



SINCE 1985 · AUSTIN, TX

Handling & Installation Guidelines

2019

INTRODUCTION

Thank you for choosing Delta Millworks® (Delta) as your choice for exterior wood siding. We are proud to provide these high-performing and sustainable wood products for your project. We aim for these products to exceed your expectations and live up to their highest potential performance, so please take a moment to read and understand these guidelines to ensure that proper methods are followed. Please keep in mind that wood is a natural product and can be affected by environmental changes. Furthermore, please be aware that proper handling and installation are critical to long-term performance. Delta is happy to consult further on any topics covered in this document, so please feel free to reach out to us at any time.

Please note that these are general guidelines and best practice recommendations, and do not take into account the effects of your specific environment, local building codes, or other unique conditions that may affect installation and overall performance. Delta is a materials supplier only - we can make general recommendations for your project, but please consult your architect, builder and wood siding installer for final authority on the installation of these products. Delta is more than happy to participate in these technical conversations.

Thanks again for choosing Delta Millworks.

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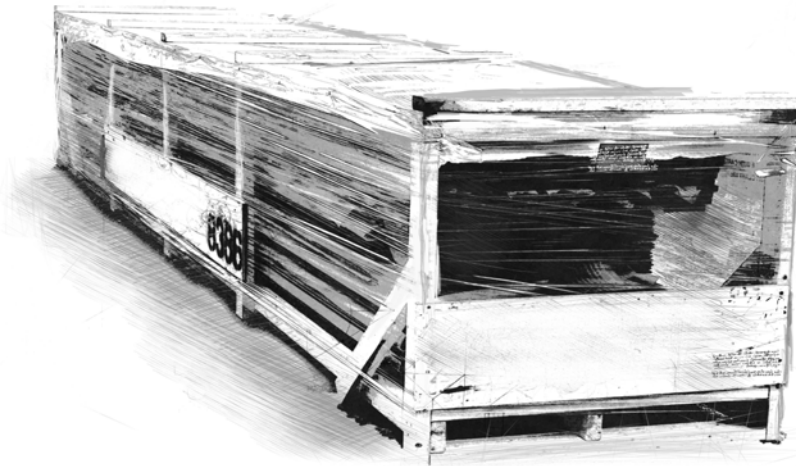
1. Do's & Don'ts
2. Characteristics

SECTION I: GENERAL WOOD SIDING GUIDELINES

Please read and understand these guidelines prior to handling or installing this wood siding material.

1. Delivery

Your wood siding material from Delta will arrive at the job site via independent freight carrier. It will arrive banded, crated and protected from damage during the transportation process.



If using a forklift, please use caution when unloading these crates and be sure to inspect the units for damage that may have occurred in transit. Freight claims can only be accepted if reported at the time of delivery. A quick visual inspection should determine if damage has occurred during transit. Once the material is safely offloaded, please move crates to a covered area to reduce adverse effects of weather exposure.

SECTION I: GENERAL WOOD SIDING GUIDELINES

2. Inspection

Visually inspect the material to verify quality and quantities. Each crate will be labeled with a packing slip to identify the product within the crate and its respective quantities. Delta requests that shortages, damages, or any concerns about the material be reported and documented within three (3) business days of delivery.

Do not install any material considered defective, and report any questions or concerns immediately to Delta.

3. Jobsite Storage

Crates, bundles or loose pieces of Delta wood siding need to be stored properly so that the material is not adversely affected by exposure to rain, direct sun, concentrations of moisture, or other harmful elements. The material should also be protected from dust, overspray of any kind, or general damage that can occur in construction zones. Although the crates are designed to be water-resistant, they are not weatherproof and will need to be additionally protected from moisture and sun exposure. Delta strongly recommends the crates and any material be stored under a covered area such as a garage. If a covered area is not available to store the material under, please protect the material by means of a water-proof tarp or covering (breathable or "vapor-open" plastic to allow for proper ventilation). Remove the plastic shrink wrap prior to covering/tarping so that the wood receives proper air flow. Please make sure the materials are elevated on stringers at least 6" above the ground, and that any covering used will allow for proper ventilation around all sides of the crate.

4. Acclimation of the Wood

Wood will respond to its environment, so once installed, proper acclimation and an assessment of the moisture content is necessary to achieve maximum performance. All exterior woods can and will move to some extent with changes in the climate, so the wood siding should reach an equilibrium moisture content (MC) prior to installation. Reaching an equilibrium MC in the wood means that the MC of the wood stabilizes, and will not move up or down over the course of several days in normal conditions. Do not install material if it has been wetted or experienced any extreme changes in temperature, humidity, or exposure.

SECTION I: GENERAL WOOD SIDING GUIDELINES

5. Mock-Up Material

Mock-up (test) areas are highly recommended by Delta if there are any questions or concerns about the appearance or installation of the siding. A mockup will allow all parties involved to assess the appearance of the wood, understand installation methods and put a proper plan together for the installation of the full batch of material. Installers with experience in prefinished wood siding are strongly recommended for handling these materials.

6a. Fasteners

Using appropriate fasteners will directly affect the longevity and structural performance of a wood siding product. Even the best woods on the market will fail if inappropriate fasteners are used. Delta strongly recommends stainless steel fasteners, especially if the siding material is finished with a transparent or semi-transparent stain or oil. Nails can be hand driven or installed with a pneumatic siding nail gun. If a pneumatic nail gun is desired, reduce the air-pressure, and tap nails flush with a nail set. If nails are overdriven, fill the overdriven nail holes immediately with an exterior grade wood putty suitable for that application.

Minimum Size Nail: (6d) for ring-shanked nails - the nail must penetrate at least 1.25" into solid wood substrate.

Delta cannot warrant any material installed with improper fasteners. These guidelines regarding fasteners apply to average environmental conditions -- extremes in heat, humidity, precipitation, wind and other environmental conditions may require different fasteners or fastening techniques.



SECTION I: GENERAL WOOD SIDING GUIDELINES

6b. Fasteners Do's & Dont's

Do:

- Use "splitless" ring-shank nails or screws
- Use stainless steel 304 or 316, hot-dipped galvanized per ASTM A-153 or aluminum fasteners (Accoya and Kebony must use stainless steel only)
- Pre-drill holes to 0.04" less than nail diameter
- Preserve the quality of the wood and finish by using caution when installing siding
- Use the appropriate length of nail (fastener must drive at least 1.25" into a solid substrate or wall stud)
- Assess environmental conditions prior to choosing a fastener (coastal and other extreme climates may affect fastener choice)
- Allow for expansion and contraction of the wood by spacing boards with a "crusher bead" milled into the T&G or shiplap profiles
- Install mock-ups or test areas to assess proper installation methods

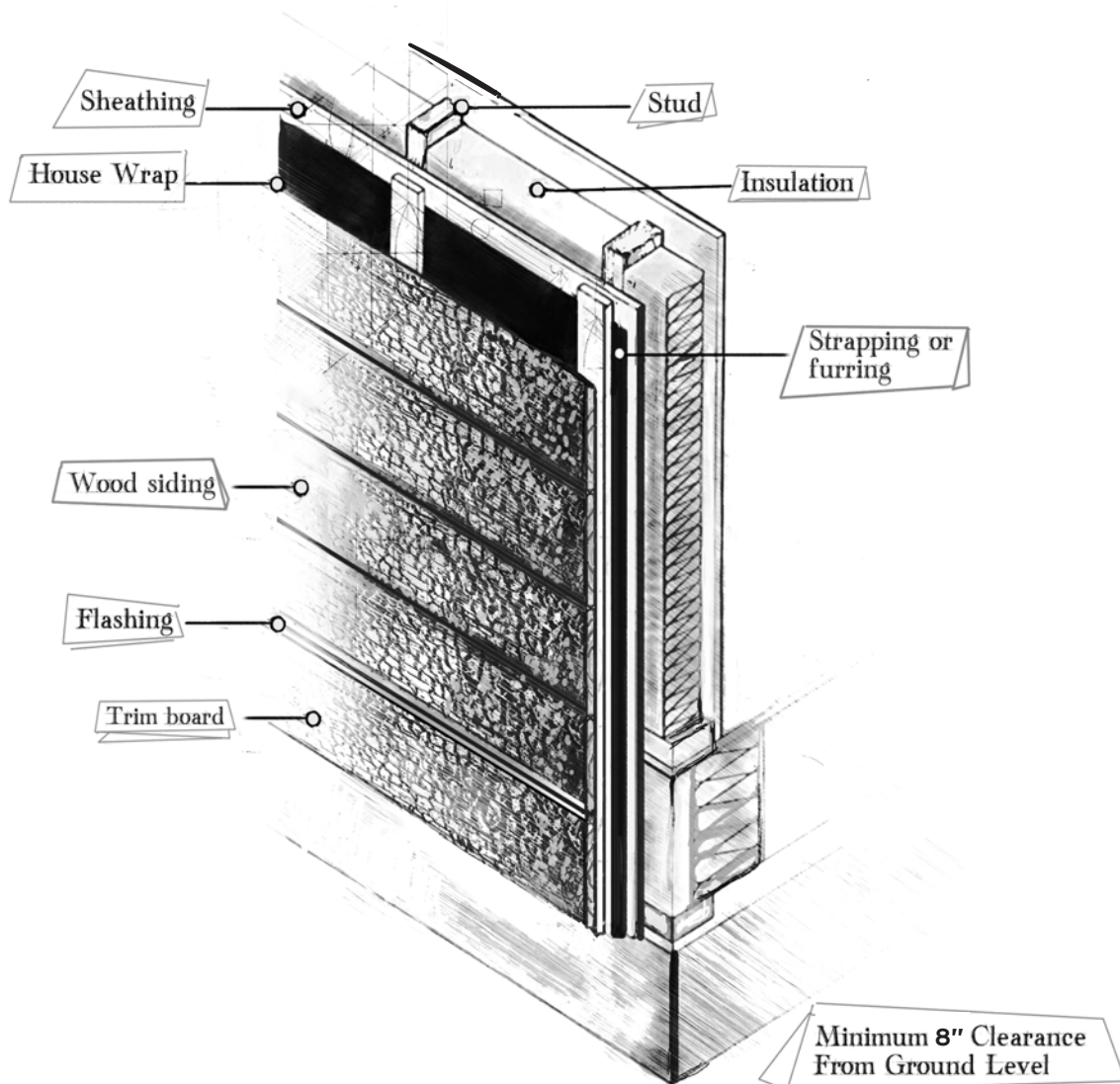
Don't:

- Use staples, T-nails, interior-rated ("finish" nails) or any insufficient fasteners
- Overdrive nails into wood
- Install wood with defects
- Damage the wood or finish during installation

SECTION I: GENERAL WOOD SIDING GUIDELINES

7. Ventilation & Wall Construction (Rainscreen)

Proper ventilation is important for all wood siding products. Trapped moisture or prolonged exposure to moisture can cause swelling and adversely affect the structural performance of a siding product. Delta strongly recommends a ventilated cladding system a.k.a. a “rainscreen” style installation. This method provides an open air space between the siding wall and the structural wall, minimizing exposure of moisture to the wood siding. Wood siding should have no less than 8” of ground clearance, and top and bottom air vents should exist, allowing air circulation around the wood siding.



SECTION I: GENERAL WOOD SIDING GUIDELINES

8. Field Cuts

All field cuts, specifically cut ends and ripped edges, will need to be sealed prior to installation. The ends of the boards will need to be trimmed/squared up and sealed prior to installation. An alkyd oil primer can be applied and installed without the primer fully dry before installing. The primer can be applied with a foam brush or end-cut applicator.

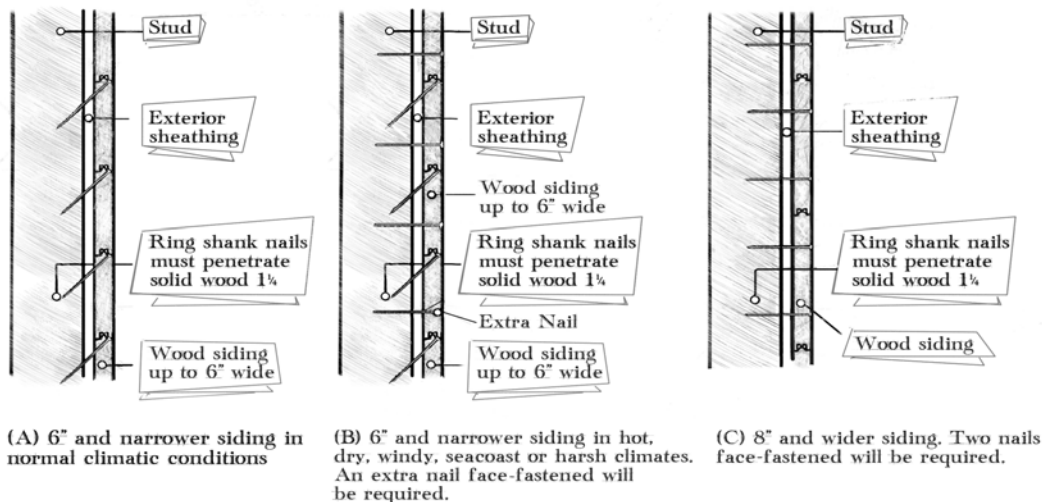
9. General Handling on Jobsite

Please be sure that the material is handled with caution, as natural siding can be damaged more easily than other siding products. Wood is relatively soft, and the finishes can be delicate, so proper storage and handling is important for minimizing damage. Longer boards should be removed from the crates with care; two people at each end are recommended for transporting and installing boards to reduce damage. Improperly removing a board from its crate can damage the finish or the finish of other boards.

SECTION I: GENERAL WOOD SIDING GUIDELINES

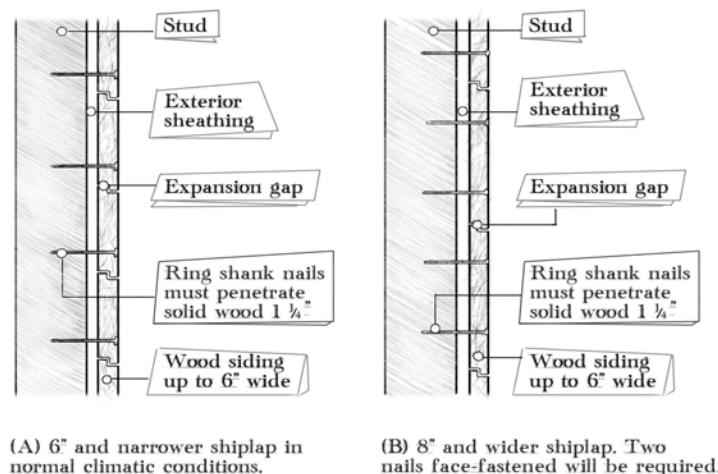
10. Installing Tongue & Groove (T&G)

Tongue and groove siding can be installed both horizontally and vertically. For boards 6" or under in width, nails can be blind nailed with the nail toe-nailed at the base of each tongue (in normal climate conditions). Wider siding should be face-nailed with two nails per board. Begin installation at the bottom of the wall, working up, with the groove edge facing down.



11. Installing Lap Siding (shiplap)

Lap siding can be installed both horizontally and vertically. For boards 6" or under in width, use one nail 1" up from the exposed lap. For planks 8" and wider, face nail two nails per board with the nails 2.5" to 3" apart, allowing for expansion and contraction without splitting.



SECTION I: GENERAL WOOD SIDING GUIDELINES

12. Spacing

To allow for natural expansion and contraction of wood siding products, Delta will mill a crusher bead into our T&G and shiplap profiles. The crusher bead creates a small allowance for natural movement and reduces the risk of buckling or other concerns when boards are installed “tight” without room for movement. The crusher bead creates a 0.04” gap between boards once installed.



Shiplap + Breaker Bar



Tongue & Groove + Breaker Bar

SECTION II: THE DO'S & DON'TS OF WOOD SIDING

Do:

- Inspect material upon arrival
- Discuss performance expectations with Delta
- Understand Delta's installation guidelines and consult Delta with queries or concerns
- Store material in a dry and protected location
- Remove the shrink wrap from the crates and allow for proper air flow while storing
- Acclimate material under normal conditions
- Seal all field cuts
- Use proper fasteners
- Install a "rainscreen" style ventilated siding system
- Design for flashing and weeps to prevent water intrusion
- Follow local building codes
- Make sure installers and anyone handling this material reads these guidelines
- Allow for at least 15% of waste due to trimming and fall off

Don't:

- Receive wood siding from Delta without inspecting
- Install without acclimating or determining appropriate moisture content
- Use inappropriate fasteners
- Install damaged or defective wood. Delta cannot warrant or replace material once it's installed
- Install siding in direct contact with concrete, masonry, stucco, top soil, mulch, patios, or roofs

SECTION III: SPECIAL CONDITIONS FOR MODIFIED WOOD

Modified Woods like Accoya® and Kebony® offer some of the highest performance in exterior applications due to the molecular changes that occur during the treatment process. In light of the meticulous nature of the process, working with these woods require a few special considerations. Please follow the general guidelines as seen in Section I & II and visit accoya.com and kebony.com for more information about these products.

1. Fasteners

Exterior-rated siding nails or fasteners are required for installation in exterior applications, and must only be made from stainless steel. The use of improper fasteners could result in structural failure of the wood siding and/or discolorations of the wood and finish.

Do:

- Use stainless steel 304 or 316 fasteners
- Use ring-shanked nails or screws

Do NOT:

- Use galvanized or zinc-plated fasteners or accessories (staining will occur)

2. Cut Ends

Although these products perform well and can be installed without wood sealer on the exposed faces, it is still strongly recommended that end cuts are sealed to prevent water penetration or end-checking.

3. Staining/Sealing Backside

Delta will often leave the backside of Accoya or Kebony unsealed, as it is not necessary with these types of high-performance woods, and will not affect warranties or overall performance.

4. Shou-Sugi-Ban/Charred Finish

Please handle these finishes with care; the charred finishes can hold up for many years, but damage during handling or installation can adversely affect the appearance of the wood.

SECTION IV: SPECIAL CONDITIONS FOR SHOU-SUGI-BAN

Shou-sugi-ban (SSB), or charred wood siding, is a finishing technique that plays off the long-standing Japanese method of charring wood cladding for purposes of fire, rot and insect resistance. SSB not only protects the wood through the charring process, but creates unique surfaces on the wood that can only be achieved through a flame treatment. SSB should really be considered a “treatment” or “finish” on the wood’s surface, so please make sure it is treated as a more delicate pre-finished wood product when handling and installing. Please consider the following guidelines to insure that the performance of this treatment is maximized over its lifespan.

1. Handling:

SSB is a process that produces a layer of carbon on the surface of the wood with the carbon acting as a protective barrier (along with a wood sealer at times) to outdoor elements. The carbon or char will also be a major component of the appearance of the wood, so handling these products with care is key to maintaining the beauty and performance of these wood products. Damage to the charred surface can create visual blemishes, flaking, premature ageing, and inconsistencies in color. More heavily charred products, such as Delta’s Gator® SSB finish, can be scraped or damaged if proper handling is not considered.

SECTION IV: SPECIAL CONDITIONS FOR SHOU-SUGI-BAN

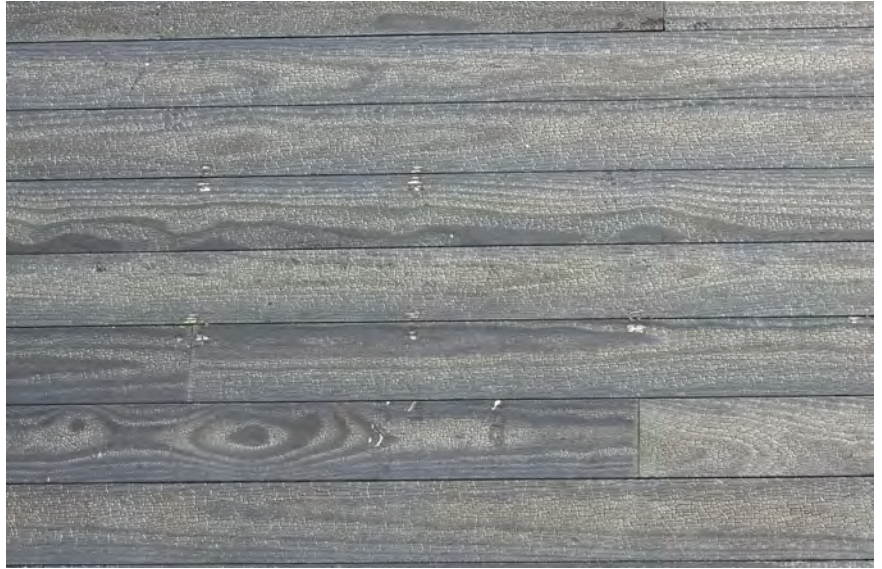
2. Properly handled and installed SSB siding:



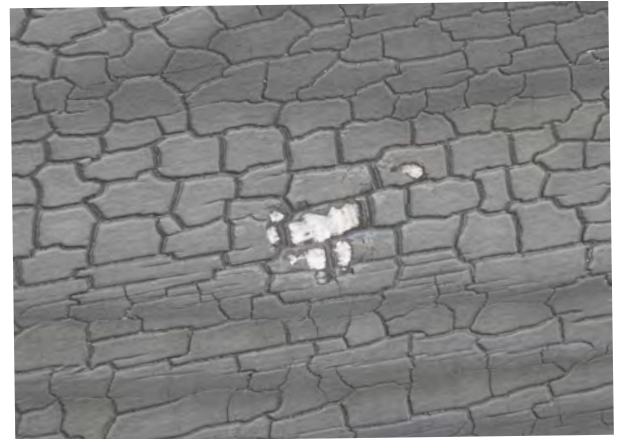
SECTION IV: SPECIAL CONDITIONS FOR SHOU-SUGI-BAN

3. Improperly handled and installed SSB siding:

Scraped SSB Gator™



Damage from a ladder -
scraped SSB Gator™



Close-up of
damaged SSB Gator™

SECTION IV: SPECIAL CONDITIONS FOR SHOU-SUGI-BAN

4. Do:

- Follow these guidelines as well as Delta's general handling and installation guidelines for wood siding (Section II)
- Keep material stacked safely in the pallet until it is needed
- Use two or more people to remove boards from pallets and at all times during handling and installation
- Protect any installed material from jobsite traffic, ladders, scaffolding, trees or other vegetation, and anything that may adversely affect the charred finish of the wood by scraping or damaging the material

Don't:

- Use excessive force of any kind on the charred surface of SSB products
- Lean ladders against the installed SSB siding without proper protection
- Install damaged SSB material

SECTION V: SPECIAL CONSIDERATIONS FOR RECLAIMED WOOD - "OLD SOULS" AND RECLAIMED FLOORING

Reclaimed wood siding from Delta is a unique product in many ways. Unlike new wood siding, the material can be a bit less consistent in its surface structures, color, texture, and workability. However, when produced and installed properly, these materials can provide many benefits that new wood cannot. Careful handling and installation are important when dealing with reclaimed wood. Please make sure to carefully discuss expectations with Delta regarding how these products are to be handled, installed, and will perform over the years. With reclaimed woods, grades can be blurry or non-existent at times, so please make sure that appearance, performance, and other expectations are understood.



SECTION V: SPECIAL CONSIDERATIONS FOR RECLAIMED WOOD - "OLD SOULS" AND RECLAIMED FLOORING

1. Do:

- Discuss and understand the "grade" and characteristics to expect in the finished product
- Understand the allowable variation in color and character
- Square up cut ends and seal them before installation
- Allow for at least 15% of waste due to trimming and fall off

Don't:

- Install defective wood or wood deemed undesirable

2. Characteristics sometimes seen in Reclaimed Wood siding:

- Jagged ends
- Knots
- Nail Holes
- Surface checking (cracks)
- Inconsistencies in color
- organic matter such as lichens or moss on the surface of the wood.

SECTION VI: ADDITIONAL WOOD SIDING RESOURCES

For more information on these products, technical information, structural data, and building codes pertaining to wood, please visit these sites below:

Accoya Technical Guides and Warranty Information:

<https://www.accoya.com/downloads/>

Kebony Technical Guides and Warranty Information:

<https://kebony.com/us/downloads>

Western Red Cedar Installation Guide:

<https://www.realcedar.com/siding/installation/>

Cypress Installation Guide:

http://www.cypressinfo.org/wp-content/uploads/Cypress_Siding_Installation.pdf

Building Codes, Technical & Fire Safety:

<https://www.awc.org/codes-standards>