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Primed/Painted Decking

Spray-Applied Fire Resistive Materials (SFRMs) are often specified to meet hourly fire rating requirements in accordance with UL 263 / ASTM E119 for floor and roof assemblies. The proper bonding of the SFRM to the underside of floor/roof decking directly relates to the ability of the SFRM to perform in actual building fire conditions.

As the world leader in passive fire protection products, we recommend that all floor and roof decking to receive the application of SFRMs be galvanized, and that all structural steel members be unprimed/unpainted.

Primed/Painted decking may impair the bonding of the SFRM and result in unacceptable in-place performance.

Ensuring that galvanized floor and roof decking is specified and supplied to the project virtually eliminates any questions pertaining to the suitability of those substrates¹.

In the event that primed/painted floor or roof decking is supplied to the project, the specific deck manufacturer and painted deck type must be listed in the Underwriters Laboratories, Inc. (ULI) design as a classified painted deck for the particular SFRM being applied. Additionally, the deck manufacturer must confirm whether the paint has been fire tested at UL with the deck type being used in the specific fire resistance design. Furthermore, the SFRM manufacturer must indicate compatibility between the specific SFRM and paint to ensure proper adhesion.

If the painted floor/roof deck requiring SFRM does not comply with the guidelines listed on the previous page, the following options are available for remediation of this circumstance:

1. The use of metal lath fastened to the underside of the decking prior to the installation of the SFRM (UL required), or
2. Installation of a mechanically attached rigid board fire protection product in lieu of the SFRM.

The most common abusive force on the SFRM applied to the underside of roof decking (galvanized or primed/painted) is construction roof traffic. Fast-track construction schedules often do not allow sufficient curing time for the SFRM to complete the bonding process to the substrate. Typically, SFRM manufacturers state the following guidelines, "The application of Spray-

Applied Fire Resistive Material to the underside of the roof deck shall not commence until the roofing is completely installed and tight, all penthouses are complete, all mechanical units have been placed, and after construction roof traffic has ceased. When roof traffic is anticipated, as in the case of periodic maintenance, roofing pavers shall be installed as a walkway to distribute loads."

The use of primed/painted floor and roof decking increases the risk of SFRM delamination. SFRM manufacturers strongly recommend that galvanized floor/roof decking be specified when using SFRMs to obtain fire resistance ratings.

Adhering to these guidelines will help minimize the problems associated with in-place SFRM performance when dealing with substrate suitability.

1. All surfaces to receive fire protection shall be free of paints/primers, oil, grease, loose mill scale, dirt or other foreign material which would impair satisfactory bonding to the surface.