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

STORAGE & HANDLING
• Kleer is more flexible than wood. When possible, Kleer should be stored on a flat, level surface and handled with extra care to avoid damage.
• Kleer is shipped from the manufacturing plant in either KleerPak 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
• Kleer 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 Kleer across the entire cut length or the use of dull blades to cut Kleer 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, Kleer will expand and contract with changes in temperature. This is normal and is not covered by the Kleer Limited Lifetime Warranty. Under normal conditions and when properly fastened, Kleer 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’.
• Kleer trimboards should be acclimated to the temperature conditions at the time of installation.
• Fastening Kleer along its entire length will help minimize expansion and contraction.
• When joining Kleer end-to-end (as in long-run applications) pieces may be joined together using scarf joints and Kleer Cellular PVC Cement or Kleer 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 Kleer Structural Sealant.

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 Kleer. 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 Kleer. Air pressure may be adjusted as necessary.
• Pre-drilling is not typically required unless using large nails or installing in temperatures below 40°F.
• Fasten Kleer 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”.
• Kleer must have fasteners no more than 2” from each edge.
• Kleer 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" Kleer 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 Kleer that is a minimum 5/4" (nominal) thickness. Never install Kleer on framing that spans greater than 24" on-center.

• When joining Kleer end to end (as in long-run applications) fasten within one inch of both sides of the joint using the proper size fasteners.

• Kleer sheets 3/4" thick or greater require fastening every four inches along no more than 18" 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 Kleer is painted dark colors (LRV greater than 55%—see PAINTING section).

GLUING

• Kleer 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 Kleer Cellular PVC Cement or Kleer 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 Kleer together to form a continuous length, fasten within one inch of each side of the joint using the proper fasteners.

• When face gluing Kleer to Kleer (lamination) using Kleer Cellular PVC Cement, lightly sand each face to ensure proper adhesion. When face gluing Kleer to Kleer (lamination) when using Kleer Laminating Grade Adhesive, DO NOT SAND THE FACES PRIOR TO LAMINATING.

• Kleer 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 Kleer to a substrate.

HEAT BENDING

• Gradually heating Kleer to approximately 190°F–215°F internal temperature with convection ovens, heat blankets and box heaters will make it pliable enough to be formed into various shapes. Keeping heat at 190°F–215°F until internal temperature is ready 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

• Kleer 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 Kleer 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 Kleer Limited Lifetime Warranty.

• Kleer 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, Kleer Structural Sealant may be used as filler.

• It may take longer for paint to fully cure on Kleer than on wood. Once fully cured paint lasts longer on Kleer than wood.

*Any reference herein to a specific product does not constitute or imply an endorsement by Kleer Lumber of the product and is for reference only.

KLEER BEADED PRODUCTS

• In soffit and porch ceiling applications, Kleer 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, Kleer 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 Kleer 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 Kleer Nail Stick (if product is being painted), Kleer Structural Sealant or Kleer Cellular PVC Time Adhesive 4–7 Minute Work.

• If installing Kleer Beaded Products in temperatures below 50°F, leave a 1/4”–1/2” expansion space at each end of the run and cover the space with Kleer Mouldings.
KLEER ONE-PIECE CORNERBOARDS

- Kleer one-piece cornerboards and Kleer Konceal one-piece cornerboards offer reduced installation time and improved finished appearance opportunities.
- All corner sheathing must be properly flashed prior to installing all Kleer 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 3-1/2" and 5-1/2" 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 Kleer Cellular PVC Cement or Kleer Cellular PVC Adhesives. When bonded correctly, the joint becomes an integral part of the system being applied.
- Use Kleer Structural Sealant with mechanical fasteners to improve holding power and make the installed moulding more secure.
- Install Kleer mouldings using 6d and 8d galvanized or stainless steel nails 12" on-center and approximately 3/4" from each edge.
- Pre-punch moulding for easier hand nailing and use a nail set to countersink nail heads. If nailing Kleer mouldings at 40°F or below, pre-drilling is required.

These installation guidelines are only suggested techniques to be used when installing Kleer PVC products under typical conditions. Kleer does not represent or warrant that these techniques will work in all applications. Kleer 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 Kleer’s Limited Lifetime Warranty for more details concerning our exclusive and sole warranty.

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

- Whenever possible install Kleer 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 Kleer based on the temperature at the time of installation.
- Use adhesives made for PVC products, like Kleer Cellular PVC Cement or Kleer Cellular PVC Adhesives to join pieces of Kleer.
- Use 100% acrylic latex house paint to finish Kleer 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 Kleer Structural Sealant to fill expansion gaps and nail and screw holes.