



INSTALLATION GUIDE





Beach Sand



Weathered Cedar



California Redwood



Coastal Driftwood



Congratulations! You've chosen the only composite decking board with Traction-Master Technology™ that provides industry-leading traction even when wet. Using these instructions will help ensure a proper and painless installation.

When it comes to an attractive product and low maintenance solution, you no longer have to compromise. RENEW Composite Decking boasts a truly wood-like matte finish and nearly timeless durability for the greatest long-term value.

Before starting any construction project, please be sure to obtain a building permit, if one is required in your area. Also, be sure to use all proper safety equipment and ensure that all tools have their guards and safety devices in position. Plan and think through the entire process and familiarize yourself with the materials.

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General Guidelines / Product Information

COMPOSITION

RENEW Decking is a co-extruded product. The outer layer is a blend of virgin high density polyethylene (HDPE) and colorant with UV inhibitors. The inner core material is comprised of a proprietary blend of recycled pre-consumer/post-consumer HDPE and non-organic compounded resins to help make the board rigid.

Unlike wood-plastic composite (WPC), RENEW Decking contains no wood fillers to rot, peel, weather or blister and is 100% recyclable. However, it may not be currently accepted by many municipal recycling centers and curbside programs. Please contact us at **1-800-666-5207** for recycling options.

*RENEW products are PVC and BPA-free formulas with no known harsh chemicals to leech into the environment.

Ultra-Violet (UV) stabilized colorants are added during the manufacturing process. The UV stabilization ensures a long lasting, fade resistant product requiring no staining, painting or sealing of any kind.

PROFILE, COLOR & SURFACE FINISH

RENEW comes in four ~~made~~ wood-like finishes:

- Beach Sand
- Weathered Cedar
- California Redwood
- Coastal Driftwood

Boards are made using our Traction Master Technology™

Standard decking profiles feature a wood grain finish on one side for a more natural look.

For a classic style with low maintenance, RENEW is your solution.

STORAGE AND HANDLING

Keep RENEW engineered-composite lumber in good shape with proper storage and handling:

1. Do not dump when unloading.
2. Keep the product lying flat and straight at all times, as the product will take the shape of anything it is laying on or against.
3. Cut and remove all banding materials and wrappings and, optimally, lay the decking materials loosely and flat on the joisting materials to allow the product to acclimate to the site for 12-24 hours before installation.

DECKING OPTIONS



SQUARE EDGE

Square edge boards create traditional, gapped-board installations. Also used as feature boards or picture framing. They can be installed with the screw-down method. Stocked in 12' and 16' lengths.



GROOVE & GROOVE

Groove and groove boards mimic the look of traditional gapped decking but float on hidden fasteners for added stability without a visible fastener. Stocked in 12' and 16' lengths.



CUSTOM COMPONENTS

RENEW Trim is available:

- 5/8" x 12-5/32" Square Edge for fascia
- 1/2" x 8" Square Edge for stair risers.

RENEW Trim Colors:

- Beach
 - Weathered
 - California
 - Coastal
 - White
- 

**Both stocked in 8' lengths and can be used for wrapping posts or other trimming needs.*

FASTENER OPTIONS

RENEW accommodates a variety of fastening methods. Your fastening method will depend on board choice and personal preference.

DECKING STYLE	SCREWS	HIDDEN FASTENERS
SQUARE EDGE	X	
GROOVE & GROOVE	X	X

SCREW-DOWN METHOD

Screws are a traditional installation method used to secure boards firmly to the substructure. When installed properly, the screw-down method will allow adequate expansion and contraction of decking materials.

To complement RENEW, we recommend ceramic-coated composite deck screws in a color that most closely matches your chosen RENEW deck board. Available at most big box and building material stores, the composite deck screws are size # 10 x2-3/4" at a minimum in length.



TOOLS AND CUTTING

Using RENEW is much like working with traditional wood materials. RENEW can be sawed, drilled, routed and screwed with standard tools and won't split or warp like traditional wood products. No pre-drilling required.

1. Use carbide tipped bits and blades for high volume cutting and drilling.
2. Slower speeds work the best with routers and planers/jointers. A speed of roughly half that normally used with wood will result in a fine, finished edge.
3. When cutting notches into RENEW engineered-composite lumber, drill or router a rounded corner in the cut to prevent cracking at the corners, as you would with any other hard-surface material. This can be accomplished by drilling a 1/2" hole at the corners of the notch and then cutting up to the drilled holes. If you can plan on a transition point at the post locations, that would be even better.

HIDDEN-FASTENER METHOD

Hidden fasteners are a popular installation method that gives you a traditional gapped look, but a cleaner look with no fasteners showing.

We recommend using the CAMO system. Professional contractors just love the product as it saves them so much time with installation.



EDGECLIP™ EDGE XCLIP™



Used for traditional 90 degree installations



Used for angled installations



Starter Clip



ALWAYS USE TOOLS ACCORDING TO MANUFACTURER'S INSTRUCTIONS, AND WEAR PROTECTIVE CLOTHING AND SAFETY GLASSES FOR YOUR SAFETY.

Material Characteristics

Unlike wood or WPC decking which swells or shrinks with humidity, RENEW Decking is unaffected by moisture. However, similar to plastic-based siding material, temperature changes will cause RENEW Decking to expand and contract along its length. Utilizing the clip installation method allows the greatest freedom for expansion and contraction. For warranty purposes, it is important to follow structural guidelines on spacing for all install methods. When using the screw method of installation, particular care must be taken to eliminate contraction or expansion from moving structural components. Expansion and contraction

potential should be accounted for in all methods for proper spacing, dimensions and application of trim pieces. Shorter boards (12' or less) experience less movement than longer ones and are, thus, often preferred.



REMEMBER: RENEW DECKING IS A PREMIUM FINISHING PRODUCT AND IS NOT DESIGNED FOR STRUCTURAL APPLICATIONS.

Design Considerations

BOARD LENGTH

We advise eliminating end-to-end butt joints and keeping board lengths to a minimum, as contraction movement may result in a larger than desired gap opening up, or the expansion movement may result in the boards running into each other causing the deck boards to ripple or warp, particularly when using thinner profiles. Once the board's contract due to colder temperatures, they do not fully return to the original length.

Here are a few design tips:

1. Apply deck boards across the shortest length of the deck whenever possible.
2. Use multiple deck levels to create transition zones.
3. Use board patterns such as herringbone, checkerboard or angles to increase the overall deck size while maintaining a minimum length on deck boards.
4. Use feature boards to break up the deck into manageable sections of shorter lengths.
5. Avoid end-to-end butt joints whenever possible.

FEATURE BOARDS

Use Feature Boards to break the deck into shorter lengths. Modify the substructure to support these design elements. This is covered in further detail in each fastening method section.

SLEEPER BOARDS

To avoid having to run joists in the long direction, over-length decks can be installed using wood 2x4 sleepers laying flat on 12" centers across 2x joists on 16" centers. The sleepers are screwed into each joist. This allows the frame of the deck to be installed as usual while working with the shortest length of the deck. This idea is often useful when refurbishing an existing deck. You may also want to consider running boards at an angle.

END GAPPING

RENEW decking will expand and contract along its length with temperature changes making it necessary to leave gaps between board ends, building walls and posts.

See chart 1 at right for expected movement and leave enough gapping based on temperature during installation and fluctuations in your region. The ideal temperature is 50°F. Use this number as a baseline for adjusting gap sizes. Use less gapping when it's warmer and more gapping when it's colder. Generally, a 3/16" to 1/4" gap is sufficient, depending on the temperature of the boards at the time of installation and the length of boards being used.

CHART 1

LENGTH OF BOARD	MOVEMENT AT EITHER END OF BOARD PER TEMPERATURE CHANGE		
	40°F	60°F	80°F
8'	0.18"	0.27"	0.36"
10'	0.23"	0.34"	0.45"
12'	0.27"	0.41"	0.54"
14'	0.32"	0.48"	0.63"
16'	0.36"	0.54"	0.73"

Coefficient of Linear Thermal Expansion = 4.7212 E-05 in./in./°F

Example: If temperature is 70°F during installation in a region that sees average temperatures between 10°F and 90°F, plan for a maximum 80°F temperature change.

Substructure

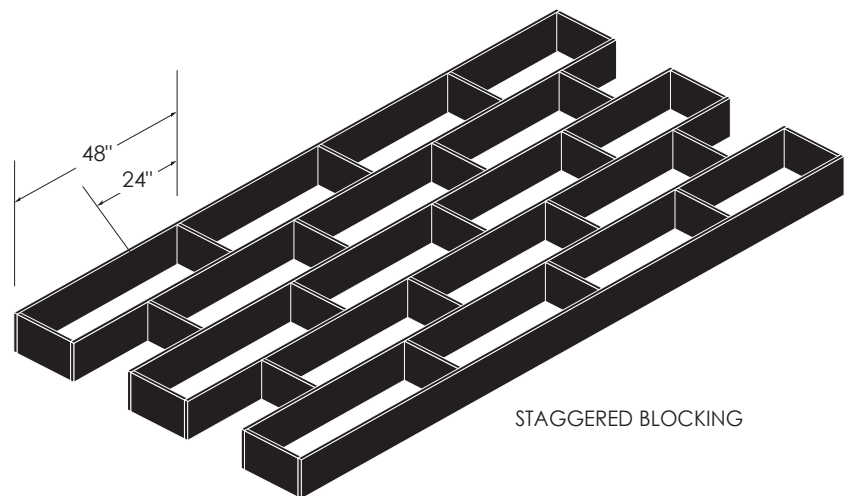
RENEW engineered-composite lumber is a quality finishing product and is not suited for structural purposes. We recommend a high-quality, kiln-dried treated wood product or other suitable high-quality structural component for your substructure. No matter which decking method you choose, substructure construction remains basically the same. Some extra time spent in the consideration and design of your substructure will payoff in a better end result for the entire project.

1. All joists should be even and should not warp or bow.
2. The joist system must be properly square.
3. For drainage purposes, add a slight pitch away from the house or adjacent structure.
4. Traditional blocking should be installed at 4' to 6' intervals, especially on larger decks.

(See Diagram 1).

5. Plan railing layout to allow for framing of pockets into the substructure for the rail posts.

DIAGRAM 1



STAGGERED BLOCKING

JOIST SPACING

Joist spacing is dependant upon the angle of the deck boards. If decking is to be laid diagonally, the joists must be placed even closer. See our guidelines in Chart 2 and check with local and state building authorities for exact construction codes for your area.

CHART 2

DECK BOARD	RESIDENTIAL USE (60 PSF)	COMMERCIAL USE (100 PSF)
1 1/4" x 5 1/2" Square Edge	16"	16"
1 1/4" x 5 1/2" G & G	16"	16"

For decking on a 45° angle to joist, subtract 4" from joist spacing.

FEATURE STRIP

When using a Feature Strip, the structure must be modified to support the Feature Strip and the ends of the deck boards running beside it. See specific instructions under the Groove and Groove method.

Fastening Methods

SQUARE EDGE SCREW-DOWN METHOD

RENEW Square Edge decking may be installed using a traditional screw method. Stainless steel composite deck screws are recommended.

STEP 1

Face screw straight down at a 90-degree angle, using two screws per joist. Firmly secure decking starting nearest to the house, working away from the house, down the entire length of the board. Completely secure the entire board before moving on to the next.



STEP 2

Repeat **Step 1** for the next boards until the end of the deck. Use longer deck boards than needed, leaving excess hanging over outside edge. Cut excess from all boards at the same time to ensure every board is even and square. Make sure to leave enough overhang for contraction of boards.

STEP 3

The edge board should be screwed through the face into the rim joist and at every support joist. This prevents the rim joist from being pulled off the joists by deck board expansion/contraction.

STEP 4

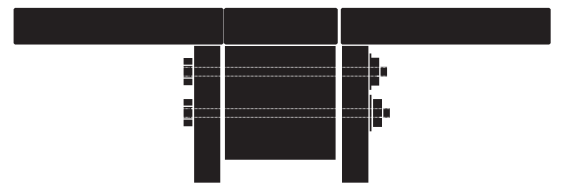
Install fascia to cover structure.

Working with deck sections larger than 16' with RENEW Square Edge using screw-down installation method.

Installation of lengths longer than 16' should be avoided due to the expansion and contraction of plastic decking. This can be accomplished by using any of the following techniques. Be sure to fasten wood 2x4s onto the inside of the rim joists for an extra measure of support with either option.

OPTION 1

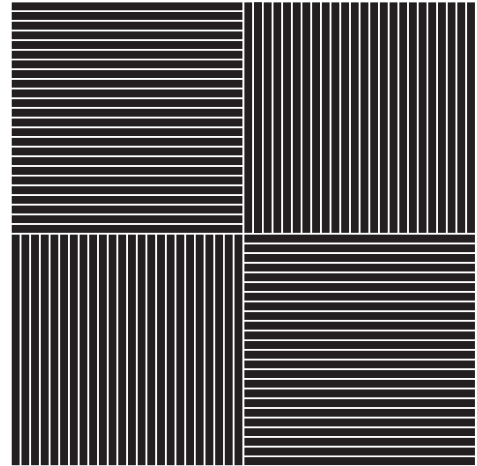
Use feature boards to break up the deck into "manageable" sections of shorter lengths. The structure must be modified to support the feature board while also supporting the ends of the deck boards running up to it. To do this, a wood 6x6 is installed directly below the feature board and two joists are installed on either side of the 6x6. These are all joined together using bolts with nuts and washers (**See end-view illustration**). The feature strip board is placed into position first and face screwed to the 6x6 using standard composite decking screws every 16". The deck boards are then installed.



Fastening Methods Continued

OPTION 2

The layout of the deck can be designed in a way to break a very large (i.e. 24' x 24') deck into quadrants of alternating board directions (See top-view illustration).



GROOVE & GROOVE – CLIPS

Our G&G style decking gives those who wish to have a traditional gapped-lock deck the option of having this look without the screw lines on the surface resulting in a clean looking deck when finished. The use of the specially designed G&G Clip allows for this.

DECKING CLIPS—HOW MANY?

Decking clips must be purchased separately. Chart 3 indicates the approximate number of clips required per 100 square feet of decking. The general rule of thumb to find the number of G&G deck clips required for a project is to take the length of the deck boards in inches divided by the joist spacing, add 1, then multiply that number by the number of deck boards required. (See Step 2 below for further information on deck clip options).

CHART 3

FOR 100 SF OF DECKING	JOIST SPACING	NUMBER OF CLIPS
Residential	16" OC	About 200
Commercial	16" OC	About 200

STEP 1

When installing deck boards parallel to a home, or other structure, Starter Clips can be used to hold down the lead edge of the deck boards to eliminate the need to screw through the top of the boards. Install Starter Clips at every joist against the home. Slide first deck board fully into the Starter Clips.

(See Diagram 2 – Page 8).



Starter Clip

STEP 2

Insert a vertical screw through every clip into each joist. The insertion points for diagonal toe screws will vary, depending on deck board location and installer preference.

A diagonal toe screw may be installed in order to minimize movement at that location/area. Follow these guidelines when using the diagonal toe screw method:

- **For boards installed perpendicular to a home or structure:** Use diagonal toe screws through the groove in first three joists away from the wall. (See **Diagram 4A – Page 10**).
- **For boards installed parallel to a home or structure:** Use diagonal toe screws through the groove in the three centermost joists. (See **Diagram 4B – Page 10**).
- **For boards on decks using a feature strip:** Use diagonal toe screws through the groove in the three joists on either side of the seam. (See **Diagram 4C – Page 10**). If installing multiple feature strips, you will want to use diagonal toe screws through the groove in the three centermost joists.

At least two to three diagonal toe screws should be inserted in each deck board using the guidelines above. By installing clips and screws in this manner, the expansion/contraction will occur away from structures and joints—areas where buckling could occur if the deck boards moved. Use stainless steel trim head screws.

STEP 3

Repeat **Step 2** for the next boards until the end of the deck. Use longer deck boards than needed, leaving excess hanging over outside edge. Cut excess from all boards at the same time to ensure every board is even and square.

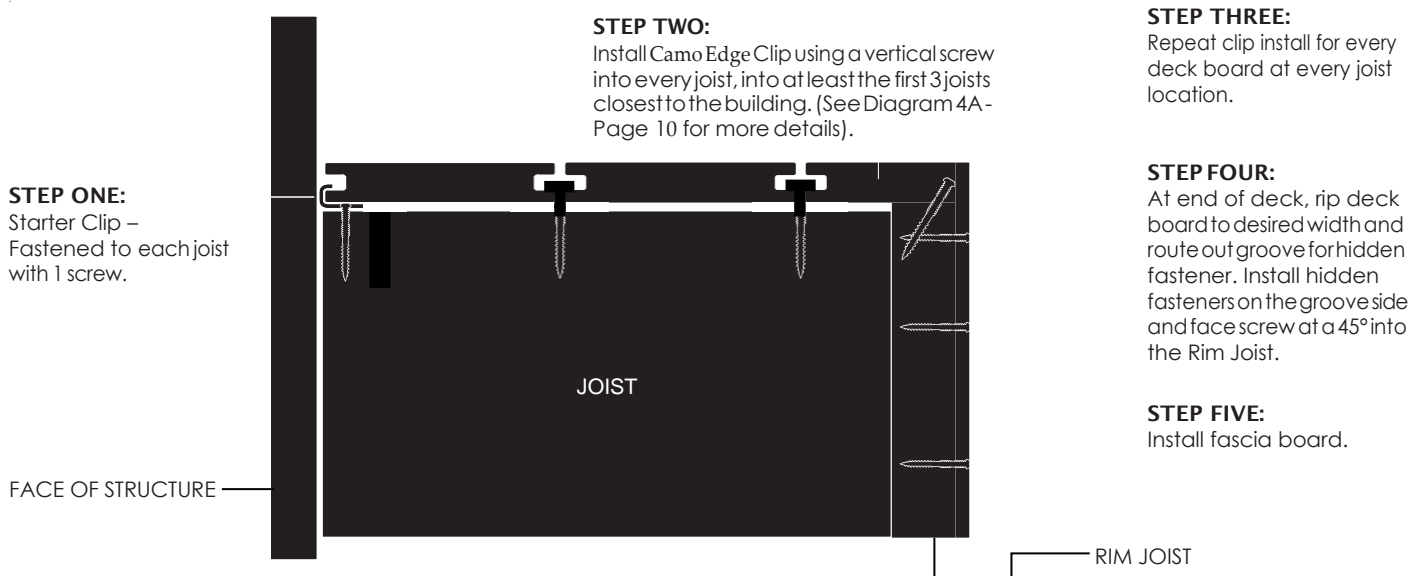
STEP 4

The last board (end board) on the deck can be ripped to desired width. On ripped edge, route out a hidden fastener groove. Route the groove along the entire length of the board or at every intersection where board is over support joists. (See **Diagram 2**).

STEP 5

Install fascia to cover core of deck board and structure. (Refer to **Diagram 2** for additional assistance).

DIAGRAM 2

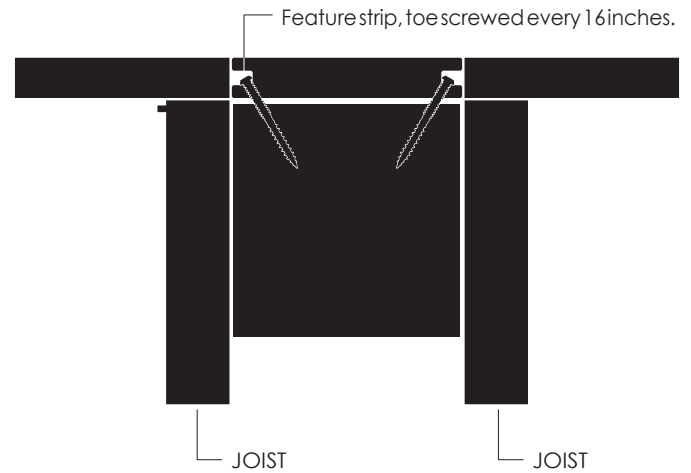


Working with deck sections larger than 16' with RENEW G&G Decking installation method.

Again we recommend eliminating butt joints due to the expansion and contraction gapping complexity of plastic decking. This can be accomplished by using any of the following techniques. Be sure to fasten wood 2x4s onto the inside of the rim joists for an extra measure of support with either option.

OPTION 1

Use feature boards to break up the deck into “manageable” sections of shorter lengths. The structure must be modified to support the feature board while also supporting the ends of the deck boards running up to it. To do this, a wood 6x6 is installed directly below the feature board and two joists are installed on either side of the 6x6. These are all joined together using bolts with nuts and washers (See end-view illustration). Make sure the 6x6 is flush with the joist tops. The feature strip board is placed into position first and toe screwed to the nailer using #7 x 1 5/8” stainless steel screws every 12 to 16 inches. Insert screws directly opposite each other. The deck boards are then installed. (See Diagram 3).

DIAGRAM 3

Working with deck sections larger than 16' with RENEW G&G Decking installation method.**NOTE**

If the deck boards are allowed to “float” by not using more than two or three diagonal toe screws on the joists on either side of the feature board, expansion and contraction should not be a problem. However, if diagonal toe screws are used on all of the joists to install the deck boards, the temperature at time of installation needs to be considered when placing the deck boards. Be sure to leave an adequate gap to allow for expansion and contraction of the deck boards in the future. (See Chart 1 – Page 5 for expansion/contraction factors).

Fastening Methods Continued

DIAGRAM 4A – DECKING PERPENDICULAR TO WALL

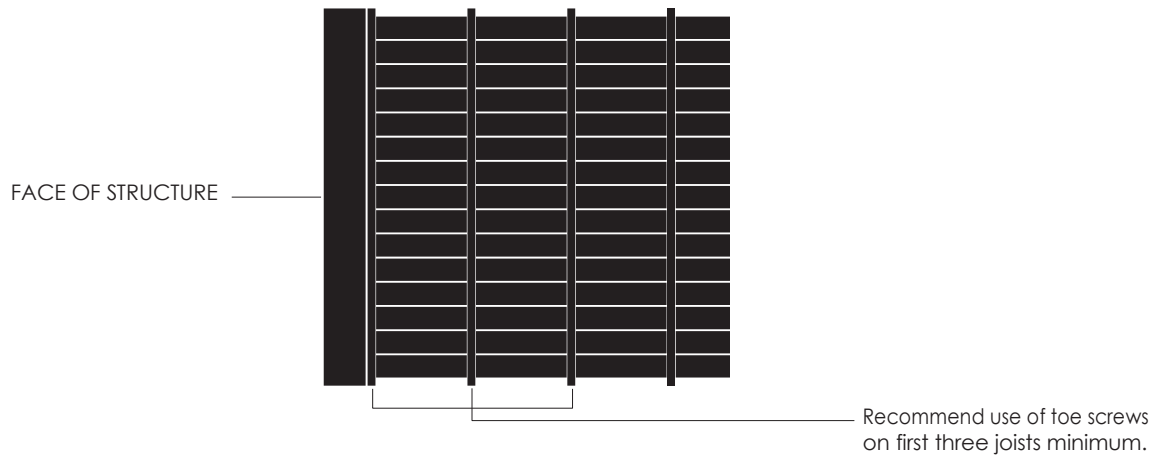


DIAGRAM 4B – DECKING PARALLEL TO WALL

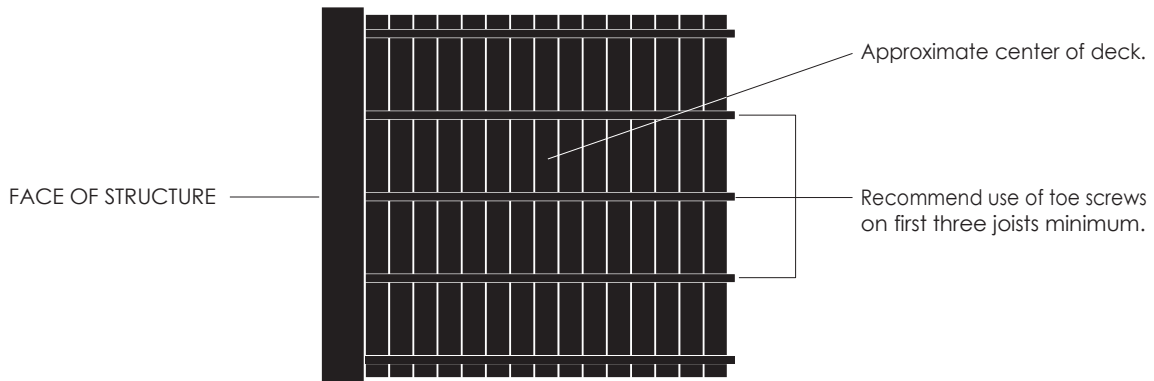
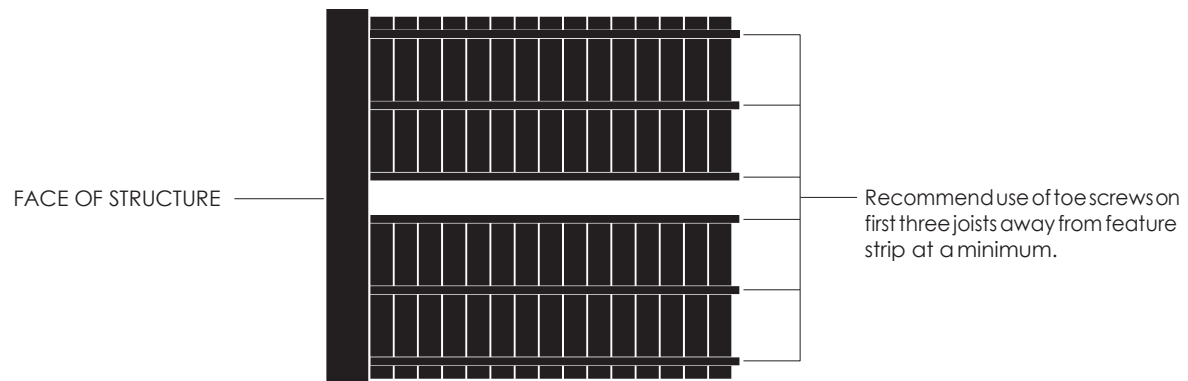


DIAGRAM 4C – FEATURE STRIP



Trim, Fascia & Finishing

Unlike major brands of composite decking, RENEW's premium plastic decking system includes many finishing components for a truly professional appearance. Exposed wood joists, posts and the area between your deck and the ground can be covered to complete the deck.

When using RENEW Trim, keep expansion and contraction in mind. We recommend fascia boards be installed vertically or diagonally to allow for shorter board lengths.

Horizontal fascia installation is acceptable with the use of appropriate blocking, expansion gaps and caps covering the expansion areas.

Screw the top and bottom of the panels every 8" on center. Due to the expansion and contraction gapping complexity of plastic fascia, we recommend lengths no longer than 6'. Gap locations should be positioned according to post locations and overall aesthetic appeal.

Support posts can be wrapped with RENEW Trim products. This will enhance the overall look of your deck and reduce maintenance. After trimming off the manufactured edge of the board, the material can be ripped down to the widths necessary to cover the post.

Don't fasten the material to the post, except at one point at the top to hold it in place. This will allow for expansion and contraction movement.

CORNER



STRAIGHT



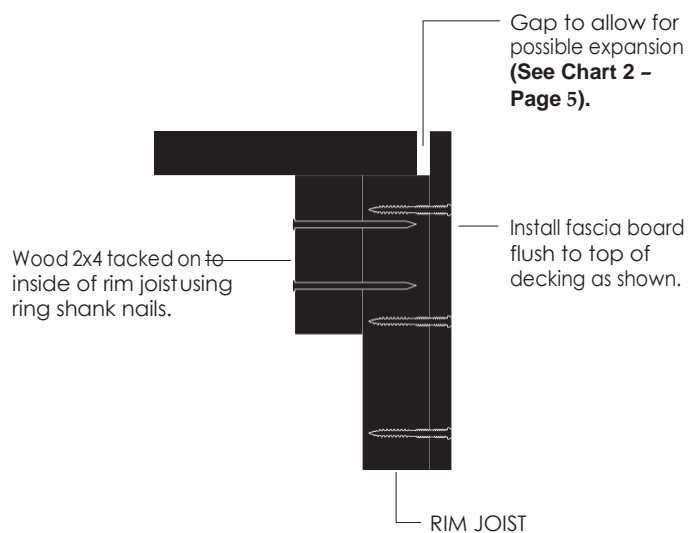
OVERHANG AND TRIM OPTIONS

Allowing an overhang around the edge of the deck is the preferred method of installation. However, if you do not prefer this look, one of the following trim options may be used:

“Picture Frame” Method – Option 1

When installing the product in this fashion, be particularly aware of expansion and contraction. Knowing the temperature at the time of installation, and the maximum temperature the deck may normally see, please refer to **Chart 1** to determine proper gapping to be used between the end of the deck boards and the fascia board. A smaller gap will be required at higher installation temperatures, as normal contraction will occur. It is also recommended that a wood 2x4 be nailed onto the inside of each of the rim joists to account for possible contraction that could result in the end of the deck board shrinking off the rim joist. Install the fascia board using no less than 3 Starbom Deckfast Fascia System Screws for 12" Fascia and 2 Starbom Deckfast Fascia System Screws for 8" Risers, every 12 inches on center, or an appropriate equivalent fastening technique. (See **Diagram 5**).

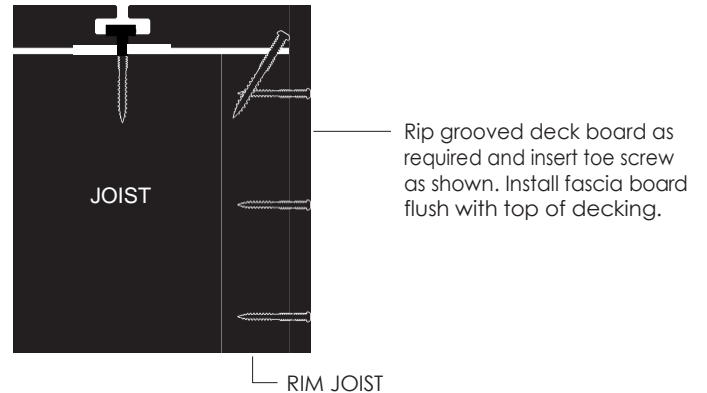
DIAGRAM 5



OVERHANG AND TRIM OPTIONS – CONTINUED

When installing the fascia board parallel to the decking, the final deck board may need to be ripped down to fit the deck. It is OK to rip a RENEW deck board to fit the required dimensions. Slight warping of the board is normal but will straighten while fastening it down to the frame. Pre-drill and toe screw the front edge of the final board and then install the fascia board in the manner described above. (See **Diagram 6**).

DIAGRAM 6



Cleaning & Care

Your RENEW project will endure decades of use before any real maintenance will be required, making it virtually maintenance free. No painting, staining or sealing is ever required! Periodic cleaning will help your deck look its best.

Unlike wood or composite decking material, mold or fungi cannot penetrate and permanently stain the RENEW surface.

1. Hose or sweep off periodically.
2. High humidity or low circulation installations may require a periodic low dose bleach wash. A mixture of 1 part bleach to 10 parts water can be used without harming the product. After all, bleach and acids are normally sold in HDPE plastic bottles.
3. Cleaning of light surface marks can be accomplished with a solution of Trisodium Phosphate (TSP) and water as directed on the package.
4. Stubborn stains, such as rust spots from furniture, can be removed using products such as IRON OUT®, without causing any damage to your deck.
5. Sweep snow off of the deck with a stiff-bristled broom. If heavier snows occur, a plastic shovel should be used to prevent scratching and gouging.

Conclusion/Important Notes

SAFETY

Always wear proper eye and hand protection. Use all power tools with proper guarding in place.

EXPANSION/CONTRACTION

Expansion and contraction occurs in all building products but is more noticeable in products manufactured with plastic resin. Proper installation of this product is extremely important. Please reference **Chart 1** for expansion/contraction guidelines. The product is at its natural length at 70°F. For best results follow the installation guidelines.

STAIRS

When using decking profiles in stair applications, make certain that stringer spacing is a maximum of 12". Starter Clips and Edge-Clips can be used to fasten stair treads to the stringers for a fastener-less surface.

BUILDING CODES

Always consult local building codes. Local building codes govern when a discrepancy arises.

STORAGE AND HANDLING

Cut and remove all banding materials and wrappings and lay the decking materials loosely and flat on the joisting materials to allow the product to acclimate for a minimum of 12-24 hours before installation.

Do not dump when unloading. Always store material on a flat surface, supporting product adequately along its length. It is important to keep the product lying flat and straight at all times as the product will take the shape of anything it is laying on or against.

SUBSTRUCTURE

- Be sure deck structure is square.
- When using a wood structure, be sure joists are of similar material and installed at the same height to avoid visual variations.
- Deck slope should be approximately 1/2" for every 8' away from house to aid in water run-off.

- Layout the location of Feature Strips on the structure of the deck before beginning construction to allow for efficient installation the proper substructure details as dictated by the fastening method being used.
- Be sure to sufficiently block the joists when necessary.

The installer and purchaser are ultimately responsible for the determination of the suitability of this product for the intended job. Please consult with your local building code officials prior to starting the building process.

Information included in this guide is subject to change without notice.

The latest RENEW Deck Installation Guide is always available at renewdecking.com.

When properly installed for the correct application, RENEW Plastics will ensure the product benefits stated in this guide.

Glossary of Terms

Fascia—Boards placed to cover the rim joist and end joists.

Joist—The wood, composite, or metal boards that support the visible planks of a deck.

Rim Joist—The vertical member that caps the ends of the floor joists completing the box that comprises the sub flooring.

Sleeper Boards—Wood "2x4" boards laying flat across the deck substructure.



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