

Fiberglass and Weathering

The Challenges of Wood Doors

Every spring, remodeling contractors and homeowners face the prospect of painting or restaining wood entry doors. This seemingly simple task, however, is made more complex due to the nature of wood and some of the inherent pitfalls of a wood entry door:

- Wood doors can warp or crack due to winter's harsh weather and the strength of the sun's ultraviolet rays
- In cases where the weathering is extreme, painted or stained doors can crack and peel
- Weathered wood can absorb stain unevenly, leaving the door with an inconsistent finish

Science is the Solution

Therma-Tru engineers at the company's Advanced Technology Center in Edgerton, Ohio, have developed specially formulated fiberglass skins that solve these weather-related issues. Through rigorous testing in environmental chambers using accelerated attack of moisture, temperature, and ultraviolet light, the fiberglass materials and stains were subjected to extreme temperatures and moisture exposure. Through this testing it was found that damage to coatings occurred not only from exposure to UV rays, but also when the UV rays penetrated the topcoat and stain into the fiberglass material. To prevent the penetration of UV rays, ultraviolet light blockers were incorporated into the top coat and stain system. Together they prohibit UV rays from breaking down the finish of Therma-Tru's complete stain system. This system is unique to the industry, offering an entry system that can withstand weathering over a long period of time.

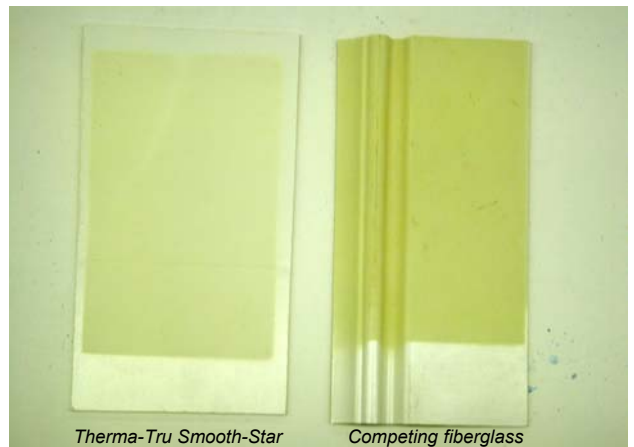
Further, Therma-Tru's patented finishing system, specifically formulated for Therma-Tru's fiberglass doors, provides consistent performance against harsh weather conditions as well as the effects of harmful ultraviolet light and has a five-year satisfaction warranty.

Please see "Weathering" on page 2

Therma-Tru: Truly Better Than Other Fiberglass Doors

Therma-Tru's fiberglass clearly outperforms wood products, but it also surpasses competing fiberglass doors. Therma-Tru scientists put a Therma-Tru Smooth-Star[®] unfinished skin (left) and a competing unfinished fiberglass door skin through a strenuous testing process; both products were exposed to ultraviolet light for the same period of time in side-by-side testing to illustrate how fiberglass skins weather in sunlight.

Therma-Tru's Smooth-Star (left) shows modest discoloration after 2,000 hours of accelerated UV light. A competitor's product (right) shows more drastic discoloration for the same exposure.



Contrary to other companies' claims, all fiberglass doors must be finished, and Therma-Tru advises painting or staining its fiberglass doors to prevent discoloration. For maximum performance, the company recommends using its proprietary finishing system for staining Classic-Craft[®] or Fiber-Classic[®] grained fiberglass doors, and painting Smooth-Star doors with a high-quality acrylic latex house paint.

For a side-by-side comparison of finishing systems, please see page 2.

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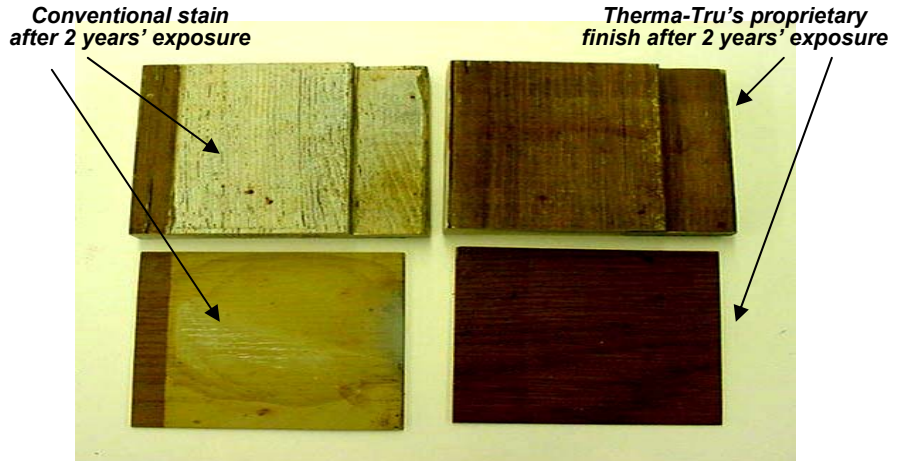
Weathering, cont.

Homeowner Impact

The finishing system was developed to be durable and apply easily for long-lasting good looks. It was meant for homeowners who may only stain a door once or twice in their lifetime. In addition, the desired look and finish can be achieved even if the finishing process cannot be completed within two weeks of installation. (Two weeks is the standard recommended finishing period for wood doors.) Therma-Tru's doors can be finished several weeks or in some cases months after installation.

The combination of truly better fiberglass and the patented finishing system allows Therma-Tru to offer a five-year satisfaction warranty on the finishing system.

Therma-Tru Finishing System Comparison



In a test that compared wood and fiberglass skins against the powerful Florida sun for two years and a system that tracks and amplifies the sun's rays, scientists discovered that the wood and fiberglass skins finished with conventional stain and exterior polyurethane topcoat (left) are completely degraded. Most of the finish was gone after only one year, and the original stain only remains where a bar protected the wood and fiberglass from the elements. The samples on the right were finished with Therma-Tru's finishing system and tested for the same two year period. The test clearly demonstrates the strength and durability of its proprietary finish.

Therma-Tru Fiberglass Facts

- While both wood and fiberglass doors need to be stained or painted and should be finished as soon as possible, wood doors must be finished immediately while fiberglass doors can easily survive several weeks or in some cases months before finishing.
- Other fiberglass door manufacturers claim that no paint is needed on their doors. Accelerated aging tests show that their doors age dramatically when not painted.
- Therma-Tru's new Fiber-Classic® and Smooth-Star® Hinged Patio Door Systems feature a factory-applied high solids paint in four colors. Fiberglass doors painted this way are unique in the industry and are baked on for long weather durability and scratch resistance.
- When painting doors at the job site, most good quality acrylic latex house paints can be used. Therma-Tru reviews almost 40 different paints every time a new door is launched to assure weather durability with a battery of accelerated aging tests.
- Therma-Tru fiberglass doors are low maintenance, and aren't subject to warping and cracking like wood or denting and rusting like steel.
- Wood doors crack, dent, warp, swell and splinter; and they constantly need attention every six to 12 months to maintain their beautiful look. Steel doors dent, ding, scratch, rust, corrode and often need to be repaired or replaced.
- To ensure proper performance of the Therma-Tru Finishing System, follow all instructions carefully. For more information, please visit www.thermatru.com/support/finishing.shtml.



Classic-Craft® Mahogany Collection™ with Arcadia® glass, stained with the Therma-Tru Finishing System's new mahogany color

For more information about Tru-Performance: The Therma-Tru Doors Research Series, please contact Ann Krebs at 419.891.7426 or akrebs@thermatru.com