

**INSTALLATION**

KLEER® LUMBER Inc.  
**INSTALLATION GUIDELINES**

## GENERAL

- Klear is a highly versatile product for many exterior and interior trim and decorative applications.
- Klear should never be used for structural or load-bearing applications.

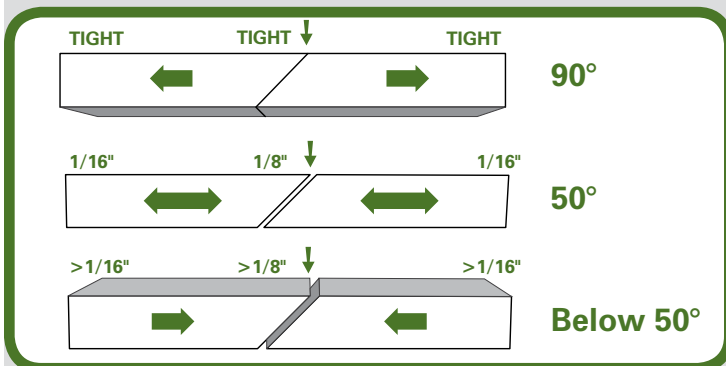
## STORAGE & HANDLING

- Klear is more flexible than wood. When possible, Klear should be stored on a flat, level surface and handled with extra care to avoid damage.
- Klear is shipped from the manufacturing plant in either KlearPak plastic wrap or woven covers to protect it from dirt and debris until installed. If dirty, clean with a soft brush and mild household cleaner. Stubborn stains may be removed with denatured alcohol.

## CUTTING & DRILLING & MILLING

- Klear can be cut, drilled and milled using the same tools used with wood.
- When cutting or milling, use carbide-tipped bits or blades for best results. Special care should be used with jig/band saws as they may create excessive heat and melt the PVC along the edge. Failure to support Klear across the entire cut length or the use of dull blades to cut Klear can result in a rough edge. If this happens, sand with 150-220 grit sandpaper to create a smooth edge.
- When drilling, frequently remove excess shavings to avoid heat buildup.

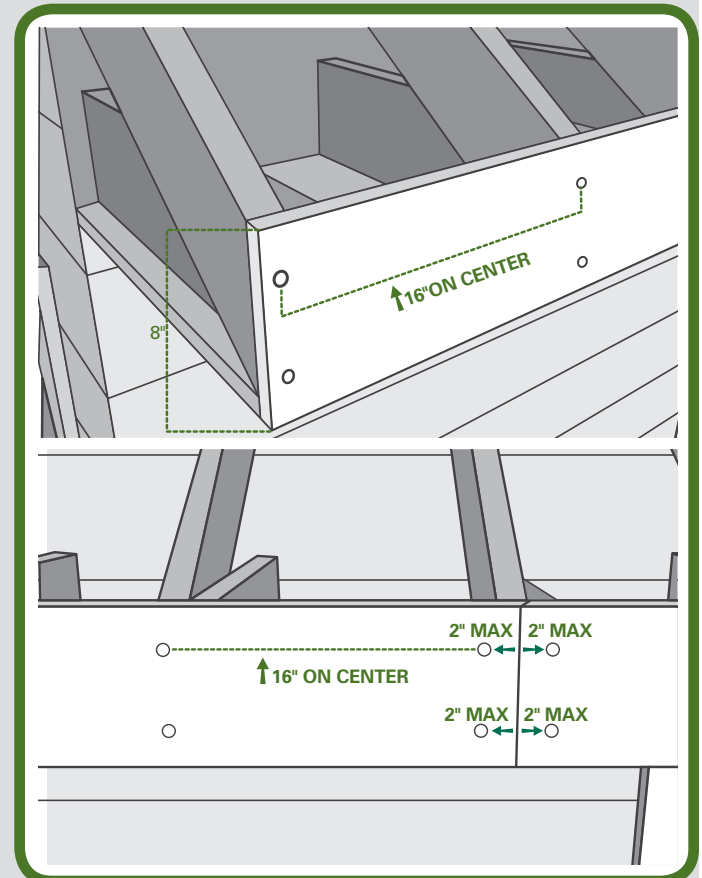
## EXPANSION & CONTRACTION



- Like many building materials, Klear will expand and contract with changes in temperature. This is normal and is not covered by the Klear Limited Lifetime Warranty. Under normal conditions and when properly fastened, Klear will expand/contract approximately 1/8" per 18'. Failure to use the proper type and quantity of fasteners may result in expansion and contraction greater than 1/8" per 18'.
- Klear trimboards should be acclimated to the temperature conditions at the time of installation.
- Fastening Klear along its entire length will help minimize expansion and contraction.
- When joining Klear end-to-end (as in long-run applications) pieces may be joined together using scarf joints and Klear Cellular PVC Cement or Klear Cellular PVC Adhesive. If joints are glued together, create 1/16" expansion spaces per 18' of run at each end. These expansion spaces should be filled using Klear Structural Sealant.

- Alternatively, rather than gluing pieces together for long runs, leave expansion spaces of approximately 1/8" between the pieces and fill with Klear Structural Sealant. Use scarf joints for all expansion spaces between the pieces in long runs and leave a 1/16" space per 18' of run at each end.
- **On cold days (temperatures at low end of the normal annual temperature range), increase expansion space between boards to slightly more than 1/8" per 18' length.**
- **On hot days (temperatures at high end of the annual temperature range), eliminate the expansion space and butt the pieces together tightly.**

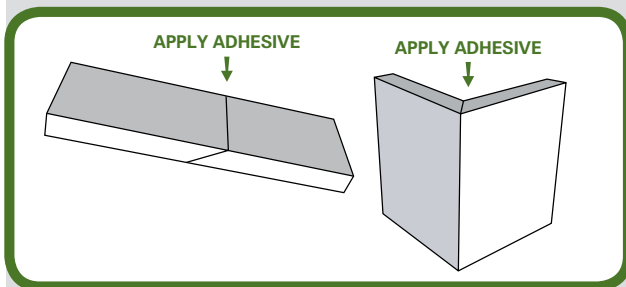
## FASTENING



- Fasten with stainless steel or hot-dipped galvanized nails with blunt tips and round heads (wood siding nails, box nails, etc.). Exterior coated or stainless steel trim-head screws (nothing smaller than a #6 screw) and Cortex® Fasteners may also be used.
- Do not use staples, wire nails, or brads to fasten Klear. Fasteners that can be easily bent with bare hands will not provide appropriate strength.
- Standard pneumatic nailers, set at 70-80 psi, may be used to fasten Klear. Air pressure may be adjusted as necessary.
- Pre-drilling is not typically required unless using large nails or installing in temperatures below 40°.
- Fasten Klear to a flat, solid wood substrate at least 1-1/2" thick using nails or screws that penetrate into the substrate a minimum of 1-1/2".
- Klear must have fasteners no more than 2" from each edge.

- Klear trimboards 8" or narrower require two fasteners evenly spaced across the face of the board and fastened to 1-1/2" thick framing no more than 16" on-center. 10" and 12" Klear trimboards require three fasteners evenly spaced across the face of the board and fastened to 1-1/2" thick framing no more than 16" on-center. When spanning framing greater than 16" on-center, use Klear that is a minimum 5/4" (nominal) thickness. Never install Klear on framing that spans greater than 24" on-center.
- When joining Klear end to end (as in long-run applications) fasten within one inch of both sides of the joint using the proper size fasteners.
- Klear sheets 3/4" thick or greater require fastening every four inches along no more than 16" on-center framing across the width of the sheet. Thinner sheets require fastening every four inches along no more than 12" on-center framing across the width of the sheet.
- Use of construction adhesive (along with mechanical fastening) may help to minimize expansion and contraction, particularly when Klear is painted dark colors (LRV greater than 55% – see PAINTING section).

## GLUING



- Klear can be both edge and face glued. Before gluing, make sure surfaces are clean, dry and smooth enough to make full contact.
- To prevent separation, joints may be glued using Klear Cellular PVC Cement or Klear Cellular PVC Adhesives. These adhesives have limited working time. Clamping, nailing or screwing both sides of the joint will allow time for the adhesive to fully cure. When joining two pieces of Klear together to form a continuous length, fasten within one inch of each side of the joint using the proper fasteners.
- When face gluing Klear to Klear (lamination) using Klear Cellular PVC Cement, lightly sand each face to ensure proper adhesion. When face gluing Klear to Klear (lamination) when using Klear Laminating Grade Adhesive, **DO NOT SAND THE FACES PRIOR TO LAMINATING.**
- Klear can also be laminated to a variety of substrates using glues appropriate for both PVC and the substrate. Consult with the adhesive manufacturer and always test the bond prior to installation. Never use adhesives alone to attach Klear to a substrate.

## HEAT BENDING

- Gradually heating Klear to approximately 270° for 7 minutes with convection ovens, heat blankets and box heaters will make it pliable enough to be formed into various shapes. Gradual heating prevents damage such as discoloration or scorching of the surface.
- To avoid skin burns, always wear protective gloves thick enough to protect hands from the heated material.

## PAINTING

- Klear does not need paint to retain its Limited Lifetime Warranty, but may be painted with 100% acrylic latex paint or other paints specifically formulated for vinyl products. Always follow the paint manufacturer's instructions.
- Light Reflective Value (LRV) is a measurement of how much light a color reflects and absorbs and is available from the paint manufacturer. If Klear is painted a darker color with an LRV less than 55%, it will absorb more light, generating more heat and may cause expansion and contraction greater than the typical 1/8" over 18'. When using 100% acrylic latex paints, only use colors with an LRV greater than 55%. When using a color with an LRV below 55%, use only paints specifically designed for vinyl products like Sherwin-Williams® with Vinyl Safe Technology or Benjamin Moore® Vinyl Select paints. Consult with the paint manufacturer to determine its suitability for your specific application. Excessive expansion or contraction resulting from the use of a dark color with an LRV less than 55% is not covered by the Klear Limited Lifetime Warranty.
- Klear must be clean, dry and free from debris or any surface contaminants to maximize paint adhesion. Use a soft brush and standard household cleaner if necessary to clean the surface before painting. Stubborn stains may be removed with denatured alcohol.
- For small surface imperfections including nail or screw holes, Klear Structural Sealant may be used as filler.
- It may take longer for paint to fully cure on Klear than on wood. Once fully cured paint lasts longer on Klear than wood.

## KLEER BEADED PRODUCTS

- In soffit and porch ceiling applications, Klear 1" Edge & Center Bead can be installed perpendicular to 24" on-center, or less, framing without a substrate. KLEERLok and KLEERbeed should be installed perpendicular to 12" on-center, or less, framing. All framing members should be a minimum 1-1/2" thick.
- For concealed fastening, Klear 1" Edge & Center Bead should be fastened at each framing member (24" on-center maximum) by toe-nailing through the tongue with finish nails, or face-fastened using Cortex Fasteners for Klear PVC Trim.
- KLEERLok products feature a nailing flange for easier concealed fastening. Fasten KLEERLok through the nailing flange every 12" at each framing member using siding or finish nails. Additional face-fastening and/or the use of construction adhesive is required to help restrict expansion and contraction in runs longer than 16'.
- KLEERbeed should be face-fastened every 4" along a minimum of 12" on-center. Nail holes may be filled with Klear Nail Stick (if product is being painted), Klear Structural Sealant or Klear Cellular PVC Time Adhesive 4-7 Minute Work.
- If installing Klear Beaded Products in temperatures below 50°, leave a 1/4" – 1/2" expansion space at each end of the run and cover the space with Klear Mouldings.

## KLEER ONE-PIECE CORNERBOARDS

- Klear one-piece cornerboards and Klear Konceal one-piece cornerboards offer reduced installation time and improved finished appearance opportunities.
- All corner sheathing must be properly flashed prior to installing all Klear cornerboards.
- Make sure the cornerboard is properly positioned prior to fastening. Take special care to leave appropriate expansion and contraction spacing at both the top and bottom of the cornerboard.
- Standard 3 ½" and 5 ½" wide (per side) cornerboards require two fasteners evenly spaced across each side spaced no more than 16" apart along its length. Custom sizes larger than 8" wide (per side) require three fasteners across each side spaced no more than 16" apart along its length.

## MOULDINGS

- Mouldings may be cut using standard woodworking equipment. For power miter saws, carbide tooth blades are recommended.
- Joints may be glued using products like Klear Cellular PVC Cement or Klear Cellular PVC Adhesives. When bonded correctly, the joint becomes an integral part of the system being applied.
- Use Klear Structural Sealant with mechanical fasteners to improve holding power and make the installed moulding more secure.
- Install Klear mouldings using 6d and 8d galvanized or stainless steel nails 12" on-center and approximately ¾" from each edge.
- Pre-punch moulding for easier hand nailing and use a nail set to countersink nail heads. If nailing Klear mouldings at 40° F or below, pre-drilling is required.

*These installation guidelines are only suggested techniques to be used when installing Klear PVC products under typical conditions. Klear does not represent or warrant that these techniques will work in all applications. Klear Lumber, Inc. assumes no liability for any damages, including but not limited to, damages to the person, property, incidental, special and/or consequential damages, whether or not foreseeable, resulting from, and/or relating to the installation of our products. Please refer to Klear's Limited Lifetime Warranty for more details concerning our exclusive and sole warranty.*

## KEY REMINDERS

### To help maximize the beauty and performance of Klear trimboards, please consider the following installation reminders:

- Whenever possible install Klear over a continuous substrate.
- Use the proper quantity and size of fasteners, applied in an even pattern so they will penetrate into the substrate at least 1-1/2".
- Leave the appropriate expansion spaces between pieces of Klear based on the temperature at the time of installation.
- Use adhesives made for PVC products, like Klear Cellular PVC Cement or Klear Cellular PVC Adhesives to join pieces of Klear.
- Use 100% acrylic latex house paint to finish Klear if you choose a color with an LRV greater than or equal to 55%.
- Use a coating that is formulated specifically for exterior vinyl products if you choose a color with an LRV less than 55%.
- Use Klear Structural Sealant to fill expansion gaps and nail and screw holes.



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