MIRATEC®

Treated Exterior Composite TRIM

Patented

MiraTEC Fact Sheet

WHAT IS MIRATEC TRIM?

MiraTEC Trim is an exterior composite panel product that resists moisture, rot and termites. It was introduced in 1999 as a result of more than five years of research and testing.

HOW IS MIRATEC MANUFACTURED?

MiraTEC is manufactured by CMI at the Towanda, PA manufacturing facility using the patented and proprietary TEC™ manufacturing process.

- The mat is loaded into a sealed cavity.
- Steam is introduced during the pressing process to facilitate uniform heat transfer through the mat, resulting in a board that has exceptionally consistent physical properties.
- While phenolic resins give MiraTEC its excellent moisture resistance properties, the wood preservative zinc borate provides rot resistance. MiraTEC also resists termites.

HOW WAS MIRATEC TESTED PRIOR TO ITS INTRODUCTION?

MiraTEC was submitted to aggressive internal testing prior to its introduction. In the development of MiraTEC, the following internal tests were performed:

1) **EMMAQUA Testing (Equatorial Mount with Mirrors for Acceleration with Water)** This test measures the impact of exposure to exterior elements in an accelerated timeline. MiraTEC was installed on a vertical test fence with southern exposure in the Arizona desert. During the day, an array of mirrors concentrates sunlight on the product for maximum UV exposure. During the night, a series of soak, freeze and thaw cycles test MiraTEC's ability to stand up in these harsh conditions.
2) **Rainwall Testing.** This test measures MiraTEC's response to a cycle of wet and heated drying conditions, which are meant to mimic exterior weather conditions and climate changes.
3) **Environmental Chamber Testing for Buckling.**
4) **Mechanical Property Testing.**
5) **Installation on test fences** at three locations. These include the CMI manufacturing facility in Towanda, Pennsylvania, located in the northeastern part of the state; suburban Chicago, Illinois; and Laurel, Mississippi, located in the southern part of Mississippi.

WHAT INDEPENDENT/EXTERNAL TESTING HAS BEEN CONDUCTED?

Independent laboratory testing confirms the superiority of MiraTEC. After MiraTEC was introduced in 1999, the following independent laboratory testing was initiated to further confirm the superior properties of the product.

1) **Termite Field Exposure Test.** Performed in the swamps of southern Louisiana, MiraTEC samples were exposed to highly aggressive Formosan termites. The test was conducted per AWPA E7 – Standard Method of Evaluating Wood Preservatives by Field Tests with Stakes. A score of ten (10) represents that the specimen is sound, showing no visible decay or termite damage and a score of zero (0) indicates a failure. The test was initiated in June 2003. The last evaluation period, June 2006, showed these results:

Test Results	Score
MiraTEC® 4/4	7.9
MiraTEC® 5/4	8.8
Southern Yellow Pine 4/4	0.0
Southern Yellow Pine 5/4	0.0

2) **Rot Test.** Also performed in the swamps of southern Louisiana, test samples were exposed to fungi for 36 months. The test was run per AWPA E16 — Field Test for Evaluation of Wood Preservatives to be Used Out of Ground Contact: Horizontal Lap-Joint Method. A score of zero (0) indicates no evidence of rot and a score of five (5) represents a total failure or that the test sample was destroyed by rot. Observations were recorded at the joints and laps (outside dimensions). Lap measurements are reported below. This test was completed in June 2006.

Test Results	Score
MiraTEC® 4/4	1.0
MiraTEC® 5/4	1.0
Southern Yellow Pine 4/4	5.0
Southern Yellow Pine 5/4	5.0

3) **Accelerated Aging Test.** This test was performed by Forintek Canada Corporation in November 2003 and was run per ASTM Standard D 1037-99, Edition 2002, Standard Test Methods for Evaluating Properties of Wood Base Fiber and Particle Panel Material. This is a 6-cycle aging test that exposes MiraTEC to water, steam, extreme cold, and extreme heated drying over 33 hours. Bending strength tests were performed to determine the strength of MiraTEC after the aging cycles. Results are:

Product	AVG % original strength retained
MiraTEC 4/4	91.1
MiraTEC 5/4	90.2

No delamination occurred in any of the test samples.

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MiraTEC Facts

WHAT INTERNAL TESTING IS CONDUCTED?

Internal Quality Assurance testing conducted regularly confirms MiraTEC's outstanding physical properties. Values below represent 12 month averages of finished product testing:

	Density (lbs/ft3)	MOR (psi)	½ Hour Boil Thickness Swell (%)	24 Hour Water Absorption (%/weight)	24 Hour Thickness Swell (%)
4/4 MiraTEC	48.7	3450	12.5	6.8	3.1
5/4 MiraTEC	47.2	2975	11.6	5.2	2.0

Whether at a lakefront home, in custom applications on a Prairie-style dwelling or used for a decorative porch post, MiraTEC provides durability and maintenance-free performance.

Covered by one or more of the following patents:
5,677,369; 5,980,798; 5,993,709; 6,030,562