



TimberTech Limited
894 Prairie Avenue
Wilmington, Ohio 45177
(866) 863-7832

www.timbertech.com

1.0 Subject

TimberTech® Decking Planks
(Plastic Composite Deck Boards)

XLM® Solid Plank

XLM® Grooved Plank

2.0 Research Scope

2.1 Building Codes:

2006 International Building Code (IBC)

2006 International Residential Code (IRC)

2.2 Building Codes:

Structural Performance

Durability

Surface Burning

Decay Resistance

Termite Resistance

3.0 Description

3.1 General – *XLM®* deck boards are intended for use as a walking surface on exterior decks, balconies, porches, and walkways, including stairs.

3.2 Materials and Processes - *XLM®* deck boards are co-extrusions of a PVC capstock and cellular PVC core produced in various colors. See Table 1.

3.3 Profiles – *XLM®* deck boards have a solid cross-section measuring a nominal 5.4 inches in width and 1 inch in depth. See Figures 1 and 2.

3.4 Deck boards may be produced with a grooved edge to accommodate installation with a hidden fastener system. Grooves are continuous on each side of the deck board, formed in the extrusion process. The groove measures 0.21 inches wide by 0.40 inches deep and is located at the centerline of the deck board height. See Figure 2.

3.5 Walking Surface – *XLM®* deck boards use two different types of walking surfaces, *Vertigrain™* and “Flat Grain”. *Vertigrain™* is an embossed simulated wood-grain pattern surface and “Flat Grain” is a smooth extruded surface. See Table 1 and, Figures 1 and 2.

4.0 Performance Characteristics

4.1 Deck boards are rated for a uniform live load of 100 lb/ft² when installed on support framing spaced at 16 inches on center. See Table 2.

4.2 Deck boards used as stair treads are rated for the code-prescribed concentrated load equal to 300 lb. when installed in accordance with Figure 4.

4.3 Wind Uplift Resistance ratings are given in Table 2 for the corresponding deck boards and fasteners indicated.

4.4 Materials used have a flame spread index of 20 when tested in accordance with ASTM E 84. The referenced criteria of AC174, requires a flame spread index not exceeding 200 when tested in accordance with ASTM E 84.

4.5 Materials used are deemed equivalent to preservative treated or naturally durable wood for resistance to weathering effects, attack from termites and fungus decay.

4.6 Structural performance has been demonstrated for a temperature range from -20°F to 125°F.

5.0 Installation

Installation shall be in accordance with the manufacturer's installation instructions and this report. Where differences occur between this report and the manufacturer's installation instructions, this report shall govern.

5.1 Solid deck boards are face fastened and require two fasteners at every joist 0.75 inch from the sides and at least 0.75 inch from the ends of the board. *XLM®* Grooved deck boards shall be secured with *CONCEALoc®* Hidden Fasteners at each joist. See Figure 3. Table 2 indicates type of fasteners that are to be used.



6.0 Supporting Evidence

6.1 Manufacturer's drawings and installation instructions.

6.2 Reports of testing demonstrating compliance with ICC-ES Acceptance Criteria for Deck Board Span Ratings and Guardrail Systems (Guards and Handrails), AC174 effective April 1, 2008.

6.3 Quality control manual in accordance with ICC-ES Acceptance Criteria for Quality Documentation, AC10, effective July 1, 2008.

7.0 Conditions of Use

The XLM[®] deck boards applications identified in this report are deemed to comply with the intent of the provisions of the referenced building codes subject to the following conditions.

7.1 XLM[®] deck boards are limited to use in Type V-B (5B) construction.

7.2 The wind uplift resistance rating recognized in this report is based on attachment to treated Southern Pine framing (specific gravity, G=0.55). Installation on wood framing with a lesser specific gravity may result in a lower wind uplift rating.

7.3 Where required by the building official, engineering calculations and details shall be provided. The calculations shall verify that the anchorage complies with the building code for the type of framing and condition of the supporting construction.

7.4 Compatibility of the supporting construction materials with all fasteners, metal post mount components, and other hardware components is subject to approval by the code official.

7.5 Only those types of fasteners and fastening methods described in this report have been evaluated for the installation of the XLM[®] deck boards; other methods of attachment are outside the scope of this report.

7.6 XLM[®] Grooved deck boards shall not be used as stair treads.

7.7 All products are manufactured in Columbus, Ohio by TimberTech Limited, in accordance with the manufacturer's approved quality control system with inspections by Architectural Testing, Inc (AA-676).

8.0 Identification

XLM[®] deck boards that are produced in accordance with this report shall be identified with labeling on the individual deck boards that includes the following information:

8.1 Name and/or trademark of the manufacturer and the manufacturers address.

8.2 The mark of the independent inspection agency, Architectural Testing, Inc. (AA-676)

8.3 The Architectural Testing, Inc. Code Compliance Research Report Number (CCRR-0139)

9.0 Code Compliance Research Report Use

9.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

9.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product or manufacturer by Architectural Testing, Inc.

9.3 Reference to the Architectural Testing internet web site address at www.archtest.com is recommended to ascertain the current version and status of this report.

Table 1

Deck Board	Description	Color(s)	Surfaces	
			Finish	Walking Surface
XLM [®] Grooved	1 inch x 5.43 inches Solid cross-section with 0.125 inch radius edge and 0.21 inch x 0.40 inch deep longitudinal side grooves for fasteners.	RiverRock, SandRidge & Mountain Cedar	Vertigrain™	Yes
			Flat Grain	Yes
XLM [®] Solid	1 inch x 5.46 inches Solid cross-section with 0.125 inch radius edge.	RiverRock, SandRidge & Mountain Cedar	Vertigrain™	Yes
			Flat Grain	Yes

Table 2

Deck Board	Span/Load Rating ¹	Stair Tread Span	Fastening	Wind Uplift Resistance
XLM [®] Grooved	16/100	N/A	CONCEALoc [®] Hidden Fastener attached with (1) #8 x 2.5 inches Deck Screw	196 lb/ ft ²
XLM [®] Solid	16/100	17.25 inches	(2) #8 x 2.5 inches Deck Screws direct to each joist	287 lb/ ft ²

¹ Span/Load rating is the maximum span in inches and the maximum allowable live load in pounds per square feet (psf).

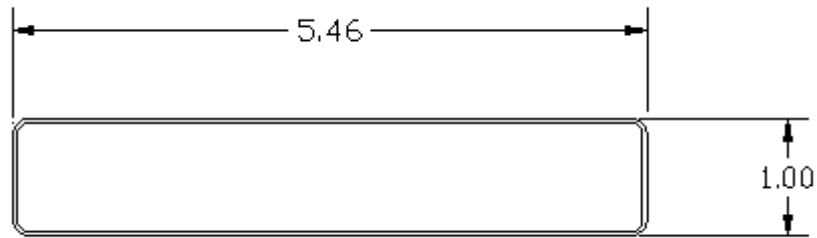


Figure 1 – XLM® Solid Deck Board Profile

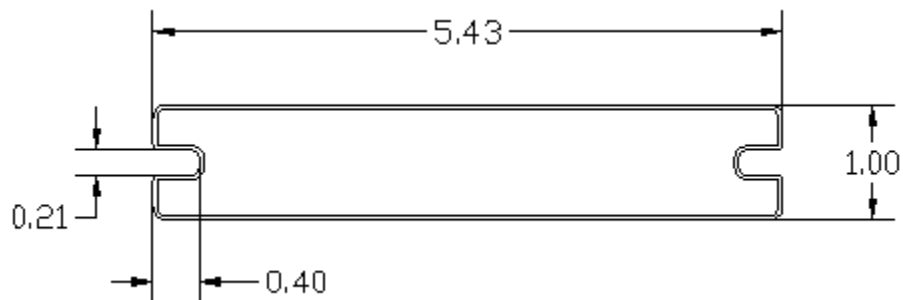


Figure 2 – XLM® Grooved Deck Board Profile



Figure 3 – CONCEALoc® Hidden Fastener Clip

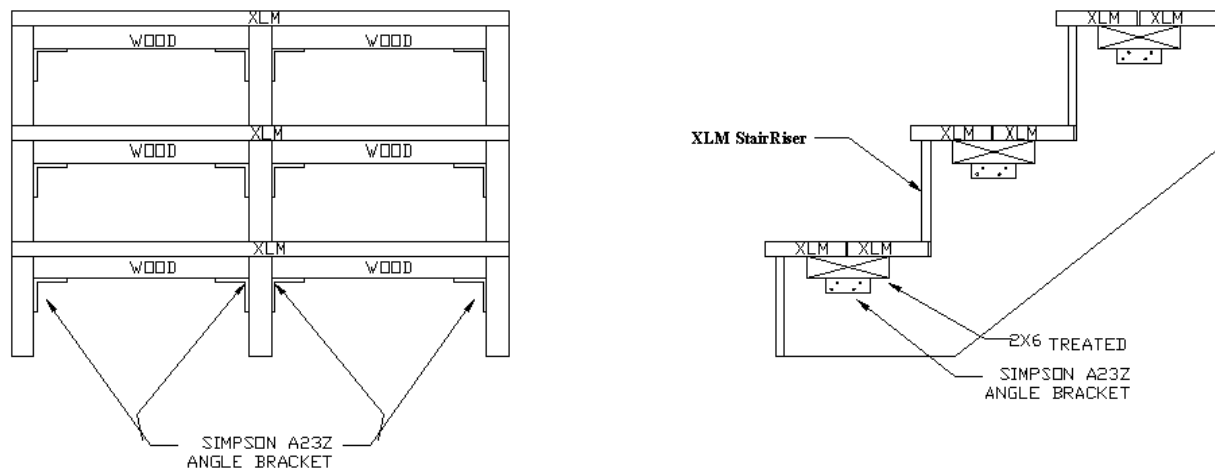


Figure 4 – Stair Tread Installation Detail