

Best Practice in Fire-Retardant-Treated Wood Code Enforcement

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The job of a building code official carries more than its share of accountability. On the one hand, code officials are responsible for the life safety of the occupants of the buildings they inspect. On the other, they face the interests of community leaders, developers, architects, builders, general contractors, building material suppliers, and various other stakeholders looking to advance the building project and the investment it represents.

New materials. New assemblies. New construction processes. Design innovations. Evolving code. It is a lot for code enforcement professionals to keep in mind.

Heroic Enforcement

Code enforcement officials represent a very special breed of hero. They serve as the trusted front line on ensuring public safety while guiding orderly progress in the built environment. They must make very critical and reasoned judgments. It's not an easy job.

Take, for example, a building material like fire-retardant-treated wood (FRTW), an increasingly popular component of wall assemblies for Type III building construction.

For building inspectors, the challenge arises when a contractor substitutes a painted or coated product for the code-prescribed impregnated FRTW. These surface applied materials are always problematic because inherently they are very vulnerable to surface damage. Loading and unloading, distribution and jobsite storage, abrasions caused by material placement and installation, and fastener penetrations can damage the coating and compromise fire performance of the product. It is for these reasons that flame retardant paints, coatings, and other surface applied treatments are prohibited by the codes as FRTW.

Due Diligence

Yet some flame retardant paints and coatings have evaluation documentation that may look credible when the product is listed by an evaluation agency. The evaluation agency may state that the product can be used in lieu of pressure-treated FRTW. That leaves it up to the code official to accept the report based on his or her belief in the credibility and competency of the evaluation agency. In short, it becomes a judgment call.

Caution is recommended in those situations. Code officials should do their homework. Due diligence involves critically reviewing the evaluation agency's process. They should always understand how a product is being evaluated.

If that testing and listing process isn't transparent or is difficult to determine, the code official risks making an uninformed decision. If the code official can't understand the methodology used to evaluate the products, they can't be certain that the evaluation has proved code intent or not. If there's a problem with performance later, it is the code official that is ultimately responsible.

Understand the Source

The evaluation process today is very fluid. It is important to not rely on past assumptions of agency reliability. Code officials should periodically review how evaluation agencies operate before accepting a product strictly based on the evaluator's reputation. It is critical that the testing, listing, and evaluation agencies have the proper ANSI and IAS accreditations for the categories of products being listed and evaluated.

UL Solutions in Northbrook, IL is an example of a testing and listing agency that is accredited by both ANSI and IAS for testing and certifying the fire performance of products like FRTW through both listing and evaluation reports.

UL Evaluation Reports benefit from wide industry acceptance. According to a survey of code professionals attending the 2013 International Code Council (ICC) Expo, eighty-seven percent of the professionals polled said they were familiar with UL Evaluation Report and all code officials surveyed – *100 percent* – said they would accept the Reports for safe, code compliant installations.

Evaluation Example

Pressure impregnated fire-retardant-treated wood manufacturers have utilized the testing and listing services of Underwriters Laboratories in Northbrook, IL for many years. In fact, UL developed the tests that have been utilized by the insurance industry for listing FRTW since the 1930's. In the early 1960's these tests and insurance requirements for listing FRTW were promulgated in the model building codes.

Hoover Treated Wood Products has partnered with UL for seven decades. Hoover relies on UL testing, listing, quality control, and for its FRTW Evaluation Report. This report, **UL ER7002-01**, is for PyroGuard® Fire-Retardant-Treated Wood. It presents a comprehensive view of the material and verifies compliance with the mandated requirements of the 2024 and earlier editions of the building and fire codes.

The Report carefully describes its testing methodologies. UL evaluators, for example, tested not only PyroGuard® surface burning characteristics in accordance with ANSI/UL 723 (ASTM E84), but they also scrutinized all the other code mandated performance criteria for FRTW including physical and mechanical properties, hygroscopicity, and corrosivity.

Pressure-impregnated FRTW products do not require an evaluation report to meet the letter of the code because FRTW and the pressure-impregnated manufacturing process are codified (2024 IBC Section 2303.2 and Section 2303.2.1 respectively). Hoover's decision to go beyond what the code requires with an UL Evaluation Report is an added level of product assurance for the code official's peace of mind. It also demonstrates Hoover's commitment to the highest standards of fire and life safety in every product, in every structure.

Fail-Safe Compliance

Code officials appreciate UL's attention to detail which is the hallmark of code enforcement. What they really like about these UL Reports are the references and hyperlinks to the manufacturer's listings and fire-rated assemblies. It's very helpful to have an evaluation report that indicates the acceptance of that material and then its applications, plus links that help connect it all together.

Summary

As code officials review building materials and assemblies, it makes sense to pay attention to an often-overlooked component of the review process: the source of the evaluation report that supports their decision-making.

Code officials are well-advised to periodically 'evaluate the evaluator' for their quality, transparency, and methodology.

Hoover assists code officials build a culture of safety – Living by the Code, Building by the Code.