dictate does not comport with what the real world offers.

As my friend further explained, to accommodate the inherent deflection of a building (for example, the floor and the ceiling moving away from each other or toward each other), it is preferable to leave the studs held in the track by tension or friction, lest cracking of the walls occur when the building moves. That is reasoning of the theoretical world.

In the real world, once the studs are positioned, other tradesmen, plumbers, electricians, HVAC types, etc., may inadvertently disturb the tension-held studs, resulting in their needing to be repeatedly repositioned. To avoid re-setting the studs several times—and the consequent workplace animosity—the practice in the field is to fasten the studs in place with a number eight (#8) screw, type of head optional.

About the Author
Lee G. Jones is AWCI’s director of technical services. Send your questions to him in care of Construction Dimensions, or send your e-mail question to jones@awci.org.