



879 Brickyard Circle
Unit B-9
Golden, CO 80403

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Installation Guide

For proper installation, the following tools may be required when installing **Advanced Rock Technologies** products:

Pencil, level, square, measuring tape, caulking gun, screw gun, circular saw, chop saw, chalk line, keyhole saw, utility knife, drywall rasp or rotary sander, and in some cases a router, table saw and 18 gauge narrow crown stapler.

The following safety gear should always be used when working with **Advanced Rock Technologies** products:

Safety glasses, ear plugs, (while using power tools) and dust mask (when cutting in enclosed areas).

Always follow the **Advanced Rock Technologies** installation procedures closely. Similarly, always study and follow local building codes when applying **Advanced Rock Technologies** products.

Some applications require special cuts. Please allow a 5% overage in the quantity of the product to ensure a timely job completion.

Handling: **Advanced Rock Technologies** products are made of structural closed cell polyurethane. Although very durable and highly impact resistant, they should be handled carefully, as certain sharp trauma may cause damage. Always leave product in its original packaging prior to installation. **Advanced Rock Technologies** products should not be stored at an angle, or they may be susceptible to warping. The edges and backside of panels; although colored, are only partially UV protected. Prior to installation, these edges should not be exposed to direct sunlight for extended periods of time.

Surface Preparation:

Application Over Wood Substrates: When applying **Advanced Rock Technologies** products over **exterior** wood substrates, a moisture barrier is required. Apply the moisture barrier (such as tar paper products) starting from the bottom to top and overlapping each edge by two inches (refer to the manufacturers instructions). When applying **Advanced Rock Technologies** products over interior wood substrates a moisture barrier is not required.

Application Over Masonry: **Advanced Rock Technologies** products can be applied over brick, block, or concrete, but the application may require some different tools and materials. Make sure all masonry grout excess is knocked off and the surface profile is as smooth and flat as possible. All surface areas must be clean, dry and free of dirt, and loose materials.



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Application Over Steel Siding: Advanced Rock Technologies products can be applied over steel sheeting or siding. When possible, the ribbed steel panels should be installed with the “*high-rib*” facing towards the interior of the building. When the “*high-rib*” is facing inward, the outward facing ribs maintain a uniform plane and as such the **Advanced Rock Technologies** panels can be applied directly to the steel. Self-tapping sheet metal screws with a washer head should be used to secure the **Advanced Rock Technologies** panels to every rib. If the “*high-rib*” is installed facing towards the building exterior and the spacing of the “*high-ribs*” exceeds 12” on-center, then a layer of OSB board is required prior to installing the **Advanced Rock Technologies** panels. Attach OSB board to the steel sheeting at the high rib using self-tapping sheet metal screws, and attach **Advanced Rock Technologies** to the OSB board (see “Application over Wood Substrates”). When using **Advanced Rock Technologies** as a wainscot, a metal closure should be applied to the top edge.

Application Over Drywall: (See “Application Over Wood Substrates”).

Installation:

Layout: Prior to installation, a level line consistent with the substrate should be set at the bottom of wall. This is necessary to ensure proper installation, as not all substrates are level. In general, after this line has been established, begin setting panels at the bottom-left corner of the wall installing panels from left to right, and bottom to top.

Place the panel in its designated position to check the fit. Some field modification on the panels may be necessary such as additional sanding of the undercut or the shiplap edge to ensure a proper fit. Panel should be attached using the appropriate fasteners (see below) set approximately 8” apart along the positive shiplap edge. It is recommended that horizontal rows be staggered, to ensure and further enhancing the seamless appearance.

When using any of the **Advanced Rock Technologies** outside corners, installation should begin at the most visibly prominent corner and the panels should be set so as to move away from this location. In other words, in some instances panels will be set starting at the right and moving to the left. If more than one **Advanced Rock Technologies** outside corner is being used on opposite ends of the wall, then the panel will need to be cut short and the back of either the corner or panel will need to be carved out to accommodate the 2 pieces fitting properly together.

To fit an inside corner, miter cut a panel at a 45 degree angle. In order to continue the flow of the rock or brick pattern, cut opposing 45 degree miters from the same panel. Apply a coat of **Advanced Rock Technologies** color matched touch-up kit to the cut area before attaching. After completion apply a bead of polyurethane caulking to any gaps in the miter joint and cover with **Advanced Rock Technologies** touch-up kit (see touch-up kit below). An alternative technique would be to use a rock trim laid vertically in the corner, and then bring the panels tight against the trim.

When installing **Advanced Rock Technologies** brick panels where both edges of the installation will abut to 2 inside corners, do not attach the final 3 panels in a row until the final piece has been cut and all 3 panels can be laid into place as a connected unit. The “*woven fingers*” of the final 3 pieces (including the cut end piece) should be fit together away from the wall and moved into position on the wall as a combined unit.



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Measuring & Marking: **Advanced Rock Technologies** product should be measured and marked from the backside, since it is uniform in color. Using a measuring tape, mark the backside with a pencil or marker and then use a straightedge or chalk line to mark a cutting line. All panels and corners have a top (positive) and bottom (negative) shiplap edge.

Fastening: **Advanced Rock Technologies** products can be fastened over wood substrates using coarse thread wood screws, masonry substrates using concrete screws and steel substrates using self-tapping washer head screws. The screws must be exterior grade for outside applications and must penetrate the substrate a minimum of 1" (except steel). All screw heads should be counter sunk about 1/8" into the positive ship-lap edge of the **Advanced Rock Technologies** panel.

Advanced Rock Technologies panels must be fastened every 8" along the shiplap edge. The panel above it and to the right will conceal these fasteners with its overlapping shiplap edge. You may want to apply additional screws to achieve proper product firmness. To ensure firm attachment to an uneven substrate additional fasteners may be required. Fasteners should be placed in the formed grout lines of the product or in an inconspicuous place. In the case of the brick panels and corners additional adhesive or face screwing of the overlapping fingers may be required in high wind areas.

After completion all exposed screw heads should be covered with **Advanced Rock Technologies** touch-up kits. (see touch-up kits section below).

Adhesive is not necessary for all applications, yet could ensure a better overall adhesion. All surface areas must be clean, dry and free of oily and loose materials for best adhesion. It may be necessary to use a solvent such as denatured alcohol for cleaning the surface. Use only commercial grade polyurethane adhesive such as Sonneborn NP 1 with **Advanced Rock Technologies** panels.

Apply the adhesive to the backside of **Advanced Rock Technologies** products. On panels, always apply the adhesive with a 3/8" bead on all high profile lines of the panel. For corners, apply two vertical lines to the inside and two vertical lines to the outside edges.

For masonry installations place the **Advanced Rock Technologies** panel on the wall with a polyurethane adhesive, hold panel in place, and fasten panel using a self tapping concrete screw such as a 'tapcon'. Use a fastener with a small enough head to allow it to be appropriately counter sunk.

Brick ledgers require a special installation procedure. First, mark the desired location. Pay special attention that the bottom lip of the ledger will cover the top shiplap edge of the panel beneath it while still maintaining a natural exposed joint between the panel and the ledger. A standard 2" x 2" furring strip must be installed to the substrate aligned with the cavity in the back of the ledger. The wood furring strip should be secured to the substrate every 12 – 16". It is recommended that you dry fit the ledger into place first, glue on the end caps and then secure the ledger using polyurethane adhesive.



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Cutting: **Advanced Rock Technologies** is easy to cut; cordless circular saws, and even handsaws are able to cut through material. The panels are easiest cut from the backside. Mitered cuts can be simply achieved with the same procedure. For ripping panels a table saw may be most effective. Chop saws can be used for cutting ledgers and other profiled products. To cut outlet and fixture holes, make accurate markings on the backside, then use a hole saw, or jigsaw to cut the opening just as you would with other siding materials. When using a table saw or any other table for cutting, if cutting face down, be sure to have something under the face of the panel to avoid any unnecessary panel damage. For close trimming, a dry wall rasp can be used to reduce the edge. Also a router, cordless circular saw, as well as a table saw can be used to form a new negative shiplap edge if needed at corners, edges, or butt joints. Finally, after completion all exposed cut edges will need to be covered with the grout and/or painted.

Caulking: As with adhesive, the areas must be clean, dry, and free of oily and loose materials. Once the panels are installed, apply a small amount of grey polyurethane caulking to any exposed vertical seams to ensure a proper look and seal. The caulking skins over quickly so **ONLY** apply a small amount using as small a tip as possible. Try and use the tip to fill and sculpt the joint as you go. It is possible you may have to work or finger the caulking in place.

On panels having a vertical positive shiplap edge, apply caulking along the edge from the bottom to the top to restrict lateral water penetration.

For ledger butt joints, mask each side of joint, fill joint with caulk and finger smooth, then remove tape. Apply **Advanced Rock Technologies** touch-up kit over caulk to blend color with surface.

Exposed screw heads should be covered with **Advanced Rock Technologies** touch-up kit to ensure that the screw heads are not exposed to the elements, which prevents rust and deterioration.

A high quality, exterior grade siliconized acrylic or equivalent caulk should be applied around all door and window openings, as well as along the top of all ledger applications. All waterproofing should be done according to local building codes in your area. For best color-matched caulk see your local paint store or hardware store.

NOTE: Polyurethane caulk and adhesives are very fast setting and hard to clean up, work as quickly and as cleanly as you can.



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Painting: **Advanced Rock Technologies** panels can be painted to achieve unique artistic results. Modified painted surfaces of the **Advanced Rock Technologies** panels has not been tested for exterior applications so painting the surface should be limited to interior walls. **Advanced Rock Technologies** recommends Sherwin-Williams paint (A100 exterior grade, water-based, flat finish paint).

Prior to painting ensure that all polyurethane dust has been vacuumed or washed off of the surface of the **Advanced Rock Technologies** products. Failure to remove residual dust will cause the dust to bleed through the surface of the paint or create poor adhesion to the surface.

If the desired results of an interior application requires that entire surface be painted, we recommend the use of an airless paint sprayer. First apply a coat of Sherwin Williams PrepRite Bonding Primer and then finish with any desired water-based top coat.

Touch-up Kit: The 2 part **Advanced Rock Technologies** touch-up kits are specially formulated to match the texture and color of the panels. Included in the kit are 2 components; the pigment and the curing agent. Mix 50 parts of pigment to 2 parts of curing agent, or until the mixture matches the color of the panel. This mixture has a very limited working time, so only mix as much as you can use in a few minutes.

Use the touch-up kits to conceal exposed screw heads or to repair small scars and gouges in the surface of **Advanced Rock Technologies** products by applying a small amount of the touch-up kit to the affected area and work it in until achieving a blending appearance. Cutting out the damaged area and replacing it with a similar piece of **Advanced Rock Technologies** product can repair severely damaged areas. Keep in mind that unprotected cut polyurethane is susceptible to UV degradation due to sunlight exposure. It is important to make sure that any exposed, or damaged, areas are sufficiently covered with the two-part **Advanced Rock Technologies** touch-up kit or Sherwin-Williams paint (A80 exterior grade, water-based, mat finished paint).

Cleaning: **Advanced Rock Technologies** panels are decorated using an extremely high quality, mildew resistant, oxide coating. Do not sandblast the surface, as it will deteriorate the polyurethane. Basic soap and water are all you need to clean **Advanced Rock Technologies** products. To enable a good surface cleaning, recommended water sources would be a garden hose or power washer with less than 1500 psi. Harsh acids, bleach, chemicals and detergents are detrimental to **Advanced Rock Technologies**, as they will breakdown and damage the polyurethane. If treating stains, or graffiti, we would recommend that the area be treated with **Advanced Rock Technologies** touch-up kits in place of sanding or harsh scrubbing.

For exterior applications, if installation is not complete and you do not intend to return to finish for more than 72 hours, rinse or blow all residual polyurethane dust off of all **Advanced Rock Technologies** products. Raw exposed polyurethane dust will leave stains on the surface of panels and accessories if exposed to sunlight for a prolonged period.