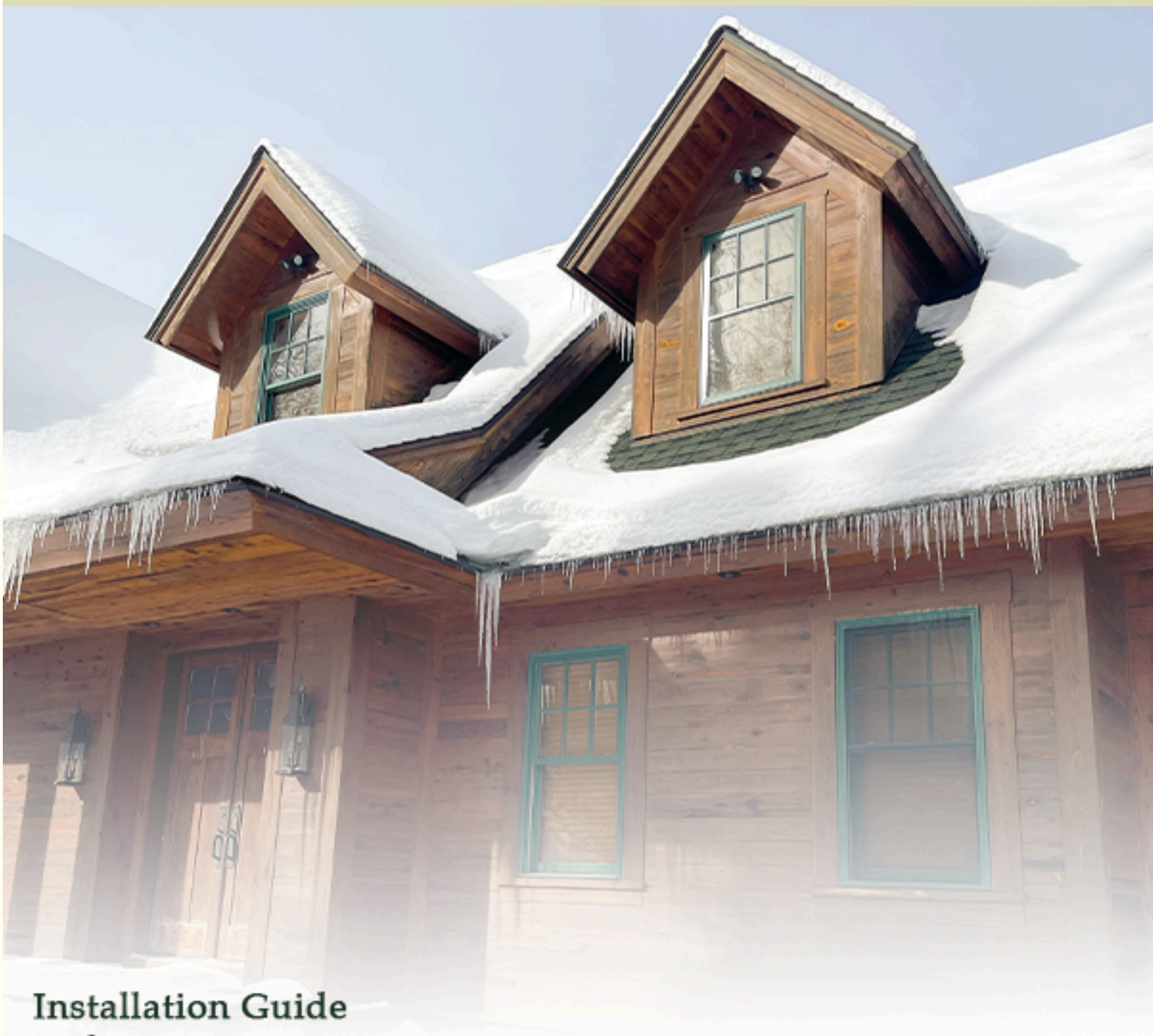# SmartTech TIMBER

Installation Guide
Thermally Modified Siding

Working with Thermally Modified Hardwoods

Before Installation

- **Acclimation**: Allow wood to adjust to site conditions for **at least two weeks**. Stack off the ground with spacers between boards to encourage airflow.
- **Proper Storage**: Keep material covered and protected from moisture. If storing outdoors, use a breathable tarp and elevate stacks to prevent water damage.

During Installation

- **Ventilation & Drainage**: Ensure air circulation behind siding using furring strips and vent systems. Proper drainage reduces the risk of moisture-related issues.
- **Handling**: Thermally modified wood is more brittle than traditional lumber. Handle with care to avoid splitting or cracking.
- **Fasteners**: Use **only stainless steel fasteners**. Galvanized or coated screws can cause corrosion and permanent staining.
- **Pre-Drilling**: Always **pre-drill** to prevent splitting.
- **Board Spacing**: Leave a **1/8-inch gap** between boards to accommodate minor expansion.
- **Board Orientation**: Install boards with the **bark side up** ("rainbow orientation") to minimize surface checking.
- **End Sealing**: Apply a quality end-seal product to all freshly cut ends to reduce moisture absorption.
- **Color Change**: Thermally modified hardwood will naturally turn silver-gray over time due to UV exposure. This can be preserved, enhanced, or reversed with appropriate finishes (see Finishing Guide).

Troubleshooting Common Issues

Issue	Likely Cause	Action
Surface Checking / Cracking	Natural adaptation to environment	Minimize with end sealing, acclimation, UV protection
Cupping	Poor airflow or water retention behind siding	Improve drainage and ventilation
Splitting or Shelling	Impact damage or structural stress	Contact SmartTech for product evaluation
Over-Expansion	Inadequate spacing or moisture imbalance	Ensure proper gaps, drainage, and ventilation

Siding Installation Guidelines

System Overview

SmartTechTimber™ thermally modified siding is offered in multiple profiles and wood species, including Appalachian Ash, Oak, and Poplar — all thermally modified for superior durability and performance.

- Available in **horizontal or vertical applications**
- Custom profiles and square-end match available on request
- Designed for both rainscreen and direct-to-sheathing installations

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Furring and Substructure Requirements

- Use **1" x 2" furring strips** (confirm with local building codes)
- Install strips **vertically, spaced a maximum of 16" apart**

- Furring must be secured over **sheathing and house wrap**
- For **horizontal siding**, the tongue should always face upward

  *In fire-prone regions, use **Type X Gypsum sheathing** (min. 5/8") installed over 2x4 framing at 16" OC*

Ventilation & Ground Clearance

- Maintain a **2" gap** between bottom of siding and finished grade
- Use products like **Cor-A-Vent** or similar at the top and bottom to ensure ventilation behind the siding
- Ventilation gaps must remain clear at all times

Optional Structural End Match

Boards with **SmartTechTimber™ Structural End Match**:

- **Do not** need to meet over a furring strip
- Must span a **minimum of two furring strips** on either side of the joint
- Can be **randomized throughout** the wall system for a seamless look

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Fastening Instructions

- Always use **stainless steel fasteners** — avoid galvanized hardware
- **Pre-drill and countersink** holes before inserting screws
- Maintain **1/8" spacing** between boards to allow for minor expansion
- For a cleaner finish, use **wood plugs** and sand flush

Finishing Recommendations

Before Installation

- Apply a **penetrating oil-based finish** such as **Cutek™ Extreme** to all sides of the board
- A **UV-protective pigment** must be added to prevent graying

After Installation

- Without UV protection, boards will naturally **silver over 6–12 months**
- This process is purely cosmetic and does **not affect performance**
- Original tones can be restored by **light sanding and reapplication** of finish

Finish Type	Benefits
Cutek™ Clear + Pigment	UV protection, enhanced durability
Factory-applied Finish	Saves time, consistent appearance
Site-applied Finish	Allows custom color matching and control

Siding Profile Options

Code	Description	Notes
S-XX-000	Shiplap	Nominal – 0.875"
S-XX-001	Shiplap Quarter Gap	Nominal – 0.750"
S-XX-002	Shiplap Nickel Gap	Nominal – 0.875"
S-XX-003	Shiplap Half Gap	Nominal – 1.000"

S-XX-004	Tex	Nominal – 1.000"
S-XX-005	Tex Fineline	Nominal – 1.000"
S-XX-006	Tex Nickel Gap	Nominal – 1.000"
S-46-007	Tex Bevel	Nominal – 1.000"
S-44-008	Dutch	Nominal – 1.500"
S-46-009	Double Dutch	Nominal – 1.000"
S-XX-010	WP4	Nominal – 0.850"
S-84-011	Deep Shadow	Nominal – 1.250"
S-86-012	Triple Shadow	Nominal – 0.875"
J-XX-000	Open Joint Reveal	Nominal – 0.500"

Custom profiles available upon request. All profiles available **with or without Square End Match**.