Exterior Wood Siding Thoughts to Consider

as of July 13, 2023

Trestlewood is not an expert in the handling/installation/maintenance of exterior wood siding, especially as it relates to your specific location and application. That being said, we have seen a lot of wood siding projects and have read and heard a lot of what the experts say about wood siding-related best practices. We have developed some strong feelings about practical ways to select and use the right exterior wood siding product for a particular project.

We believe that you will significantly improve the likelihood of your being happy with your exterior wood siding if you carefully consider and make good decisions for your project in the following five (5) areas:

A. Expectations
B. Product Selection
C. Handling/Storage
D. Installation
E. Maintenance

EXPECTATIONS

We think it is important that you have reasonable expectations of your wood siding. For example, it is important to understand that:

1. Wood is wood and will move.

   An article on Woodworkers Source's website (woodworkerssource.com) says it this way:

   "Wood expands and contracts with changes in the surrounding humidity and to a lesser degree the temperature. More humid air will cause wood to expand; drier air will cause wood to contract. This movement cannot be stopped. You can learn what to expect and techniques to cope with the movement." ("Wood Movement and How It Affects Your Woodworking Projects")

   Wood installed in exterior applications is generally going to be exposed to a wide range of conditions throughout its life. Exterior wood siding should be expected to go through repeated cycles of expansion and contraction as it goes through various seasons and weather events.

2. The weathering/color and other characteristics of wood will change over time, especially where unsealed/uncoated wood is used in an exterior environment. How your wood changes will depend on a variety of factors, including moisture (rain, snow, humidity, etc), temperature, exposure to the sun, elevation, installation decisions, maintenance decisions, etc. The same product/type of wood can weather differently in different sets of circumstances - gray weathered lumber, for example, can become a more deeply weathered gray in some situations and can turn brown in other situations. We do not have a complete understanding of what changes to expect in any particular situation.

3. Dialing in the preferred product for your location/application will likely involve trade offs. We recommend that you identify the characteristics that are most important to you and then recognize that you will likely need to be flexible in other areas.

PRODUCT SELECTION

We recommend that you determine what you are looking for in an exterior wood siding and that you then carefully consider which wood siding product is the best match for your needs. Of course, the look of the exterior wood siding product is an important consideration. You should also consider how the other characteristics of the siding product match with your location/application/priorities. For example:

1. If it is important to you to minimize wood siding movement (and/or if you live in a location with a harsh climate, large fluctuations in weather conditions, and/or the likelihood of periodic harsh weather events), we recommend that you consider Trestlewood's NatureAged Gray Cedar and/or ThermalAged Brown product lines. These products, like all wood products, will expand and contract with changes in moisture content, but they generally expand and contract less than Trestlewood's other wood siding products (most of which are mixed softwoods like firs and pines.)

2. We believe that using unmilled lumber for exterior siding is another way to reduce the impact of wood siding movement. Board-on-board and board-and-batten siding configurations allow some board shrinkage to occur without creating gaps in siding coverage. Gaps in board-to-board installations can look more natural than gaps in Shiplap/T&G installations. Other advantages of unmilled boards include that they are generally thicker than milled boards, making them less prone to cup; they tend to have fewer loose/open knots than milled boards; and they often come in longer lengths than milled boards.

3. You can also often reduce the impact of movement by using narrower and/or shorter boards.

4. If it is important for your project to minimize loose/open knots, you could order a wood siding product with less knots than Trestlewood's more rustic siding products; use unmilled lumber rather than milled lumber; cut out loose/open knots on site prior to installation (this will, of course, reduce the average length of your siding boards); fill loose/open knots; make installation/maintenance decisions to try to lessen the impact of loose/open knots; and/or etc.

5. If you have decided to use a milled wood siding product for your exterior siding, should you use a Shiplap or Tongue-and-Groove (T&G) profile? We would summarize some of the differences between these profiles as follows:

Shiplap	**Tongue-and-Groove (T&G)**
Easier to install and repair	More difficult to install and repair
More prone to edge curl	Less prone to edge curl
Requires face nailing	Locks in to the board next to it

6. Trestlewood's Shiplap and T&G products are kiln dried (generally to 6-8% moisture content) prior to milling (as they go to equilibrium with the environment they are in, they can have somewhat higher moisture contents by the time they reach your job site.) Unmilled siding products are generally not kiln dried unless you order kiln drying. Should you order kiln drying? We would put forward the following thoughts for your consideration:
    a. If minimization of movement is important to you, we think that kiln drying can often be a helpful tool towards that objective. Kiln drying can help to equalize the moisture content throughout each board and increase the stability of the lumber.
    b. Kiln drying also has the benefit of killing any bugs/insects in the wood.
    c. Not kiln drying significantly increases the chances of substantial shrinkage after lumber installation.
    d. Kiln drying does not change the fact that wood will tend to move to the equilibrium moisture content (EMC) of the environment it is in, resulting in it having repeated expansion and contraction cycles throughout its life.
    e. If kiln drying reduces the moisture content of lumber to below the typical moisture content range of the project location, it is probably best to acclimate the lumber and allow it to gain some moisture to move to equilibrium moisture

content prior to installation. Lumber that is drier than the environment in which it is installed can be expected to take on additional moisture and expand (as noted in Item 8 of the Installation section, it is important to install boards in a way that allows for some expansion without buckling.)

f. Kiln drying can also make lumber more brittle, increasing the likelihood of knots becoming loose or falling out.
g. The season of the year could be an important factor to consider when deciding whether to kiln dry unmilled lumber. During summer months, lumber will likely already be relatively dry. During winter/wet periods, lumber moisture content could be quite high and kiln drying could result in the removal of significant amounts of moisture.

HANDLING/STORAGE

We believe that the period between when you take delivery of Trestlewood wood siding and when you install that siding is an important one. We think it is especially important that you:

1. Store your siding lumber in a way that keeps it dry, keeps it banded/secure, and otherwise protects it. It is generally not a good idea, though, to tightly wrap lumber and then store it inside for significant periods of time - condensation/moisture can get inside the wrapped units and create issues.

2. Properly acclimate the lumber prior to installation.

   "The objective is to bring the moisture content of the wood, as close as possible, to the level the finished product will experience in service. Acquire your lumber in advance and give it time to acclimate to the environment in which it will be used or worked. Sometimes it may be necessary to 'stack and sticker' lumber to allow it to properly reach equilibrium with the environment." ("Wood Movement and How It Affects Your Woodworking Projects")

   What exactly does this mean in relation to exterior wood siding whose environment's equilibrium moisture content is going to fluctuate throughout its life (depending on season, weather patterns, time of day, etc)? Should you target the long-term average equilibrium moisture content (EMC) of your location or the EMC at the time/season of installation? We think that there are arguments for each of these approaches. We recommend that you consult with your installation professional(s) and take the approach that seems best for your location and application. No matter how you decide to acclimate the boards, we feel it is crucial that the boards be installed in a way that anticipates future changes in EMC (see Item 8 of the Installation section.)

INSTALLATION

We are not installation experts, but we have seen enough projects to feel very strongly about the importance of proper installation. We would put forth the following thoughts about best installation practices:

1. Best installation practices can be different for different locations and applications. We are not experts on the best practices for your location/application.

2. We think the most important thing you can do to minimize installation issues is to select the right contractor and wood siding installation professional(s) who know what they are doing and understand your geographic area and what you are trying to accomplish. Our experience has been that a lot of wood siding problems are the result of inexperienced (or sometimes even experienced) wood siding installers who cut corners. There is a wide range in the quality of exterior wood siding installations. We believe you will be very well-served in hiring people who know what they are doing and are committed to doing things right the first time.

3. It is important to pick the right acclimation strategy for your location and application - see Item 2 under Handling/Storage.

4. You should provide for proper air flow behind the wood siding to (a) minimize the trapping of moisture and (b) facilitate relatively even drying between the front and back faces when the wood gets wet (to reduce cupping and other moisture-related movement issues.) Products that we have seen used effectively include Dupont Rainvent Battens (with the wrap covered with felt paper and then the batten strips painted black and installed over the felt) and Keene Driwall Rainscreen (which often comes with black backing.) Wood furring strips are also an option - they provide improved nail holding power, but do not have as good air flow as the Dupont battens (air flow is restricted to each cell.) From what we have seen so far, we tend to favor products that provide a ¼ - ⅜" gap behind the wood siding. There are lots of batten/rainscreen type products on the market; we are not in a position to compare the merits of these various products in a meaningful way.

5. You should install appropriate flashing around windows, doors, corners, and other vulnerable areas and otherwise take steps to ensure proper drainage away from the siding.

6. Should you apply a sealant/coating to your exterior wood siding? We have mixed feelings about this question. We would put the following information on the table for your consideration:

a. If you want to capture/preserve a specific look (or, more accurately, a narrower range of looks) with your exterior wood siding, a sealant/coating will likely be an important part of the equation.
b. Even if you like the look of your unsealed/uncoated wood product and are fine with allowing nature to change the look of your wood over time, you might want to consider sealing/coating your exterior wood siding to provide some protection from moisture. As a general rule, moisture tends to cause wood to deteriorate over time. It stands to reason that, all else being equal, wood that is protected from moisture will generally have a longer life than wood that is not.
c. Is it ever appropriate to take a "maintenance-free" approach and not seal/coat your siding lumber? We think that (a) there are people who make this decision and end up happy with the result and (b) there are lots of barns out there with uncoated/unsealed barnwood lumber that has lasted for decades. If you are fine turning nature loose to create a unique, one-of-a-kind look for your project and are comfortable with the implications of not getting the moisture protection benefits of sealing/coating products, we think that choosing not to seal/coat your exterior wood siding can be a legitimate option. Ultimately, you and your construction/installation professionals need to weigh all factors (geographic location and climate; siding/installation type; desired look; projected maintenance costs; etc) and make the appropriate decision for your project.
d. Sealant/coating products will generally impact the look of the lumber to which they are applied (often making them darker in appearance.) If you decide to apply a sealant to your exterior wood siding, we recommend testing a potential sealant/coating product on samples prior to using them on your project. We also recommend asking the sealant/coating manufacturer and/or your installation professionals such questions as how the look of the sealant/coating product might be expected to change over time, how often the product should be reapplied, etc.
e. We have noticed that experts often seem to recommend that sealants/coatings be applied to all four board faces/edges.

7. Adequately securing your siding boards is crucial. It is important to (a) use fasteners/nails that are long enough to provide good holding power (we have heard that it is good to have each fastener in 1.5"+/- of solid wood); (b) use enough fasteners; and (c) use high-quality fasteners. It is easier to adequately secure wood siding installed horizontally than installed vertically (because studs are a big help with horizontal installations.) Horizontal furring strips can be used to improve nailing/holding power in vertical installations. When nailing T&G or Shiplap boards on or near the edge, there can be a tendency for the boards to bounce and/or give a little, causing some breaking/splitting during installation. Pressing the board very tightly during nailing can often help minimize this issue. Many experts recommend the use of high-quality

stainless steel fasteners with exterior wood siding products. Where adequately securing siding boards is especially important and/or challenging, you could consider using screws instead of nails for increased holding power.

8. You should take future expansion and contraction into account when installing exterior wood siding boards. For example, do not install dry boards right up against each other (to avoid buckling when those boards get wet, expand, and have no place to go.)

9. You can take steps to soften the starkness of gaps created by board shrinkage. It often makes sense to install black paper behind siding boards. We recommend that you have a game plane for addressing bright lines that are created when a Shiplap or T&G product shrinks. This game plan could involve staining/juicing the exposed fresh wood; letting the exposed fresh wood weather over time; using ThermalAged lumber (which has even color throughout the board, thereby avoiding the bright line striping issue); or etc.

10. Take steps to minimize issues with bugs. If you use a batten product to improve air flow behind your siding, you should likely install some type of bug screen at the bottom of the wall or fill cells with a foam product to prevent insects from taking up residence behind the siding in the cells.

11. We have read that end waxing siding lumber can help to minimize the wicking of water through board ends, thus reducing the water staining that can result from such wicking.

MAINTENANCE

We believe that making the right decisions in the Expectations, Product Selection, Handling/Storage, and Installation areas is key to making the maintenance area manageable. The focus of the maintenance area then becomes putting in place and carrying out a plan to take good care of your exterior wood siding over time. We think that your maintenance plan should, among other things, provide for:

1. Periodically resealing/recoating your exterior wood siding (if you decided to seal/coat your siding initially) as recommended by the sealing/coating product manufacturer and your contractor/installation experts.

2. Regularly monitoring and inspecting your siding for potential issues (cracks, splits, loose/open knots, trapped moisture, rot, mold, bugs, loose and/or improperly secured boards, etc), with special attention given to vulnerable areas like areas where siding boards meet windows, doors and corners.

3. Promptly addressing any issues that are identified as needing to be addressed (while they are still small.)

4. Taking preventive steps to minimize future issues - keeping gutters and downspouts clear of debris and otherwise minimizing the flow of water onto the siding, keeping vegetation (tree branches, shrubs, vines, etc) in the vicinity of the siding trimmed back (to avoid creating a damp environment which could increase the chances of mold/mildew), etc.

We appreciate your taking the time to review this document. We invite you to share any thoughts about and/or experiences with exterior wood siding that could help us improve the information in this document.