

LAMBOO® ENDURANCE™ SERIES PRODUCTS INSTALLATION GUIDELINES FOR VARIOUS MOUNTING APPLICATIONS

Purpose: The purpose of this document is to provide recommended installation guidelines for the Endurance™ Series products in various mounting applications.

Installation Guidelines:

All information provided within this document is to be used as reference only. It is required under the Lamboo™ Elements™ Limited Warranty that a trained professional install this product. All products should be installed according to local building codes. Failure to do so could lead to personal injury and affect overall performance as well as void the product warranty.

Tools Required:

Lamboo™ Endurance™ products can be installed with common building tools used in the building industry. All tools should be used according to the applicable manufacturers' instructions. The following are basic tools required for installation:

- Cordless Drill (18v or greater recommended)
- Carbide Drill Bits and Saw Blades
- Chalk Line
- Carpenter Square
- Tape Measure
- Miter Saw
- Jig Saw
- Hand Router
- All Proper Protective Equipment (PPE) (i.e., safety glasses, gloves, etc...)

It is important to use sharp tool bits and blades when making cuts into Lamboo® Endurance™ products or other parts of the mounting sub-structure. Avoid wearing loose clothing when using tools which spin at high RPMs.

Horizontal/Flat Applications:

The most common horizontal applications for the Endurance™ Series product is decking and flooring. The following guidelines should be reviewed prior to installing the Endurance™ Series products.

1. Frame and Sub-Structure Installation:

- a. The frame/sub-structure should be installed per local building codes and specifications. Joist spacing for decking or flooring should not exceed 16" on center (O.C.) with a minimum ground clearance of 2" for adequate ventilation. If installing decking/floor diagonally, 12" joist spacing is required. If decking/floor is used for stair treads, a gap of 1/8" to 1/4" between each board is recommended. Stair stringers should be spaced no more than 16" O.C.

2. Planning your deck/floor layout:

- a. It is recommended to consult with your installer to determine sizes and quantities required for your finished deck/floor. When determining final quantities, it is recommended to add at least 5% to 10% contingency to allow for cut loss and best appearance.

3. Face Fasteners:

- a. It is recommended that high-quality fasteners be used based on the following specifications:
 - i. Stainless Steel or Composite Decking Screws
 - ii. Minimum Screw Size: #10 x 2" Long
 - iii. Face Fastening Screws Minimum Length:
 1. This is depended on the size of board being mounted. It is good practice to use a fastener that is at least 1" longer than the thickness of the deck/floor board.
- b. Fasteners should drive at least 1" to 1-1/4" into solid framing below the deck/flooring board.
- c. Avoid using flat head screws. Trim head screws typically provide better results. Always sample the type of fastener in a scrap piece of decking/flooring prior to using for final installation.
- d. For installation near coastal areas with a high salt content in the air, use stainless steel fasteners with a minimum alloy of 316 stainless steel.

4. Hidden Fasteners:

- a. Hidden Fasteners can be used on boards that have been grooved for hidden fasteners.
- b. Be sure to properly seat the grooved board into the adjoining fastener prior to securing to the sub-structure.
- c. Contact Lamboo for recommended hidden fasteners or systems to use with the Endurance™ products.

(Continue to Next Page)

Vertical Applications:

In this section, vertical applications will reference products that are mounted onto walls or vertical surfaces. The orientation of the Endurance boards could be used horizontally or vertically as well. Please see the following recommendations when mounting the Endurance™ products to walls or flat vertical surfaces:

1. Make sure your structural substrate has been attached properly to the framed wall system according to manufacturer's instructions and local building codes. Plywood or Oriented Strand Board (OSB) may be used. (Note: Plywood is the preferred wall substrate). The panel thickness should be rated for structural application and must be a minimum of 7/16" thick. Plywood is typically stiffer and stronger than OSB. Thicker plywood or OSB makes a stronger wall and has greater holding strength of the screw. Always reference local and international building codes as it pertains to exterior sheathing.

Note: Foam and gypsum boards are not structural panels. There are attachment systems that can be used for application over foam or gypsum boards. Contact Lamboo to speak with one of their product specialists to help in regards to this application.

2. Make sure the drainage plane material has been properly installed. Use the appropriate AWB (Air and Water Barrier) or WRB (Weather Resistant Barriers) as specified by the architect or designer. There are many products available to address requirements of the exterior wall in your climate zone.
3. Furring should be used to project the materials away from the substructure. ½" to ¾" projection is recommended. A siding vent system is also recommended.
4. All windows and exterior doors should now be installed properly. Check to ensure that the installation (and flashing) instructions from the door and window manufacturers were properly followed. Note: Window and door manufacturer's installation instructions always take precedent over these guidelines.

Face-Fasteners:

1. It is recommended that high-quality fasteners be used based on the following specifications:
 - a. Stainless Steel Screws
 - i. Avoid using Galvanized Dipped or Ceramic coated screws. These types of fastener's coating tends to "leech" into the Endurance™ products.
 - b. Minimum Screw Size: #10
 - c. Face Fastening Screws Minimum Length: 2"
2. Fasteners should drive at least 3/4" to 1" into the solid framing behind the wall cladding.



311 WEST EDWARDS STREET
LITCHFIELD, IL 62056
P: 866.966.2999
ADMIN@LAMBOO.US

3. Avoid using flat head screws. Trim head screws typically provide better results. Always sample the type of fastener in a scrap piece of wall cladding prior to using for final installation.
 - a. **NOTE:** Air nailing is not recommended for the Endurance™ products.
4. For installation near coastal areas with a high salt content in the air, use stainless steel fasteners with a minimum alloy of 316 stainless steel.

Hidden Fasteners:

Hidden Fasteners may be used on Endurance™ products that have been cut with a groove to accept hidden fasteners or profiled to accept Lamboo's Titan™ Rainscreen™ Clipping System. The Endurance™ products can also be machined with a Tongue & Groove (T&G) profile which can be mounted in the same way as other T&G products.

Note: Use stainless steel fasteners for the best method for securing T&G products to the wall. Be sure to pre-drill the material prior to installing the fastener. Again, do not air nail Endurance™ products as they have a tendency to split and/or break.

IMPORTANT: All information as stated in this document is for reference only. Lamboo nor its affiliated companies will guarantee, warrant, or be liable for improper mounting or use of Lamboo products. For any questions in reference to mounting Lamboo products, please contact Lamboo's Corporate office at 866-966-2999 to speak with a product specialist.