

Critical Intumescent Coating Thickness Measurement

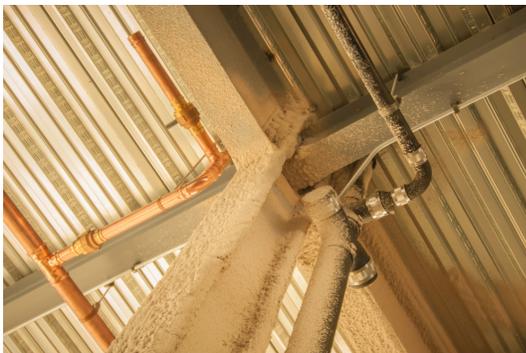
by Fischer Technology, Inc.

Intumescent coatings — a type of passive fire protection (PFP) — are epoxies designed to protect the integrity of structures from fire. These coatings swell when exposed to high temperatures, delaying the transfer of heat to the substrate. The thickness of the expanded coating is crucial, as it gives people more time to evacuate a building before it collapses.

The amount of time the coating insulates the structure is determined in hours, which denotes the level of performance. Hourly ratings depend on the size and structure of the building and must adhere to codes driven by the insurance industry. The industry standard for ratings is 2 to 3 hours. Intumescent coating manufacturers test their products at certain thicknesses and configurations to offer the best hourly ratings. These classifications and ratings are evaluated and assigned by the U.S. safety and certification firm, UL, or other global insurance industry organizations.

Applying intumescent coatings is more expensive than other methods used to protect structural steel, but this is considered an acceptable cost when protecting human lives. Fireproof coating is around \$6.50 to \$7.50 per pound depending on the specific material used. Most fireproof coating thicknesses are between 6 and 7 millimeters but can be in excess of 20 millimeters.

Intumescent coatings are applied in a shop or in the field but most commonly in the field. It is impossible to apply additional layers once the coating has cured, so it is critical that the application be done properly the first time. The determination of coating thickness is a vital step in this process for both safety and financial reasons.



Intumescent Coating Applied to Steel



DUALSCOPE® FMP 40
with FA70 Probe

An excess of applied materials could cost a company tens of thousands of dollars, while under-applied materials, in the event of a fire, could lead to a collapse of the structure before evacuation. For these reasons, true-ness and repeatability are essential when choosing an instrument to evaluate intumescent coatings. The Fischer FA70 probe, paired with the DUALSCOPE® FMP40, measures thick coatings with a high level of accuracy and repeatability — essential in an application where human life is dependent upon the preciseness of measurements and the cost of application can be expensive. Also distinctive for their compact size, Fischer probes provide ease of use for end users in the industry who need to take measurements on a scaffold or ladder 30 to 60 feet in the air.

Contractors, coating manufacturers and inspectors all rely on accurate coating thickness measurement of fire-resistant coatings to guarantee the protection of structures and provide people with sufficient time to evacuate. Training on the proper application of intumescent coatings should always include the use of accurate coating thickness gauges to evaluate the process. The right equipment counts when, as one intumescent coating manufacturer said, “We are really selling peace of mind” to the owner of a structure.

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