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ESR-3043

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
SECTION: 06 05 73.13—PRESERVATIVE WOOD TREATMENT
DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
SECTION: 07 46 23—WOOD SIDING

REPORT HOLDER:

JELD-WEN, INC.

3737 LAKEPORT BOULEVARD
KLAMATH FALLS, OREGON 97601

EVALUATION SUBJECT:

MiraTEC® TREATED EXTERIOR COMPOSITE TRIM

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REPORT HOLDER:
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EVALUATION SUBJECT:

MiraTEC® TREATED EXTERIOR COMPOSITE TRIM

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2015, 2012 and 2009 *International Residential Code*® (IRC)
- 2013 *Abu Dhabi International Building Code* (ADIBC)†

†The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

- Other Codes (see Section 8.0)

Properties evaluated:

- Weather resistance
- Termite resistance
- Decay resistance above ground
- Corrosion
- Structural

2.0 USES

MiraTEC® Treated Exterior Composite Trim is used as nonload-bearing exterior trim.

3.0 DESCRIPTION

3.1 General:

MiraTEC® Treated Exterior Composite Trim is a wood composite containing zinc borate at a minimum level of 0.75% (w/w). MiraTEC® Treated Exterior Composite Trim is recognized for use in aboveground applications (UC3A) and resists attack by fungal decay and subterranean termites, including Formosan termites.

3.2 Material:

The material is formed by blending a zinc borate slurry with hardwood fibers and then laying down a continuous mat. The mat is hot pressed to form boards which are then cut to size and primed.

MiraTEC® Treated Exterior Composite Trim is available in widths of nominal 2-inch trim [actual size 2 inches (51 mm)], nominal 3-inch trim [actual size 2.75 inches (70 mm)], nominal 4-inch trim [actual size 3.5 inches (89 mm)], nominal 5-inch trim [actual size 4.5 inches (114 mm)], nominal 6-inch trim [actual size 5.5 inches (140 mm)], nominal 8-inch trim [actual size 7.25 inches (184 mm)], nominal 10-inch trim [actual size 9.25 inches (235 mm)], nominal 12-inch trim [actual size 11.25 inches (286 mm)], and nominal 16-inch trim [actual size 15.5 inches (394 mm)] and in thicknesses of $^{5}/_{8}$ inch [actual thickness 0.625 inch (16 mm)], 4/4 [actual thickness 0.75 inches (19 mm)], 5/4 [actual thickness 1.0 inch (25 mm)], and $1^{1}/_{4}$ inch [actual thickness 1.25 inches (32 mm)].

4.0 DESIGN AND INSTALLATION

4.1 General:

MiraTEC® Treated Exterior Composite Trim is installed in accordance with the manufacturer's published installation instructions and this report. The manufacturer's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation. The instructions within this report must govern if there are any conflicts between the manufacturer's published installation instructions and this report.

4.2 Fasteners:

Fasteners used with MiraTEC® Treated Exterior Composite Trim must be hot-dipped zinc-coated galvanized steel or other corrosion-resistant fasteners in accordance with Section 2304.10.5 of the IBC (Section 2304.9.5 of the 2012 and 2009 IBC) and Section R317.3 of the IRC. Nails are 6d, 8d or 15 gauge finish nails or headed nails long enough to penetrate solid wood substrates a minimum of $1^{1}/_{4}$ inches (32 mm). The fasteners are spaced at 16 inches (406 mm) and 24 inches (610 mm) on center. When used for fascia applications, the fasteners are spaced 24 inches (609.6 mm) on center.

4.3 Structural:

Maximum allowable transverse wind loads for MiraTEC® Treated Exterior Composite Trim with thicknesses of nominal 1.0 inch [actual thickness 1.0 inch (25 mm)] and nominal $1^1/_4$ inch [actual thickness 1.25 inches (32 mm)] and widths of nominal 2-inch trim [actual size 2 inches (51 mm)] up to nominal 16-inch trim [actual size 15.5 inches (394 mm)] are as noted in Table 1.

5.0 CONDITIONS OF USE

The MiraTEC® Treated Exterior Composite Trim described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, must be submitted at the time of permit application.

5.2 The trim must be manufactured, identified and installed in accordance with this report and the Jeld-Wen, Inc., instructions.

5.3 The product must be limited to the following construction types:

- Nonload-bearing exterior trim on buildings of Type VB construction under the IBC.
- Combustible architectural trim on exterior walls of buildings of Type I, II, III and IV construction under the IBC. The buildings are limited to 40 feet (12.2 m) in height above grade. The trim must be backed by noncombustible material (Section 1405.5 of the IBC).
- All buildings permitted under the IRC.

5.4 The product must be installed over solid backing material, such as approved exterior sheathing covered with an approved water-resistant barrier or approved exterior wall covering.

5.5 MiraTEC® Treated Exterior Composite Trim is manufactured at the Jeld-Wen, Inc., facility in Towanda, Pennsylvania, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Wood-based Exterior Composite Trim Treated with Zinc Borate (ZB) Preservative by a Non-pressure Process (AC424), dated October 2010 (editorially revised January 2016).

7.0 IDENTIFICATION

Each package of MiraTEC® Treated Exterior Composite Trim described in this report must be labeled with the Jeld-Wen, Inc., name, address and telephone number; the product trade name; and the evaluation report number (ESR-3043).

8.0 OTHER CODES

In addition to the codes referenced in Section 1.0, the products described in this report were evaluated for compliance with the requirements of the following codes:

- 2006, 2003 and 2000 *International Building Code*® (IBC)
- 2006, 2003 and 2000 International Residential Code® (IRC)
- 1997 Uniform Building Code™ (UBC)
- BOCA® National Building Code/1999 (BNBC)
- 1999 Standard Building Code© (SBC)
- 1998 International One- and Two-Family Dwelling Code® (IOTFDC)

The MiraTEC® Treated Exterior Composite Trim described in this report complies with, or is a suitable alternative to what is specified in, the codes listed above, subject to the provisions of Sections 8.1 through 8.6.

8.1 Uses:

See Section 2.0.

8.2 Description:

See Section 3.0.

8.3 Installation:

See Section 4.0, except for the following modifications:

Fasteners used with MiraTEC® Treated Exterior Composite Trim must be hot-dipped zinc-coated galvanized steel or other corrosion-resistant fasteners in accordance with Section 2304.9.5 of the 2006, 2003 and 2000 IBC; Section R319.3 of the 2006 and 2003 IRC; Section R323.3 of the 2000 IRC; Section 2306.3 of the SBC; Section 2311.3.3 of the BNBC; and Section 2304.3 of the UBC.

8.4 Conditions of Use:

See Section 5.0, except for the following modifications:

The product must be limited to the following construction types:

- Nonload-bearing exterior trim on buildings of combustible nonfire-resistance-rated construction, Type 5B of the BNBC, Type VI unprotected of the SBC, and Type VN of the UBC.
- Combustible architectural trim on exterior walls of buildings of Type 3 and 4 of the BNBC, Types I, II and IV of the SBC and Types I, II, II, IV of the UBC. Buildings are limited to 40 feet (12.2 m) in height above grade [15 feet (4.6 m) for the UBC]. The trim must be backed by noncombustible material.
- All buildings permitted under the IOTFDC.

8.5 Evidence Submitted:

See Section 6.0.

8.6 Identification:

See Section 7.0.

TABLE 1—MiraTEC® TREATED EXTERIOR COMPOSITE TRIM - MAXIMUM ALLOWABLE TRANSVERSE WIND LOADS FOR 1.0-INCH-THICK TRIM and $1^1/_4$-INCH-THICK SECURED USING 8d COMMON NAILS[1]

TRIM WIDTH (inches)	NUMBER OF FASTENERS	FASTENER SPACING (inches)	MAXIMUM ALLOWABLE LOAD[2] (psf)	MAXIMUM WIND SPEED[3] (mph) (2015 IBC)		
				Wind Exposure Category		
				B	C	D
2	1	24	94	180	160	150
		16	141	180	180	180
3	1	24	68	160	140	120
		16	103	180	170	150
4	1	24	54	140	120	115
		16	81	170	150	140
5	2	24	84	180	150	140
		16	126	180	180	170
6	2	24	68	160	140	120
		16	103	180	170	150
8	2	24	52	140	120	110
		16	78	170	150	130
10	2	24	40	120	N/A	N/A
		16	61	150	130	120
	3	24	61	150	130	120
		16	92	180	160	150
12	2	24	33	115	N/A	N/A
		16	50	140	120	110
	3	24	50	140	120	110
		16	75	170	140	130
16	2	24	24	N/A	N/A	N/A
		16	36	120	N/A	N/A
	3	24	36	120	N/A	N/A
		16	54	140	120	115

For **SI:** 1 inch = 25.4 mm, I psf = 47.88 Pa, 1 mph = 1.6 km/h.

[1]Fasteners must have minimum head diameter of 0.28 inch, a minimum shaft diameter of 0.13 inch, and a minimum length of 2.5 inches (8d common nail).
[2]Wall framing must have minimum specific gravity of 0.42.
[3]Three-second-gust; based on a building height of 40 feet and an importance factor of 1.0 in accordance with ASCE 7-10, Section 6.4.2.2.