ACRE

INSTALLATION REQUIREMENTS

Trim Boards

MODERN·MILL
BUILDING REVOLUTIONS

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PRODUCT APPLICATIONS DISCLAIMER

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.

This guide applies exclusively to ACRE products. Modern Mill makes no warranty for use with any other products or materials. **You assume all risk when using this information with non-ACRE products,** including other siding materials or construction applications.

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.

These installation instructions reflect current best practices and may be updated over time. Always check for the latest guide version at www.modern-mill.com/tech-and-training/ or contact your sales rep for the most current installation procedures.

Be sure to take our installation course and review all best practices before building with ACRE.

https://modern-mill.com/courses/acre-product-installation-course/

STORAGE AND HANDLING

- Store ACRE Trim horizontally, fully supported on a flat surface. Do not stack pallets directly on the ground.
- Keep covered, in a dry place out of direct sunlight, and away from surfaces that can develop excessive heat.
- If stored on a damp surface, place a vapor barrier under the pallet.
- Retain factory pallet covers to keep material clean and protected; replacements are available through your Modern Mill rep.
- DO NOT pull boards from a stack from the end – always pick up boards from the center and carry on edge.
- Boards must be installed immediately after cutting.
- Watch for ambient temperature changes during installation that could affect product gapping.

SAFETY

- Wear safety glasses and appropriate personal protective equipment (PPE) for job site conditions.
- Make sure all tools are in good working order and that their use is clearly communicated on site.
- Follow proper safety practices for all power tools and job site equipment.
- Fasteners have sharp edges – use proper care when handling.
- Safety Data Sheets can be downloaded from modern-mill.com/resources.

BEFORE INSTALLATION

ACRE contains PVC. Review spacing requirements, coatings, and all installation guidelines before starting – this ensures ACRE products perform as designed. Modern Mill will not accept liability under warranty for product failure caused by an application that does not meet ACRE requirements.

- **Rice hulls, like wood, can vary slightly in color – this is a unique feature of ACRE and can be seen both before and after staining. For best appearance, consider proper layout by mixing boards from various pallets or points of the stack.**
- **Inspect all boards prior to installing for breakage, foreign objects, surface defects, and correct product/color before installing.**
- Do not install product with manufacturing errors – installation is considered final acceptance.
- Ensure boards are dry before installation; do not finish or install wet or saturated material.
- Use a fine tooth, Carbide tipped finish blade for best results; a jigsaw can be used to cut around obstructions.
- Keep boards out of direct sunlight when cutting or staging.

WALL REQUIREMENTS & MOISTURE

- Framing, sheathing, proper flashing, and weather-resistive barrier must comply with all applicable state and local building codes.
- Min 1 1/4" penetration into solid framing.
- ACRE requires a minimum 7/16" OSB or 1/2" plywood sheathing.
- The use of draining/vented WRB is strongly recommended.
- The use of button cap fasteners can create a non-planar surface, can interfere with shiplap siding engagement, and should be avoided.
- Ensure no nails or screws are protruding – remove, replace, or add fasteners to create a smooth, continuous surface.
- Avoid installing in standing water or areas that prevent water from draining away from the building.

MOVEMENT, CLIMATE & INSTALLATION TEMPERATURE

ACRE will expand and contract with environmental temperature changes, most significantly where extreme temperatures exist. Ambient temperature, direct sunlight, and finish color all affect the degree of movement and must be factored into gapping at the time of install.

- To minimize the effects of temperature-related expansion and contraction – especially where gap quality is a primary concern – use shorter boards, lighter colors, and follow all fastening requirements, particularly for face fasteners.
- Fasten ACRE as soon after cutting as possible to further minimize expansion and contraction effects.
- Use ACRE Rabbeted Trim, or shorter boards with scarfed/rabbeted joints, to conceal the effects of expansion and contraction at board ends.
- For best results, use the Cortex face-fastening system.
- Allow 1/4" clearance from obstructions in the wall – windows, doors, mounting blocks, and similar.
- Glue mitered corner joints and pin tack together for curing; do not glue other trim joints – leaving them unglued allows for necessary movement.

GAPPING BY TEMPERATURE

TEMPERATURE	GAP
Below 50°F	1/8" gap
50-70°F	1/16" gap
70+°F	No gap

FASTENING & ADHESIVES

FASTENING

- Use proper fasteners: minimum 8d x 2-1/2" ring shank nails (0.099" diameter or larger), or minimum #8 x 2-1/2" screws.
- Do not use brads, finish/trim head nails or screws, or staples.
- Fasten with a minimum of 1-1/4" or greater penetration into solid framing, driven to proper depth.
- Underdriven button-cap fasteners may inhibit engagement of siding panels.
- Use a minimum of 5/8 "(3/4" preferred) material when using Cortex screws. See Cortex installation guide for proper fastening.
- Install fasteners flush.

ADHESIVES

- Use Titebond or other high-quality exterior grade adhesive for PVC for mitered corners.
- Apply construction adhesive to substructure for expansion/contraction management.
- OSI Quad Max (color-match) / Extreme Adhesive Fill & Flex (paintable): Pliable with temperature changes.
- Recommend overlapping joints (shiplap, scarf) while color matching the interior joints. OSI Quad Max can be used in the joint as needed to control gapping.
- In applying an adhesive, avoid long continuous horizontal application. Apply adhesive in vertical or diagonal fashion to ensure free water flow and ventilation.

TOOLS

- IMPACT OR STANDARD DRILL/DRIVER
- CIRCULAR SAW
- SPEED SQUARE
- PENCIL
- COIL SIDING NAILER
- TABLE SAW
- CONSTRUCTION ADHESIVE
- HIGH-QUALITY EXTERIOR GRADE CAULK/ADHESIVE
- MITER SAW
- EYE PROTECTION
- HAMMER
- DRILL
- JIGSAW
- TAPE MEASURE
- LADDER

BURNING WARNING

Do not burn ACRE products or scraps. ACRE products are not safe to discard by burning and must not be used as firewood, kindling, or any other fuel source to create or maintain a fire or heat source.

LEGAL DISCLAIMER:

This document offers general installation guidance reflecting Modern Mill's recommended best practices for ACRE Trim. It does not substitute for engineering judgment, code compliance, or manufacturer instructions. Modern Mill assumes no liability for damage, injury, or product failure resulting from installation that does not conform to its published requirements.

ACRE FIELD COATING REQUIREMENTS

ACRE is a PVC-based product. Correct coatings must be used to ensure optimal performance. For warranty protection, ACRE must be finished only with coatings that meet the following requirements or on Modern Mill's lists of approved colors. Colors that do not meet the requirements must be submitted to Modern Mill for testing and approval.

- Water-based only (100% acrylic latex for exterior paints).
- Light Reflective Value (LRV) of 55 or greater. Below 55, or if unsure, contact Modern Mill for approval.
- Clear coats can slightly darken ACRE's appearance – test on a sample area before full application.

Never have colors custom-tinted at local paint stores, home centers, or big-box retailers – untested customization can cause performance issues and void warranty coverage. Coating warranties are handled by each coating's manufacturer.

LIGHT REFLECTIVE VALUE (LRV)

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

BLACK **WHITE**

LRV measures how much light a color reflects, from 0 (black, absorbs all light) to 100 (white, reflects all light). Unreflected UV rays create excessive heat which can distort and contribute to additional expansion and contraction. Using approved colors helps minimize expansion and contraction in your installed ACRE product.

FIELD APPLICATION INSTRUCTIONS

- Rice hulls, like wood, can vary slightly in color – this is a unique feature of ACRE and can be seen both before and after staining. For best appearance, mix boards from various pallets or points of the stack, and inspect all boards prior to installing for breakage, foreign objects, surface defects, and correct product/color before installing.
- Ensure boards are cool and dry before applying coating.
- ACRE products should be finished prior to installation. Modern Mill recommends utilizing any factory-finish options before choosing to field finish.
- Tip: For the best results when field coating, we recommend applying paint, stain or clear coats on a smooth flat surface. If unsure, test on a sample piece before applying on full boards. ACRE products may be painted after installation; however, the viscosity of the coating and individual work time could result in an uneven appearance if not monitored closely.
- Tip: Consider working time while staining ACRE – the longer the board, the shorter the working time before curing.
- If multiple coats are being applied, contact Modern Mill at **install@modern-mill.com** for testing and approval.

DECKING APPLICATION

- Only use Sherwin-Williams SuperDeck® stains for deck application.
- For paints and stains outside of the above mentioned, contact Modern Mill at **install@modern-mill.com** for testing and approval.

APPROVED COLORS GENERAL INFORMATION

- Choose an approved color from one of the following manufacturers. Each brand's full color list and current LRV values are maintained on Modern Mill's site.
- Digital colors are approximate – always confirm against a physical sample or manufacturer swatch before final selection.
- Contact the coating manufacturer directly for warranty questions on a specific product.
- When in doubt about LRV, water-based formulation, or approval status, contact Modern Mill at **install@modern-mill.com** before purchasing or applying.

APPROVED PAINTS

Pittsburgh Paints – SidingSafe® palette + Signature 897 Collection

CENTRAL
Pittsburgh Paints
2510 Independence Dr
Ft Wayne, IN 46808
260-373-2373
Paf9270@pittsburghpaints.com

EAST
Pittsburgh Paints
1455 Trademart Blvd
Winston-Salem, NC 27127
336-771-8878
Paf9490@pittsburghpaints.com

WEST
Pittsburgh Paints
2720 Crater Lake Highway
Medford, OR 97504
541-772-7107
Paf8083@pittsburghpaints.com

NORTHEAST
Pittsburgh Paints
750 Page Blvd, Springfield,
MA 01104
413-734-8270

Sherwin-Williams – VinylSafe® palette

Benjamin Moore – Colors for Vinyl® palette

Custom / Special-Order Colors – Pittsburgh Paints Signature 897 custom color program
(~6–8 week lead time)

APPROVED STAINS

ACRE can be stained for a natural wood look.

- Options include Pittsburgh Paints' Signature Stain Collection for ACRE and Sherwin-Williams SuperDeck® IR stain colors (factory-mixed only – in-store mixing is not available for IR stains).
- Full staining brand details, colors, and special-order info: **modern-mill.com/coatings/staining-resources**

APPROVED CLEAR COATS

Modern Mill recommends a water-based protective clear finish to resist dirt, staining, and UV fading. "Laurel" by Pittsburgh Paints is Modern Mill's recommended clear finish (also available factory-finished). Approved off-the-shelf clear sealers include Flood CWF-UV Clear Finish, Sherwin-Williams SuperDeck® Waterborne Clear Sealer, Valspar® One-Coat Clear Exterior Sealer, and ZAR® Deck & Siding Clear Sealer.

Full details here: **modern-mill.com/coatings/natural-look-resources**

RECOAT AND TOUCHUPS

TOUCHUPS

- Tip: Use a wire brush or a hard bristle brush to sand the spot before applying stain.
- Use a pen dauber or an artist brush to apply touch-up stain.

RECOAT

- If painting over a different color, use a WHITE primer over the previous color first before applying desired color. DO NOT add any additional tints.
- If staining over a different color, use 220-grit sandpaper to remove existing stain before applying desired color. Please reference the above field application instructions for proper coating.
- For a maintenance schedule, follow the specific coating manufacturer's guidelines.

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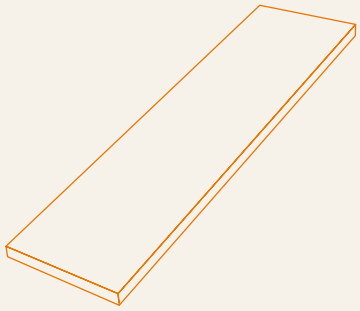
601-869-5050

TRIM BOARDS

ACRE Trim Boards add a final, beautiful touch.



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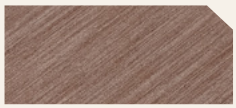
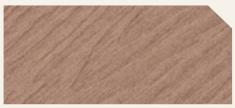
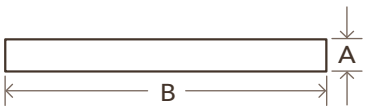


ACRE Grain



ACRE Embossed

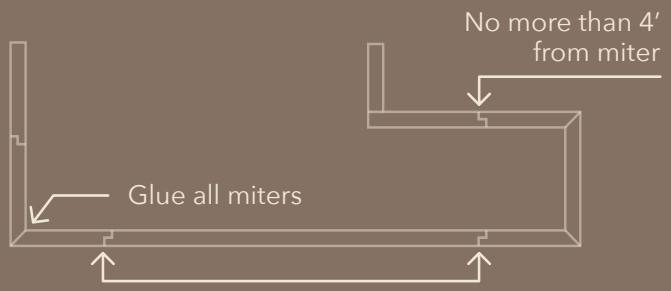
PROFILE DETAILS



PRODUCT NAME	NOMINAL SIZE	ACTUAL THICKNESS (A)	ACTUAL WIDTH (B)	LENGTHS
ACRE 5/8" Trim	5/8" x 3",4",5",6",8",10",12",16"	5/8"	2-1/2", 3-1/2", 4-1/2", 5-1/2", 7-1/4", 9-1/4", 11-1/4", 15-1/4"	12, 16, 18, 20'
ACRE 1" Trim	1" x 3",4",5",6",8",10",12",16"	3/4"	2-1/2", 3-1/2", 4-1/2", 5-1/2", 7-1/4", 9-1/4", 11-1/4", 15-1/4"	12, 16, 18, 20'
ACRE 5/4" Trim	5/4" x 3",4",5",6",8",10",12",16"	15/16"	2-1/2", 3-1/2", 4-1/2", 5-1/2", 7-1/4", 9-1/4", 11-1/4", 15-1/4"	12, 16, 18, 20'

EXPANSION & CONTRACTION

- As with other alternative building products, to minimize the effects of temperature related expansion & contraction, and if gap quality is of critical concern, the use of shorter boards, lighter colors, and following the required fastening requirements, especially regarding face fasteners, is paramount.
- Follow gapping instructions and fastening requirements closely for best results.
- 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.
- **Ambient temperature, direct sunlight and color of finish impact the degree of expansion and contraction of ACRE. These three factors MUST be considered when determining proper gapping at time of install.**
- Use ACRE Rabbeted Trim to conceal the effects of expansion and contraction at board ends.
- Fasten ACRE as soon after cutting as possible to minimize the effects of expansion and contraction.
- Alternatively, you can use shorter length boards with scarfed or rabbeted joints to minimize the effects of expansion and contraction.
- For best results, face fastening using Cortex system is recommended.
- Allow 1/4" clearance from obstructions in the wall like windows, doors, mounting blocks, etc.
- We recommend applying a high quality exterior caulk to vertical clearances only.



DO NOT glue trim joints to allow for movement

TRIMLESS CORNERS

- When installing shiplap siding without corner trim, siding panels can be mitered and glued. Boards being mitered at corners should not exceed 6-ft in length based on framing spacing. Shorter lengths are recommended with darker colors and more extreme climates.
- 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:

TEMPERATURE	GAP
Below 50°F	1/8" gap
50-70°F	1/16" gap
70+°F	No gap

INSTALLATION

FASTENING

For the best performance of your ACRE Trim installation, use a high quality fastener that meets the following specifications:

- **Use only approved fasteners. DO NOT USE BRADS, FINISH/TRIM HEAD NAILS/SCREWS, OR STAPLES.**
- Minimum Screw Size: #8 x 2-1/2″ composite screw in face as directed.
- Minimum Nail Size: 8D x 2-1/2″ exterior grade ring shank nail 0.099″ diameter or larger in face as directed.
- Minimum Fastener Length: Fastener must penetrate the wood stud at least 1-1/4″.
- Fasten into solid framing not more than 16″ on center. Reduce to 12″ on center if securing through sheathing only.
- Using screws for fastening is highly recommended.
- Use fasteners rated and approved for exterior use.
  Note: coastal applications may require special stainless steel fasteners.
- Make sure fasteners are driven flush with the surface of siding.
  Note: Cortex plug system screws drive beneath the surface to accommodate plugs.
- ACRE Cortex Screw and Plug systems are available for face fastening.
- Fasten Trim as seen in the schedule below.

TRIM BOARD FASTENING SCHEDULE

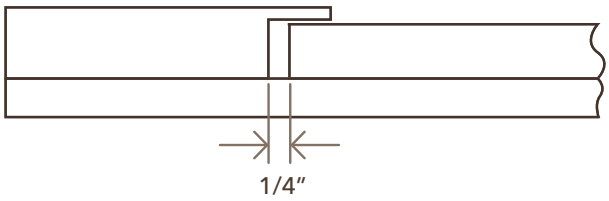
Board Width	Fasteners / Width 16″ O.C. MAX
Up to 3″	1
4″ to 8″	2
10″ and 16″	4

- Trim boards must be secured a maximum of 12″ o.c. when into sheathing only, and a maximum of 16″ o.c. when all fasteners are into solid framing. Fasteners must have a minimum penetration of 1-1/4″ into solid framing.
- Trim less than 3-1/2″ require single fasteners per maximum span allowed. Staggering the pattern to a minimum of 3/4″ from alternating edges is recommended.

JOINTS

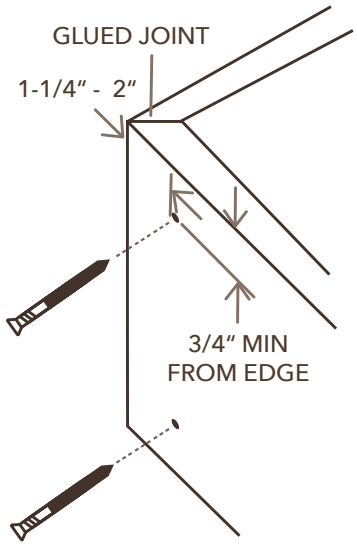
RABBETED TRIM

- When using rabbeted trim allow ¼" clearance between siding and trim.
- Fasten 2" from the joint.



GLUED JOINT

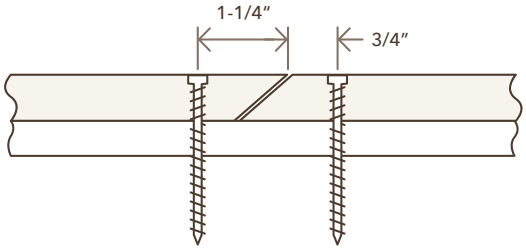
- Fasteners must be installed no less than 1-1/4" and no more than 2" from the end of a glued corner miter.
- Fasteners must be installed no less than 3/4" from the edge of the board.
- There must be two fasteners on each side of board joint (scarf, miter, etc.) for 4" to 6" width, three fasteners for 8" & 10" width, and four fasteners for 12" width. (see Fastening Schedule)



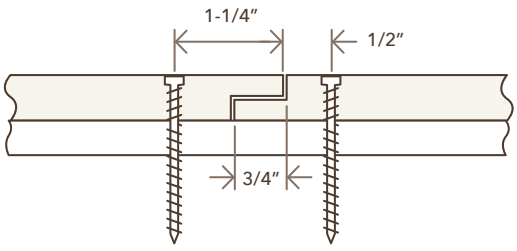
INSTALLATION TIPS

- On linear runs, scarf or shiplap joints are recommended. Butt joints are not recommended.

SCARF JOINT

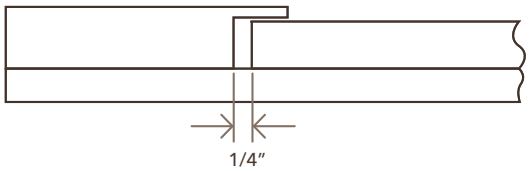


SHIPLAP JOINT



RABBETED TRIM

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.

For instructions on care & cleaning ACRE, scan here.

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