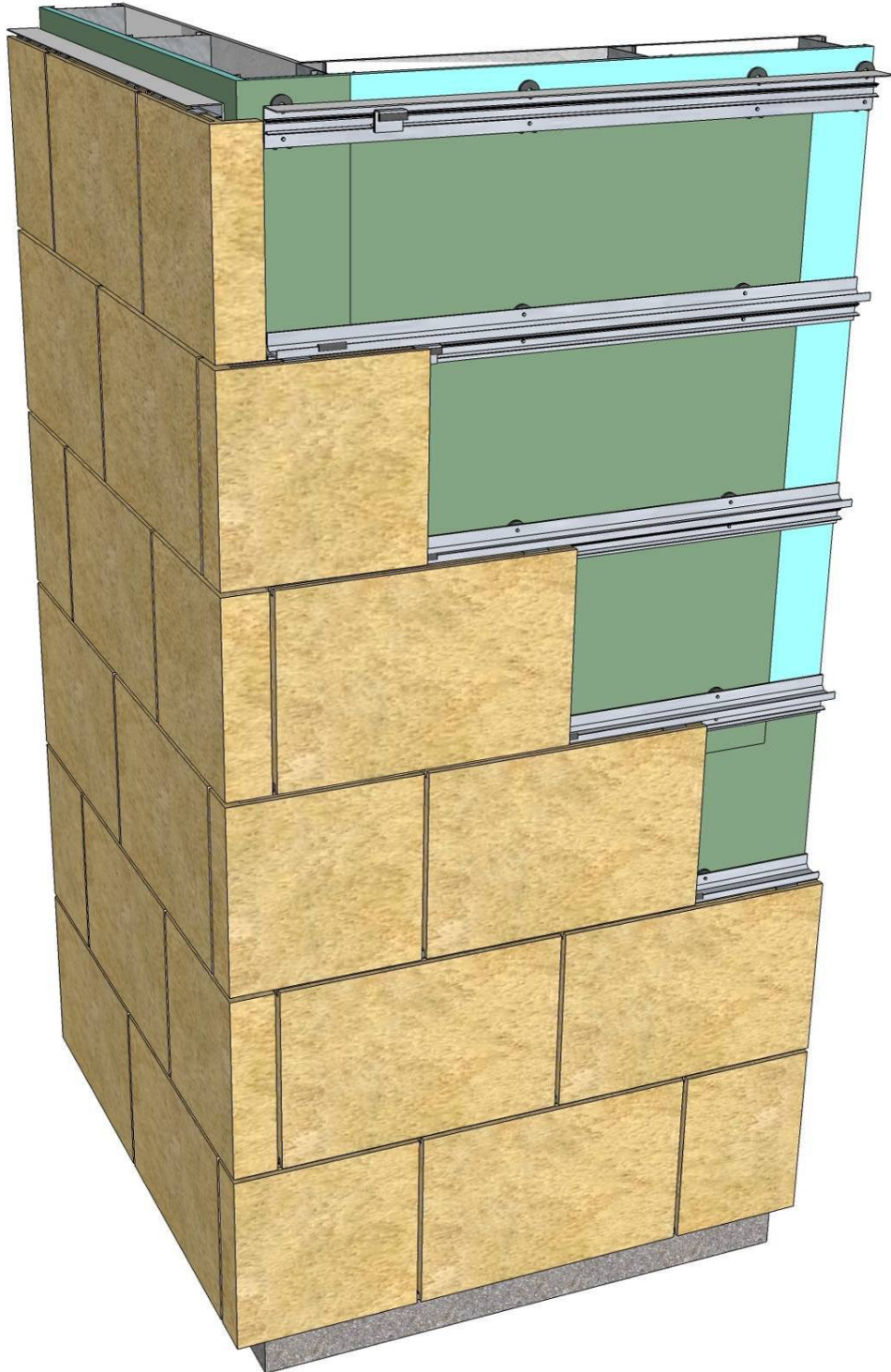




Fast Track System™

Masonry Support Framing



Best Practices Guide

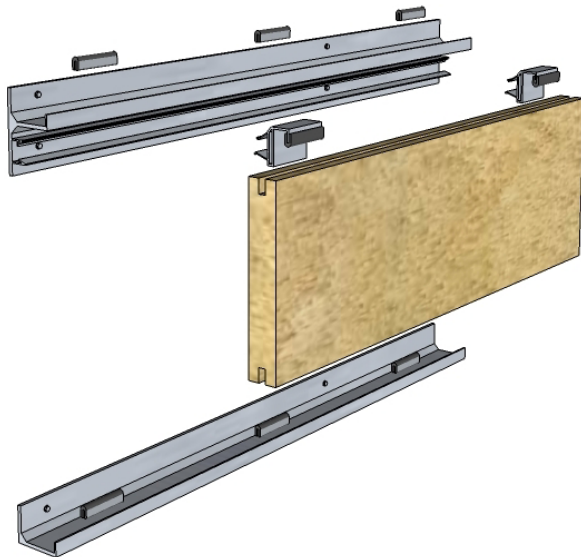
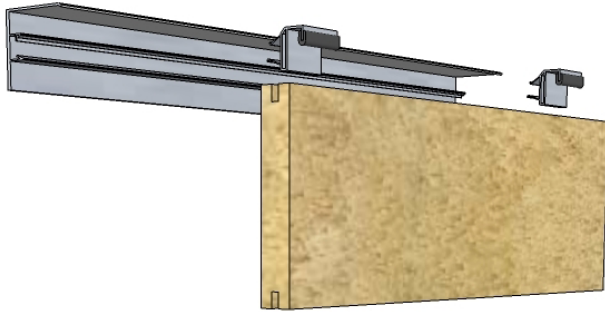
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General Information



Fast Track System™ is a masonry veneer cladding product designed to be applied to new or existing residential and commercial buildings without using a conventional perimeter concrete footing to support the weight of the veneer used. The system consists of aluminum shelf brackets, aluminum fastening clips, and 1 ¼" minimum thick masonry panels.

The brackets are mounted onto existing exterior or interior walls as the support structure for the masonry panels. The panels have kerfs sawn or formed into their top and bottom edges to allow them to be held in place by a railing lip on the brackets and by the fastening clips of the system. Brackets are installed according to a desired coursing design. Next panels are set in place by fitting their bottom grooves over a length of bracket lip, fitting support clips into the top grooves of the panels, and then tilting them towards the wall to engage the prongs of the fastening clips with the prongs of the support bracket installed above. The installation is completed by inserting backer rod into the panel joints and applying caulk over the backer rod to seal between the panel joint edges.

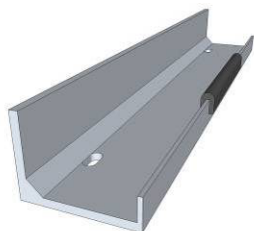
The step by step details of the assembly process for the Fast Track System™ are described and illustrated in this Best Practices Guide.

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System Parts

Aluminum Starter Bracket
(shown with 4" long rubber centering cushion)



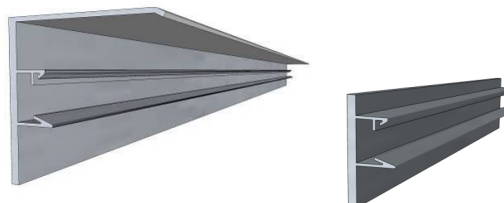
Aluminum Support Bracket
(shown with 4" long rubber centering cushion)



Aluminum Support Clip
(shown with 2" long rubber centering cushion)



Aluminum Top Receiver Bracket with Flange
(for use as shelf angle) & without Flange



Plastic Bracket Shims



Standard 24" x 8" x 1 1/4" Corner & Stretcher Panels



Standard 24" x 16" x 1 1/4" Corner & Stretcher Panels



Custom sized and finished units also available



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Other Installation Materials

- Storey Poles or Spacer Bars
- Rubber Centering Cushions
(as shown with System Parts)
- 1/2" Backer Rod (for 3/8" Joints)
- Masking Tape
- Silicone or Polyurethane Sealant
- Fasteners (See "More to Know")

Tools to Use

- Level and/or Laser Level
- Fixed or Adjustable Framing Square
- Spring and/or C Clamps
- Drill and Screw Gun
- Wet and Diamond Hole Saws
- Biscuit Cutter and/or Router
- Reciprocating Saw
- Utility and Putty Knives
- Caulk Gun (Powered Recommended)

Getting Started: Backup Wall and Work Site Preparation



It may be necessary to provide furring at backing walls for Fast Track System installations where the backing wall surface is inappropriate for the direct attachment of the system brackets. It is the responsibility of the engineer of record to verify the structural integrity of the backing wall based on the load imposed by the system panels and other applicable material, live, seismic, snow, and wind loading conditions. The weight of the system bracket and stone panel components can be found at the "More to Know" section to use for load analysis.

The backing wall surfaces that the Fast Track System is applied to should be smooth, flat, clean, and free of all debris. Shims are used in the system to separate the brackets from the backing wall to maintain a drainage plane for moisture control and to insulate the aluminum of the track from corrosive contact with backing wall materials. These shims are sized to allow them to be installed in different thickness increments to level and plumb the brackets, however, it is beneficial to assure that the backing wall is as level and plumb as possible before the system components are attached to it.

It is important to evaluate not only the structural integrity of the backing wall, but also its capability to resist and drain moisture. Building wrap or other sheathing materials should be properly installed to the wall surface as needed to assure an adequate moisture barrier.

Thoroughly review these installation instructions and any project specific drawings before beginning an application of the system. Ensure that appropriate scaffolding or other work staging equipment is available when mounting any system components and panels above shoulder height.

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Fast Track Stone Bracket Installation

Step 1



Transfer intended coursing for system to the backing wall with layout lines per bracket installation drawings.

Panel installations are typically started from the lowest panel course by setting the necessary lengths of starter bracket square and level. Brackets can also be installed in other sequences from an established base line, however it is recommended to start with the bottom-most bracket location.

Step 2



Fasten system brackets directly to the backing wall or to furring attached to the wall with fasteners no farther than 18" apart. Install plastic spacer shims at all fasteners between the bracket and the face of the wall or furring. An engineer should calculate and review the thermal expansion of any furring supports used for possible impact on bracket alignment. Install continuous lines of furring with a 1" separation between piece lengths to account for expansion and contraction.

The spacer shims are "U" shaped and are to be installed with the "U" shape in an upside down orientation. There are 1/16" and 1/4" thick shims. The 1/4" shims should be installed to produce the standard separation of brackets from substrate with the 1/16" spacers added or substituted to vary the stand-off distance as needed to achieve a level and plumb bracket position.



It is important to align bracket sections that are next to each other and where they join at corners. Use a framing square or other angled straight edge clamped to adjacent bracket sections to set them at an equal level position on the backing wall.

Bracket sections have slots pre-drilled in them for moisture drainage. Install adjacent sections of bracket separated by a 1" gap as an added measure to avoid moisture collection between brackets. This gap also helps mitigate the effect of thermal expansion.

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One method to use for aligning bracket lengths across window, door, or other wall openings is to install bracket sections uninterrupted across the opening, and then cut and remove the portions that overlap the opening.

Step 3



Utilize story poles, spacing jigs, or use measured layout lines applied to a backing wall to establish proper distances between tracks after installing the starter bracket or a base line section of bracket.

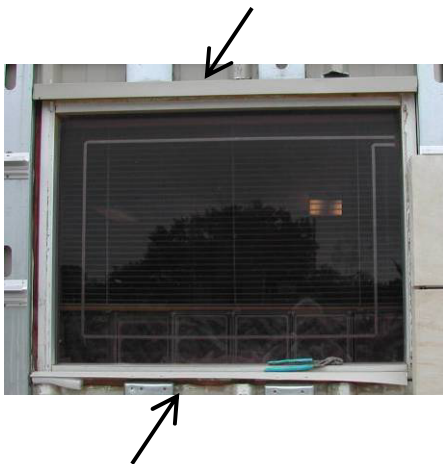
Ensure that each successive vertical course of bracket is level and plumb. They should also be properly spaced apart from the bracket above and/or below, aligned at corners, and fastened to backing wall with shims as described in Step 2 above.



Starter and receiver brackets can be installed at an angled slope to receive panels set along building elements such as a sloped ramp or ground surface or at a pitched roof edge. The panels at these locations will need to have edges field cut and grooved (kerfed) to match the slope of the angled portion of the building.

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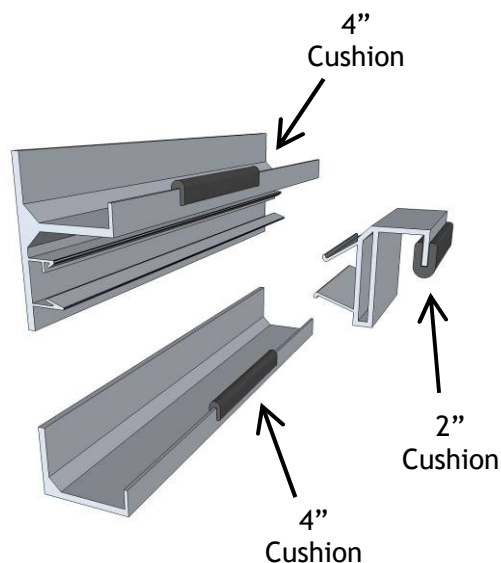
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Careful consideration should be given to how the panel system integrates with the moisture drainage design of the backing wall. Consult a building expert if needed.

Install specified or required flashing at head, jamb, and/or sill edges of openings in backing walls that are to be surfaced with Fast Track System panels. Starter brackets can be installed without flashing, however, this will result in a small gap between the back of the starter bracket and the face of the backing wall. Flashing can be utilized to seal this exposed gap.

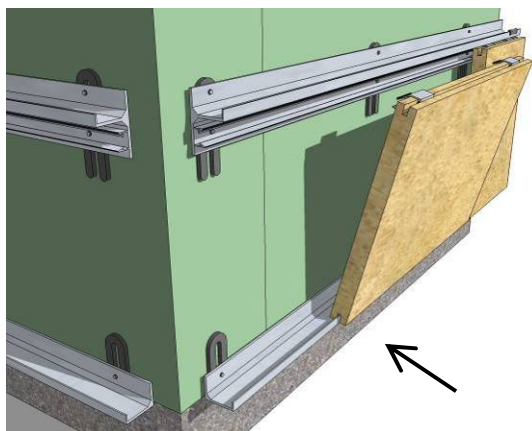
Masonry Panel Setting



Step 1

Masonry panels can be set and secured into place after bracket sections have been attached to the backing wall. This procedure begins with the application of 4" long rubber centering cushions to the up-turned lip portion of the starter and support brackets and 2" long cushions to the down-turned lip portion of the support clips.

The length of the 2" cushions matches the length of the support clips. Cushions attached to the bracket lips do not however extend the full length of the masonry panels. Full length panels should be connected to bracket lips with a minimum of two 2" cushions at their top kerfs and three 4" cushions at their bottom kerfs. The ends of the cushions should be positioned 1" to 2" from the ends of a panel.



Step 2

Standard panels are ready to be attached to brackets once centering cushions are placed. The bottom groove of a panel that is ready to be set should be positioned at a slight angle over the lip of the starter or support bracket it is to be attached to. Let the panel groove slide over the rubber cushions on the bracket lip and then gently tap the top of the panel to make sure that the cushion compresses completely into the kerf groove.

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Panels can be positioned according to the coursing alignment desired by sliding them along the bracket lip after they are set in place along their bottom grooves. Spacers can be used to establish the correct vertical spacing of adjacent panels, which will typically be 3/8".



Step 3

Insert two support clips into the top groove of panel. Make sure that the clips are located 1" to 2" in from the outside edges of the panel.

A single clip can be used instead of two on panel sections that are smaller than 8" in length. The clip on a panel where only one clip is used should be installed at the center of the top edge groove of the panel.



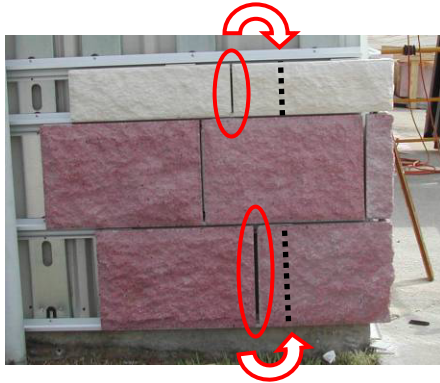
Step 4

Tilt the top of each panel with supporting clips attached towards the backing wall until the hook ended prongs of the support clips engage the hook ended prongs of the support or receiver bracket. A firm push will snap the tongs together to lock the panel securely in place.

An alternative method for installing panels is to slide them into place at exposed bracket ends. A panel can be positioned so that its bottom groove is in line with a bracket lip with a centering cushion set at its edge. The panel can then be set over the cushion and tilted vertical. Top clips are then fit into the top groove of the panel while it is held in place and then the panel is slid further onto the bracket. The prongs of the top clips using this method are slid into engagement with the bracket prongs instead of being snapped into place. Additional centering cushions need to be pressed into the center and end of the bottom groove of the panel before the end of the panel is slid completely onto the bracket.

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Stretcher and corner panels are manufactured to a standard full length of 24" but can be easily wet saw cut to shorter lengths on the job site as needed. Corner panels and panels at openings or the ends of walls will often require cutting to a shorter length to properly fit the coursing design being used for a Fast Track System application. Cut lengths should be determined by layout and measurement or through the use of drawings for an application before panels are ordered.

Consult your sales representative about special ordering pre-cut panels for coursing patterns using non-standard panel lengths.



Include planning in your installation for panels that need to have holes drilled or notches made to fit around penetrations through the masonry clad portions of the wall.



Also plan for any panels that need to have edges cut to match sloped roof edges, ramps, or other angled building parts as covered in step 3 of the panel bracket installation instructions at the bottom of page 7 above.

The necessary slope angle should be transferred to these type panels and be wet saw cut. Then a biscuit cutter or router should be used to field cut a groove along the sloped panel edge to receive bracket or clip lips.

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Finishing Steps: Joint Sealant Application

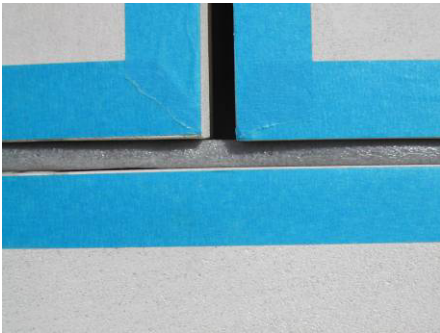


Step 1

Optionally apply masking tape along the perimeter face edge of each masonry panel to keep sealant from coming into contact with the face of the masonry.

Step 2

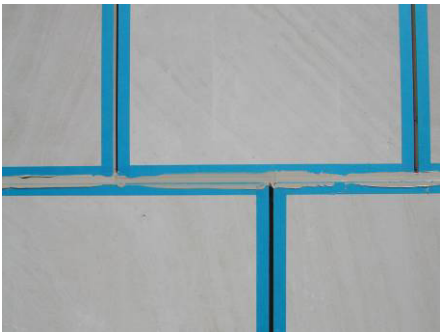
Backer rod is inserted at all joints. The outmost face of the backer rod should be set back a depth that is half the width of the joint that it is set into ($3/16$ " for a $3/8$ " joint) to provide the correct spacing for the sealant that is to be applied.



Silicone or other caulking can be dabbed into stretches of panel joint before backer rod is inserted to help hold the rod material in place until sealant is applied.

Leave $2\frac{1}{2}$ " high gaps without backer rod or sealant at the bottom ends of vertical joints above starter bracket at the lowest panel courses of installations and at header locations over openings. The low ends of these vertical joints are left clear to act as weep holes for air circulation behind the Fast Track veneer wall and for moisture drainage.

Step 3

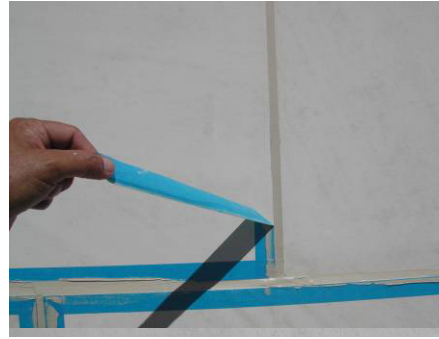
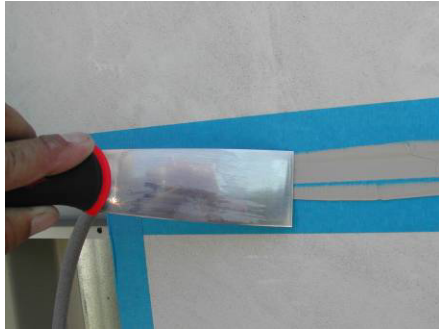


The application of sealant between panels can begin after backer rod material has been inserted into all joints. It is recommended that a powered caulk gun be used to install the sealant. Using 400ml or 600ml sausage packs instead of 10.1oz tubes is also recommended to make the sealing process more efficient.

The masonry panels and backer rod should be dry and free of dust and debris before sealant is applied. Also the temperature conditions during application should meet the sealant manufacturer's specifications. Ensure that applied sealant adheres to panel edges at all joints.

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Step 4

The final step in finishing the sealant application is to remove excess sealant from the panels or from the masking tape and then remove the tape if the joints were taped.

Use a putty knife to strike sealant fully into the joints and clear excess material from the masking tape if used. Peel the tape if used from around the joints while the sealant is still wet. Lastly, keep anything from coming in contact with the sealant while it is drying for the duration of the manufacturer's recommended curing time.



Your Fast Track System installation is now complete. Ask your sales representative about applying a seal coating to your project's masonry panels for added surface protection.

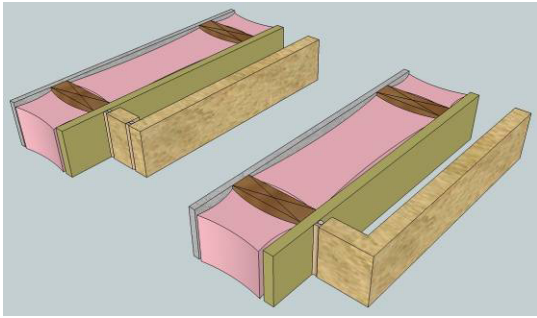
More to Know

It is important to realize that these best practices instructions are very general in nature and will not address every assembly condition that may be encountered on a particular project. Project specific shop drawings should be created and utilized for more sophisticated applications of the Fast Track System. Your IBP representative can assist you in obtaining technical design and drawing assistance for your Fast Track System projects. The following pages provide information to consider for planning and managing your installation.

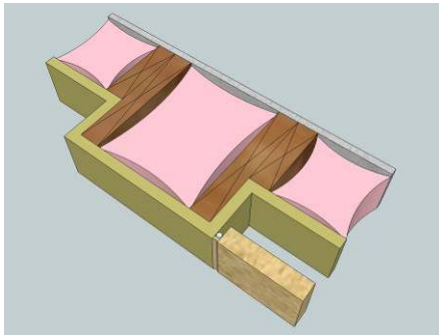
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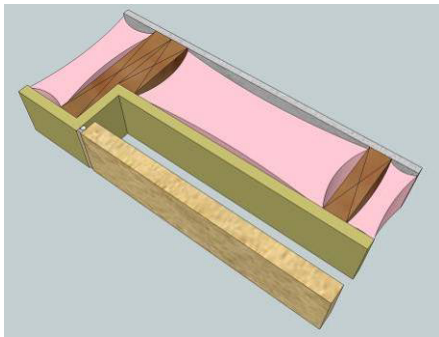
Detail at Edges of Installation



The 'L' shaped corner panels of the Fast Track System are used for building corners and to produce a finished end treatment at a wall veneer edge. A separate end piece butt joined to the face masonry can also be used. The use of 'L' panels or end-cap pieces at wall ends allows the masonry face to be returned to the backing wall a distance of 3/8" away from the wall sheathing so backer rod and sealant can be used to produce a finished joint.



An alternative way to handle the horizontal ends of an installation is to construct a bump out in the backing wall at the ends of the panel application with a finished face aligned to the face of the system panels. This allows the panels to terminate into the sides of the bumps outs.



A variation of this method for addressing the system wall end detail is to construct a recessed area in the backing wall where the brackets and panels are installed set back far enough for the panel faces to be flush with the face of the backing wall finish material.



The top edges of Fast Track System installations in most cases will extend into a site built, pocket reveal at a roof eave or ceiling. Applications that do not extend the full height of a backing wall will require a cap. Wall caps can be site built or can be integrated with the panel system by using system components. An IBP representative can assist you in obtaining technical design and drawing assistance for an integrated wall cap detail. The incorporation of proper flashing for exposed eaves and caps should always be carefully considered.

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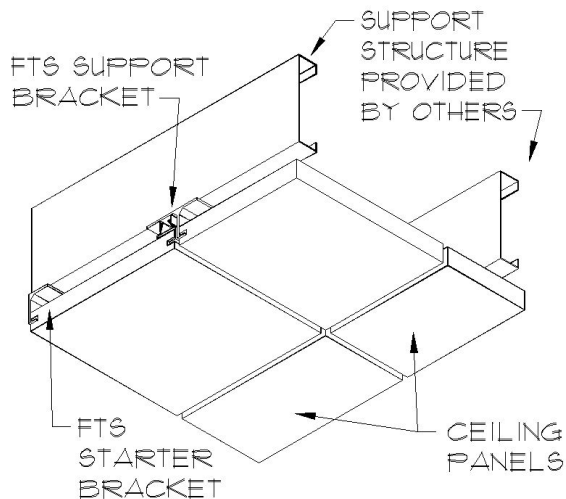
The 'L' shaped corner panels of the system are intended for use not only at wall corners, but also at door and window jambs. There may however be situations where the reveal depth of an opening (as shown in the photograph to the left) exceeds the depth of the return on the system corner panels creating a gap that is wider than the backer rod filled joint called for by the system.



Metal or other material 'L' shape edgings can be used to close gaps that exceed 3/8". One leg of the 'L' is fastened to the backing wall and the other leg covers the gap and overlaps the face of the panel edge.

Similar flashings or edgings can also be considered for use at system wall ends instead the 'L' corner panel, wall bump out, or wall recess methods discussed above.

Panels Mounted on Brackets Horizontally or at an Angle



The Fast Track System can be used to support panels horizontally in a ceiling application or on sloped surfaces; however, these type installations require additional preparation and care.

Panel materials, especially for non-vertical placements, need to be carefully inspected for defects, chips, or cracks. Panels that are compromised in any way should never be installed in overhead applications.

Adherence to the attachment tolerances of the system is important at all installations and essential when panels are mounted as ceiling cladding. The system brackets must be installed properly with correct fasteners and spacing according to specification details to ensure that support clips achieve full connection engagement.

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Panels Oriented on Brackets Horizontally or at an Angle - Continued

It is strongly recommended that the installing contractor provide oversight supervision to monitor that panels (especially ones mounted horizontally as ceiling material) are placed properly. The panels are to be checked to make sure that they have their kerf grooves properly set onto the Fast Track Stone brackets. Support clips are to be examined before snapping panels into position to make sure that they are completely seated in the panel kerfs. Verify the secure attachment of each panel. Confirming the correct fit and engagement of every panel is essential to achieve a safe installation.



It is important to ensure that the masonry system panels delivered to the job site for your Fast Track System project are stored in a dry place. It is also recommended that precaution be taken to keep exterior backing walls of a building dry immediately before an application and during the process of an installation to avoid trapping excess moisture behind the system veneer wall. Water proof tarp is recommended for use in keeping panels and application site walls dry.



Tubes or sausage packs of Dow Corning 790 silicone or Tremco Vulkem 116 polyurethane are recommended for sealing Fast Track Stone system panel joints. A building expert should be consulted before using any other sealant to evaluate if it is suitable for a project.

Another material to consider as an option for a project is a bug barrier to install along the bottom edges of applications between backing wall and brackets and brackets and backs of panels. Your sales representative can provide you with more information on this material.

Weights of Fast Track System Components	
Starter Bracket	.7 lb/linear foot
Support Bracket	1.33 lb/linear foot
Support Clips	.4 lb/linear foot
Top Receiver with Flange	.85 lb/linear foot
Top Receiver without Flange	.43 lb/linear foot
System Masonry Panels	14 to 20 lb/square foot

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Backing Wall Material	Backing Wall Requirements	Fastener/Anchor Recommendation (vii), (viii), (ix), (xi)
Wood Stud (i)	Backing wall to comply w/ applicable provisions of Sect. 2308 of IBC & local building codes	¼" dia. S.S. wood screw w/ 1 ½" min. penetration into backing wall
Steel Stud (ii)	Backing wall to comply w/ applicable provisions of Sect. 2211 of IBC & local building codes	#10 S.S. screws
CMU: Hollow Core Grout Filled Hollow Core (iii) Grout Joint (iv)	Backing wall to comply with applicable provisions of Sect. 2109 of IBC & local building codes	¼" dia. S.S. Powers Lok-Bolt w/ 1 1/8" embedment, 3 ¾" min. edge dist., & 8" min. end dist. @ hollow or filled core CMU (x) ¼" dia. Hilti HLC Sleeve w/ 1" embedment & 4" min. edge distance @ grout joint
Clay Brick (v): Solid or Cored Grout Joint (iv)	Backing wall to comply w/ applicable provisions of Sect. 2109 of IBC & local building codes	¼" dia. S.S. Powers Lok-Bolt w/ 1 1/8" embedment, 4" min. edge dist., & 4" min. end dist. @ clay brick (x) ¼" dia. Hilti HLC Sleeve w/ 1" embedment & 4" min. edge distance @ grout joint
Concrete (vi)	Backing wall to comply w/ applicable provisions of Chapter 19 of IBC & local building codes	¼" dia. S.S. Hilti Kwik Bolt 3 w/ 2" embedment & 3" min. edge distance (x)

Notes:

- (i) Based on use of spruce, pine, or fir wood species with a specific gravity of minimum 0.42 or greater
- (ii) Studs to be minimum 16 gauge steel w/ 33 ksi yield stress
- (iii) Hollow core CMU to be filled with minimum 1500 psi strength grout
- (iv) Grout to have a minimum compressive strength of 2000 psi
- (v) Hollow or solid clay brick conforming to ASTM C62 standard
- (vi) Concrete to have a minimum compressive strength of 3000 psi
- (vii) These are general Fastener/Anchor recommendations adequate for basic system applications without project specific engineering for a maximum structure height of 30 feet and maximum wind load of 78 psf
- (viii) Fastener/Anchors to be installed a minimum of 3/8" from track edges at a maximum spacing of 18" apart
- (ix) It is the responsibility of the engineer of record to verify the structural integrity of the backing wall based on the load imposed by the system panels and other applicable material, live, seismic, snow and wind loading conditions
- (x) Alternative fastener/anchors recommendations available from supplier upon request
- (xi) Substitutions of recommended fastener/anchors should only be made after structural analysis by engineer of record

(x) Alternative Fastener/Anchor Recommendations

CMU: Grout Filled Hollow Core (iii)	¼" dia. S.S. Powers Wedge Bolt w/ 2" embedment, 3 ¾" min. edge dist., & 3 ¾" min. end dist. @ filled core CMU
Clay Brick (v): Solid Brick without Coring Only	¼" dia. S.S. Powers 'Double' Shield Expansion Anchor w/ 1 ¼" embedment, 4" min. edge dist., & 4" min. end dist.
Concrete (vi)	¼" dia. S.S. Powers Wedge Bolt w/ 2" embedment & 2" min. edge distance or ¼" dia. S.S. Powers Tapper w/ 1 ½" embedment & 2" min. edge dist.

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