


FINISH YOUR PROJECTS IN LASTING BEAUTY

ACRE™ Trim Board
Installation Guide

ACRE™ BY MODERN•MILL



A new alternative to wood is finally here. ACRE is a sustainable, durable alternative with the look and feel of real wood. ACRE is a brand-new material that's lightweight, strong and water-resistant, guaranteed not to rot, crack or splinter.

ACRE is easy to cut and accepts paint or stain.

Best of all, ACRE is made without harming a single tree, in a zero-waste environment in Fernwood, Mississippi.

GET READY TO STEP INTO A WORLD BEYOND WOOD.

ACRE™ BY MODERN·MILL

PRODUCT EXPECTATIONS

Installation Guides

ACRE contains PVC. It's important to familiarize yourself with its spacing requirements, coatings and all installation guidelines. This will ensure ACRE products perform as designed and to expectations.

- Trim
- Siding
- Porch Boards
- Decking
- Fencing

Coating and Finishing

PROPER INSTALLATION REQUIRES CLOSE ADHERENCE TO MODERN MILL **COATINGS GUIDELINES**: This is a critical and important step, especially with outdoor applications for ACRE to perform as expected and to avoid the effects of excessive expansion and contraction.

ACRE does not absorb paints, stains, or clear coats as typical woods products do. For best results, we recommend applying coatings with boards on a smooth flat surface prior to installation.

ACRE products generally will not gray like natural woods in exterior applications. However, color may fade over time with increased UV exposure, therefore a UV-resistant clear coat can help resist fading and make for easier cleaning and care.

Movement

ACRE has less movement than most synthetic and composite building materials. ACRE will expand and contract as environmental (temperature) conditions change. Refer to the proper product installation guide to ensure the best product performance and minimize the effects of expansion and contraction.

Heat Retention

ACRE products are generally cooler to the touch than most synthetic or traditional composites. Coatings will affect product performance, including heat retention, therefore it's important to read the **Coatings Guide** and use manufacturer approved coatings and finishes.

Burning Warning

Safety Warning: Do not burn ACRE products or scraps. ACRE products are not safe to be discarded by burning, used as a firewood, kindling or as any other source of fuel to create and / or maintain a fire or heat source.

Fasteners

ACRE can be joined with commonly available fasteners. Using the correct type and number of fasteners will ensure materials perform as intended. Do not use brad or finish nails. It is important to select the most appropriate fastener in accordance with the application. Consult installation instructions to make sure you are following the proper fastening guidelines.

Storage and Handling

We recommend keeping ACRE in a cool, dry spot, out of direct sunlight. Please acclimate ACRE products prior to installation. Always install ACRE immediately after making any cuts.

Adhesives

We recommend utilizing a PVC glue or cement, polyurethane glue or construction adhesives. Do not use wood glue.

Stains and Cleaning

ACRE products can be stained by certain foods, drinks and chemicals. Clean up any stains or dirt as quickly as possible and keep areas clean from debris. Soap and water, or a product like Simple Green® can clean most stains. In some cases, light sanding may be required. If using a power washer, we do not recommend pressure above 2500 psi and to use a wide fan tip or oscillating tip and keeping the tip a minimum of 12" from the surface.

Surface Marring (Scuffs) and Light Surface Damage

Like wood, ACRE might endure some dings, dents or marring on the job. Most light surface damage can be removed by simply sanding ACRE lightly with 120 grit sandpaper on a pole or block sander in the direction of the grain. Please note, less than 120 grit sandpaper may scratch the surface and affect the finish when stain is applied. We do not recommend the use of an orbital or palm sander as this can affect the ACRE grain structure.

Environmental Impact

ACRE by Modern Mill is made from upcycled rice hulls in a zero-waste manufacturing facility in the U.S.A. ACRE is tree-free, and free of phenol, formaldehyde and adhesives. Contact us at zen@modern-mill.com to learn about options for recycling.

Warranty

ACRE products have a limited lifetime guarantee to be free from material defects that are a result of the manufacturing process, rotting or splintering as a direct result of the manufacturing process or by normal use and service provided conditions described in all installation materials and technical guides are met. In no event shall Modern Mill be responsible or liable for labor, installation, re-installation, freight, taxes or any other charges related to defective product. Visit our website to learn more: www.modern-mill.com/warranty

MODERN·MILL

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2023.07

WE'RE HERE TO HELP.

Be sure to visit our online **Tech & Training** center for informative technical videos and downloads.

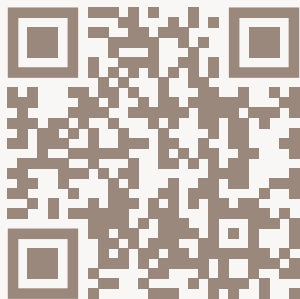


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PRODUCT APPLICATIONS

Please consult with a Modern Mill representative to ensure your intended use of ACRE products is fit for purpose. Published and current installation guidelines must be followed for ACRE's warranty to remain valid. For example, ACRE Siding is only approved as shiplap and board and batten and must follow prescribed installation guides. Lap Siding is not an approved application.



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BURNING WARNING

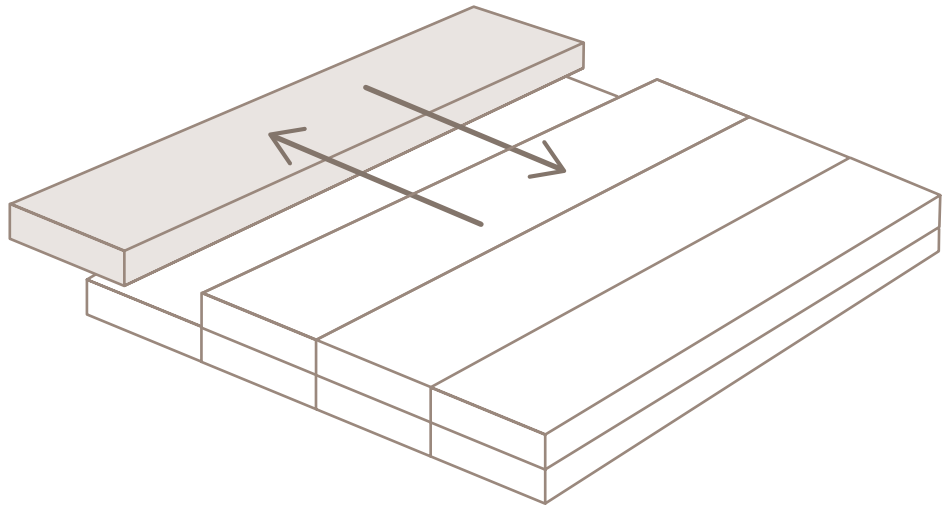
Safety Warning: Do not burn ACRE products or scraps. ACRE products are not safe to be discarded by burning, used as firewood, kindling or as any other source of fuel to create and / or maintain a fire or heat source.

EXTREME HEAT WARNING

Be aware of excess heat on ACRE surfaces such as but not limited to fire, direct or reflective sunlight, reflective sunlight from energy-efficient window products. Low-emissivity (Low-E) glass can harm ACRE products because Low-E glass products are designed to prevent passive heat gain within a structure and can cause unusual heat build up on exterior surfaces from sunlight reflection. The extreme rise of surface temperatures can create an environment which exceeds normal exposures and may create scenarios which can cause ACRE products to melt, sag, warp, discolor, expand and contract beyond acceptable tolerances or accelerate weathering. Be sure to consult Modern Mill's coatings guide, sales representatives or contact us at zen@modern-mill.com or 601-869-5050 for consultative assistance before installation.

Storage and Handling

- Store ACRE Trim horizontally, fully supported on a flat surface.
- Do not place ACRE Trim directly on a surface that can develop excessive heat.
- Store in a cool, dry place.
- We recommend storing with undamaged pallet covers to keep it clean and protected.
- ACRE Trim comes stacked. Pull boards across the row and not straight down the stack (see image).
- Acclimate ACRE Trim to the temperature it will be installed at for at least two hours before processing.
- During installation, be aware of changes in ambient temperature that could affect product gapping.



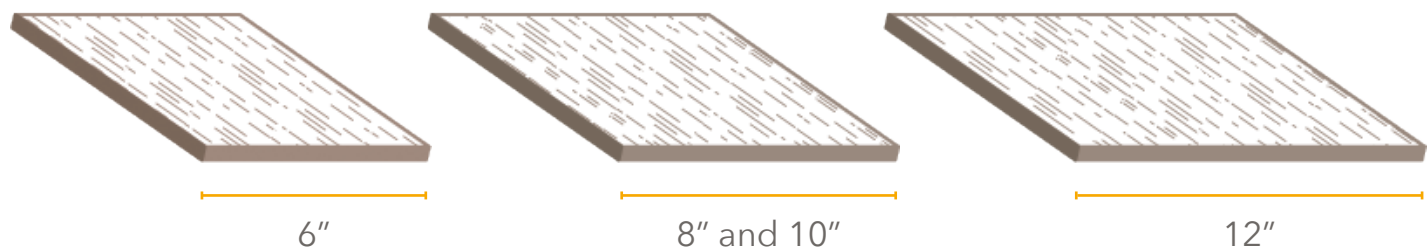
Safety

- Wear safety glasses and appropriate personal protective equipment (PPE) for job site conditions.
- Follow proper safety practices for using all power tools and any job site equipment.

ACRE Trim Boards

AVAILABLE PROFILES

ACRE 1" Trim board of your chosen width to suit any project.

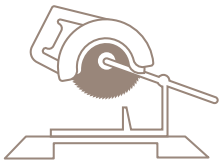


PROFILE	ACTUAL SIZE	COLOR
5/4 x 4" / 6" / 8" / 10" / 12" Square-Edge Board Available embossed one side, or non-embossed.	0.938" x 5.5" 0.938" x 7.25" 0.938" x 9.25" 0.938" x 11.25"	Natural, raw. Ready to be painted, stained or clear coated. See Coatings Guide for approved finishes.
1" x 4" / 6" / 8" / 10" / 12" Square-Edge Board Available embossed one side, or non-embossed.	0.75" x 5.5" 0.75" x 7.25" 0.75" x 9.25" 0.75" x 11.25"	Natural, raw. Ready to be painted, stained or clear coated. See Coatings Guide for approved finishes.

Getting Started

TOOLS YOU WILL NEED

The following tools are recommended. Use extreme caution and be sure to use all tools per applicable manufactures' instructions.



Miter Saw



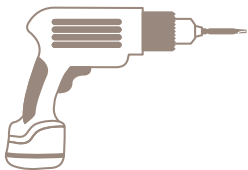
Tape Measure



Exterior rated fasteners
#8 x 2 1/2" screws or
8D x 2 1/2" ring shank nails



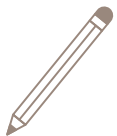
Safety Glasses



Drill



Ladder



Pencil

For best results use a fine-toothed finish blade. A jigsaw can be used to cut around obstructions depending on the design of your project.

ACRE Trim can be stained, painted, or left natural with appropriate clear coat or sealant.

Please visit the ACRE [Coatings Guidelines](#) for more information.

Requirements Before Installation

BEFORE GETTING STARTED

When working on any new construction, renovation or repair project, always wear protective clothing and safety equipment. Safety glasses, gloves, a dust mask, and long sleeves are recommended especially when cutting or sawing. Fasteners have sharp edges. Use proper care when handling. Safety Data Sheets can be downloaded from www.modern-mill.com/tech-and-training.

- Ensure boards are dry before installation.

PAINTING, STAINING OR FINISHING ACRE PRODUCTS

Pro Tip: For best results, applying paint, stain, or clear coats on a smooth flat surface is recommended. ACRE products may be finished after installation, however the viscosity of the coating could result in an uneven appearance if not monitored closely.

Coat ACRE with manufacturer recommended water-based paints, stains or sealers.

If you choose to paint ACRE, use a coating with a Light Reflective Value (LRV) 55 or greater. For any color with an LRV below 55, pay close attention to our approved coatings for darker colors.



Follow this QR code for a list of finish manufacturers and products that have passed paint-manufacturer testing standards and for technical assistance.

WALL REQUIREMENTS

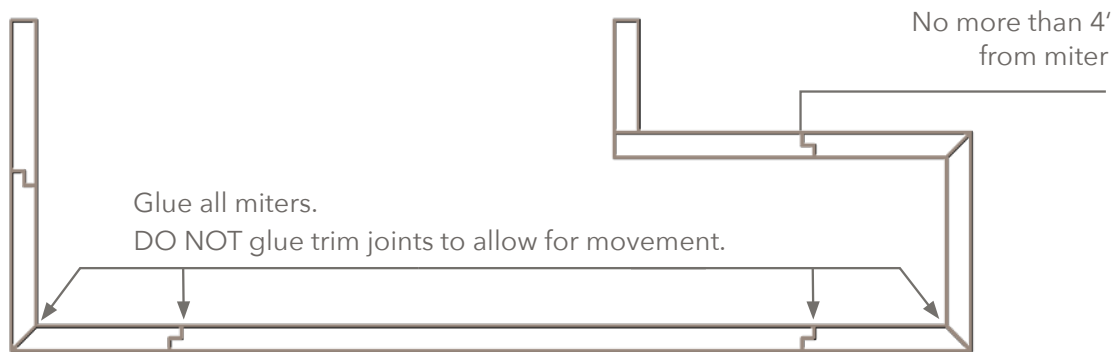
- Framing and sheathing requirements must comply with all applicable state and local building codes.
- Weather-resistant barrier requirements must comply with all applicable state and local building codes.
- Ensure that there are no nails or screws protruding.

MOISTURE

- Avoid installing product in standing water or areas that can stop water from draining away from the building.

Expansion and Contraction

- ACRE products undergo a degree of linear expansion with changes in weather or seasons. Expansion and contraction is most significant where extreme temperatures may exist.
- Be aware of changes in ambient temperature, which could impact the effects of expansion and contraction.
- Fasten ACRE as soon after cutting as possible to minimize expansion and contraction.
- Alternatively, you can use shorter length ACRE Trim with scarfed or rabbeted joints to minimize the effects of expansion and contraction.
- For best results, minimize direct sun contact during attachment. Boards installed in high temperatures may result in larger gapping later. Follow gapping instructions closely for best results.
- When joining boards in areas such as under eaves on fascia, a shiplap joint is recommended with exception of corners (a mitered corner will give the best appearance).



- Without proper gapping, expansion and contraction may be an issue on longer runs. Allow 1/8" per 18 feet of ACRE Trim for expansion and contraction. Short lengths (around windows for example) can and should be built with tight joints.
- Based on temperature at time of installation (see chart on the right) create a gap between

35 Degrees (F) and under	1/8 inch / 3.2 mm
36-89 Degrees (F)	1/16 inch / 1.2 mm
90 Degrees (F) and above	0 inches / 0 mm

Installation

FASTENING

To have fasteners last as long as ACRE Trim, use a high-quality fastener that meets the following specifications:

- Using screws for fastening is highly recommended.
- Do not use brads, finish nails, or staples.
- Use fasteners rated and approved for exterior use.
- Minimum Screw Size: #8 x 2 1/2".
- Minimum Screw Length: Fastener must penetrate the wood stud by at least 1 1/2".
- You can also use the Cortex for ACRE screw & plug system. Cortex is available for both 3/4" and 1" thick trim boards.
- Minimum Nail Size: 8D x 2 1/2" exterior grade ring shank nail.
- Make sure fasteners are driven flush with the surface of the ACRE Trim.
- Fasten ACRE Trim no more than 12" o.c. along the length of the board.
- Number of fasteners is dependent on board width. Please see chart below for recommendations:

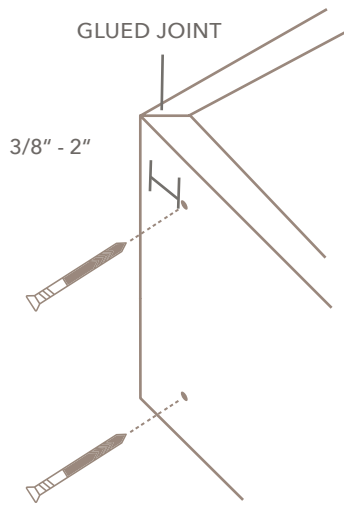
TRIM BOARD FASTENING SCHEDULE

Board Width	Fasteners / Width 16" O.C. MAX
6"	2
8" and 10"	3
12"	4

JOINTS

When using rabbeted trim allow 1/4" clearance between siding and trim.

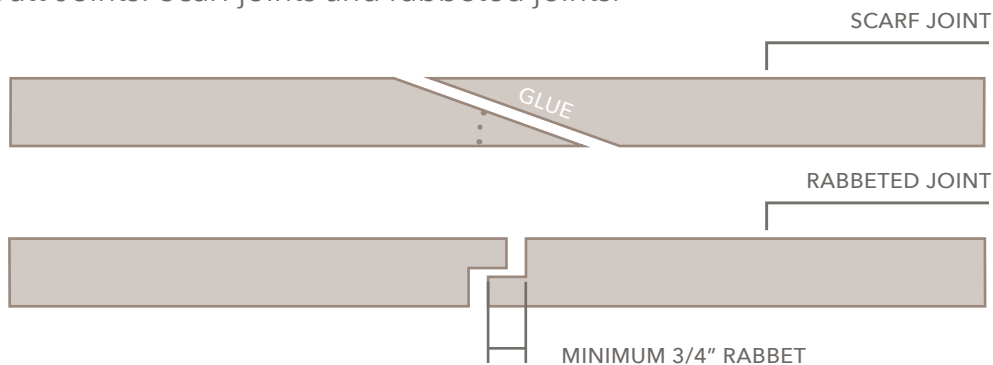




- Fasteners must be installed no less than 3/8" or more than 2" from the end of the board.
- Fasteners must be installed no less than 3/4" from the edge of the board.
- There must be two fasteners on each side of board joint (scarf, miter, etc.).
- Pneumatic nail guns can be used. Air pressure should be adjusted based upon gun, temperature, substrate, etc.

INSTALLATION TIPS

- Butt Joints: Scarf joints and rabbeted joints.



- Rabbeted trim can be used in the field for minimizing the effects of expansion and contraction along with achieving a clean look.



Thermoforming

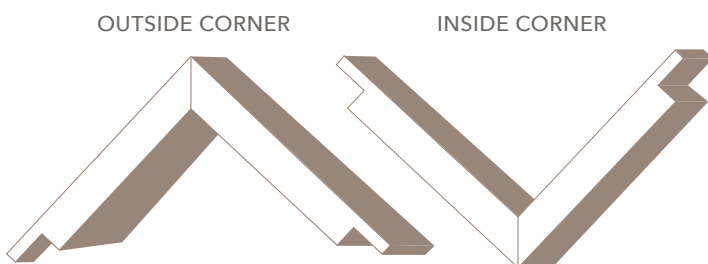
- With the proper application of heat, you can bend, mold and manually shape ACRE Trim.
- Be sure to test a small amount before full application.
- Radius will depend on board thickness. If the radius is too tight, the surface may tear.
- Allow sufficient time for heating, positioning the board, and cooling. Plan for heating approximately 1-1.5 minutes per mm board thickness.
- Core temperature approx. 250°F.
- Hold (lock) - time at temperature approx. 3-4 minutes.
- Cooling down, approx. 1-1.5 minutes per mm thickness.
- ACRE can be thermoformed using a vacuum press.
- ACRE trim can be heated most effectively using heat blankets.
- A mold may be required or helpful for deep shapes.
- Modern Mill assumes no liability, for any harm or damage to persons, product, or property related to thermoforming.

Finishing and Adhesives

- Apply stains or clear coats on the ground before installation.
- Coat ACRE products with manufacturer recommended water-based paints, stains, or sealers.
- If you choose to paint ACRE, use a coating with a Light Reflective Value (LRV) 55 or greater.
- For any color with an LRV below 55, pay close attention to our approved coatings for darker colors.

ADHESIVES

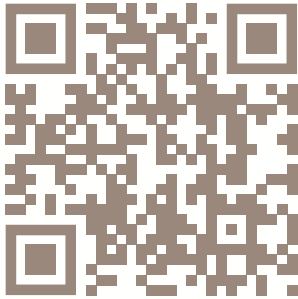
- Use recommended PVC glue, cement, polyurethane glue, or construction adhesives.
- DO NO USE WOOD GLUE.
- When gluing a joint, the use of mechanical fasteners on each side of the joint is recommended to allow the bonding time.
- For best results, surfaces to be glued should be smooth, clean, and in complete contact with each other.





Care and Cleaning

- Wash down the exterior surface with water every 6 - 12 months.
- For easier care and cleaning, we recommend coating your ACRE products with an exterior grade water soluble paint or stain.
- Be mindful of products which contain chemicals may alter the appearance of ACRE products.
- To clean ACRE products use a gentle all-purpose cleaner such as Simple® Green with a natural all fiber brush.
- Follow manufacturer instructions on all cleaning products. Test first on an inconspicuous area of the deck to ensure the surface remains undisturbed.
- Do not use traditional composite deck cleaners. ACRE products are made from natural fibers and PVC / polymers. Use gentle cleaning products as recommended.
- If using a power washer, we do not recommend pressure washing above 2500 psi. We suggest testing in an inconspicuous area first to ensure it will not damage the product's surface.
- If power washing, we recommend using a wide fan tip or oscillating tip, and keeping the tip a minimum of 12" from product surface.
- To remove rust stains, use household cleaners such as Krud Kutter "the must for rust".
- We recommend clearance between ACRE products and landscaping. Prune any vegetation back that is touching the wall.



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It's better building,
one tree-free board at a time.

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