



INSTALLATION INSTRUCTIONS

FOR RESIDENTIAL PROJECTS



PRODUCT OVERVIEW



The Smarter Sheathing System for Walls and Sloped Roofs

While you can't control Mother Nature, you can control the quality of your residential construction projects and greatly reduce the number of times you're called back to handle repairs from weather-related damage.

ForceField® Weather Barrier System from Georgia-Pacific delivers a superior level of protection from the elements. This integrated water-resistive barrier (WRB) sheathing system can be used across your wood-framed residential structures from walls to sloped roofs.

Engineered wood sheathing panels made with DryGuard® Technology* and an enhanced overlay are at the core of this weather barrier system.

ForceField® Panels install like standard OSB or plywood sheathing and have the versatility to be used on both wall and sloped roof applications. ForceField® Accessories feature an innovative design and proven compatibility to make critical connections at seams, joints and transitions for walls and sloped roofs. When panels are installed, and joints/seams are taped, uncontrolled air movement is reduced—which can help improve the structure's energy efficiency.

When the system is used on walls and roofs, it helps keep your buildings dry and energy efficient, protecting your investment and reputation during construction and beyond.

Code Compliance

ForceField Weather Barrier System has been recognized by the APA-The Engineered Wood Association, through APA Product Report PR-N136. The basis of recognition for the ForceField Weather Barrier System to be used as a water-resistive barrier are IBC Section 104.11 and IRC Section R104.11 (alternative materials to the water-resistive barrier requirement defined in IBC Section 1404.2 and IRC Section R703.2). ForceField Weather Barrier System also serves as a continuous air barrier as prescribed by the 2012 IECC, Section C 402.4 air leakage, for both materials, C 402.4.1.2.1, and assemblies, C402.4.1.2.2, provided the panel seams, rough openings and penetrations are properly sealed.

Storage and Handling

To assure optimum performance, ForceField® Panels must be stored and handled properly. Adhering to the following guidelines will help protect panels from damage in storage, during shipment and on the jobsite.

Handling in Transit: Take precautions to protect panel ends and edges during shipment. If ForceField Panels are shipped on open truck bed, cover them with a tarp. For open railcar shipment, use lumber wrap to keep panels dry and clean.

Storage in the Yard and on the Jobsite: Whenever possible, store ForceField Panels under a roof. Use pieces of lumber to weight down the top panel in a stack and to reduce warpage from humidity. If moisture exposure is expected, cut steel bands on bundles to prevent edge damage.

Outside Storage: If ForceField Panels must be stored outside, stack them on a level platform supported by at least three 4x4s to keep them off the ground. Place one 4x4 in the center and the other two 12 to 16 inches from the ends. Never leave panels or the platform in direct contact with the ground. Cover the stacks loosely with plastic sheets or tarps. Anchor the covering at the top of the stack but keep it open and away from the sides and bottom to ensure good ventilation. Tight coverings prevent air circulation and when exposed to sunlight may promote mold or mildew.

ForceField Weather Barrier System Accessories: Store in a cool, dry place out of direct sunlight.

Safety

Follow all applicable regulations and other safety practices when installing the ForceField® Weather Barrier System. Wear appropriate safety equipment including, but not limited to, safety helmets, eye protection, cut-resistant gloves, safety belts, harnesses and other fall protection. Do not install in rain, snow, frost or other weather that might result in slippery conditions.

Tools: Tape measure, cutting tool (knife), saw, straight edge, chalk line, J-roller, pneumatic nail gun and air line regulators, flush drive adaptors for nail guns, air compressor, speed square, sausage gun.

SYSTEM COMPONENTS

Accessories for Wall Applications

ForceField® Seam Tape Plus

High-performance polypropylene film with a proprietary adhesive offers excellent durability and tear resistance once installed. With its increased breaking strength and elongation, ForceField Seam Tape Plus is recommended for exterior wall applications in residential projects greater than two stories.

Roll Size: 3.5" wide x 90' long
Thickness: Minimum 0.006"
Packaging: 12 rolls per case



ForceField® Seam Tape

A pressure-sensitive polymeric film with an acrylic adhesive for sealing joints and panel seams in the ForceField Weather Barrier System wall application. ForceField Seam Tape tears easily for a quicker install and is ideal for residential construction projects.

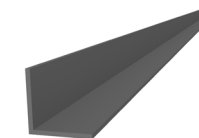
Roll Size: 3" wide x 180' long
Thickness: Minimum 0.003"
Packaging: 8 rolls per case



ForceField® Corner Seal

An innovative solution from Georgia-Pacific to help protect your home or building against the harmful effects of nature. The product is a 4" wide, semi-rigid polypropylene with a "living hinge" which allows it to be used for both inside and outside exterior corners. Once installed, the ForceField Corner Seal helps provide additional protection against air and moisture intrusion in what are typically some of the most difficult areas of a home to seal.

Roll Size: 4" wide x 200' long
Thickness: Minimum 0.03"
Packaging: 1 roll per case



ForceField® Flex Flashing

Available in 6" and 9" widths, ForceField Flex Flashing is a conformable self-adhered flashing tape ideal for use on curved openings and for window sill pan flashing. It is a two-ply oriented high-density film mated to a premium butyl rubber adhesive and release sheet.

Roll Size: 6" wide x 75' long / 9" wide x 75' long
Thickness: Minimum 0.012"
Packaging: 2 rolls per case



AT Flashing

A pressure-sensitive block copolymer adhesive-based product designed to adhere to construction surfaces without primer or conditioning. It is used for sealing openings and material transitions and provides protection from air and moisture.

Roll Size: 4" wide x 75' long
Thickness: Minimum 0.012"
Packaging: 4 rolls per case



Accessories for Roof Applications

ForceField® Premium Tape

A high-performance self-adhered tape made from a proprietary film with an acrylic adhesive. ForceField Premium Tape offers exceptional durability and tear resistance once installed on a residential roof.

Roll Size: 3.75" wide x 90' long
Thickness: Minimum 0.0145"
Packaging: 12 rolls per case



*Features described here may not be available in all geographic markets. Consult your Georgia-Pacific company sales office or representative for more information.





Always be sure to follow applicable local building code requirements and industry best practices. All figures and illustrations contained in these instructions are representative of typical flashing installations, but are not intended to address all possible construction scenarios.

For detailed instructions on general wall sheathing panel installation, please refer to the APA Engineered Wood Construction Guide, Form No. E30, available in the publication section of apawood.org. For support and nail spacing, refer to Table 23, and for additional information on wall bracing in high-wind or seismic loading areas, refer to Table 28 of the guide. Inspect panels for damage prior to installation.

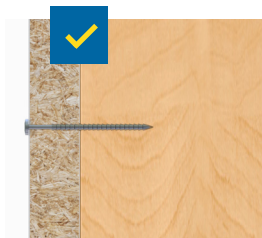
Installing the Panels on Walls

1. Align the wall panels either vertically or horizontally with the framing so the gray overlay side of the ForceField® Panels face out. Spacing of 1/8" between the panels should be maintained at all edges and end joints.



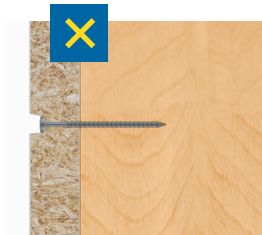
2. Fasten panels according to project specifications and local building code requirements. General fastening guidelines for wood sheathing are to use a minimum 6d common nail spaced 6" o.c. along panel edges and 12" o.c. at intermediate supports. If pneumatic nail guns are used, be sure to set air pressure to drive nail heads flush or a maximum 1/16" below the panel surface to avoid loss of nail holding and shear strength, and to avoid creating a potential point of water entry.

If your pneumatic tool does not have an adjustment for fastener depth, flush drive attachments are recommended. Guidelines are included on the panel surface to aid in locating supports for nailing.



Quick Note:

If the panel's cut edge is vertical or facing away from the ground, tape that edge immediately after installation with ForceField® Seam Tape.



Alternate method:

For use on panels up to 1/2" in thickness—use 15-gauge staples spaced 4" along panel edges and 8" at intermediate supports, or 16-gauge staples spaced 3" along panel edges and 6" at intermediate supports driven flush with panel surface.

Taping the Wall Panel Seams

ForceField® Seam Tape Plus and ForceField Seam Tape from Georgia-Pacific must be used to treat the seams between wall sheathing panels. Substitutions are not covered by Georgia-Pacific's limited warranty. For best performance results, immediate sealing of joints and seams with tape is required.

Installation:

1. Ensure the surface is free from moisture, frost, dust, dirt and other bond-inhibiting materials. Center the tape over the panel seam so that a minimum 1" of tape is applied on each side of the panel seam.
2. Apply firm pressure on the ForceField Seam Tape or Seam Tape Plus with your hand to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles. As a best practice, use a J-roller to roll over the tape after hand application.

Whenever tape splices occur, a 2" overlap should be used. Sequence tape application such that a shingle lap application is achieved. At T-joints, the tape should overlap by 2".



ForceField® Corner Seal Installation

1. Unspool material and cut to a length that is manageable for the installation. Where applicable, overlap the corner seal pieces a minimum of 2" in a shingle lap application. Apply a 6" piece of ForceField Seam Tape over the splice.
2. Bend the corner seal appropriately to form an inside or outside corner.
3. Align corner seal 1"-2" from the top of the wall.
4. Secure corner seal using nails, brad nails or staples at 3' intervals and a maximum 1" from outside edge.
5. Seal bottom with another 6" piece of ForceField Seam Tape 1"-2" from bottom.
6. Center ForceField Seam Tape over one edge of the corner seal. The tape should overlap onto the panel a minimum of 1".
7. Apply firm pressure on the ForceField Seam Tape or Seam Tape Plus with your hand to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles. As a best practice, use a J-roller to roll over the tape after hand application.
8. Repeat steps 6–8 for the other edge of the corner seal.
9. Apply a 6" piece of ForceField Seam Tape across the top of the corner seal.



QUICK TIP
Cut the corner seal into manageable lengths.

Do not install corner seal across drift joints and expansion joints or where movement is anticipated.



Taping or Treating Around Rough Openings, Penetrations and Material Transitions

ForceField® Flex Flashing, AT Flashing or a Georgia-Pacific-approved alternative must be used around openings, penetrations and material transitions. Always be sure to follow local building code requirements. Use a J-roller to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles.

Window Rough Opening Treatment with ForceField® Flex Flashing and AT Flashing

Before the application of the flashing, ensure that the surface is free from moisture, frost, dust, dirt and other bond-inhibiting materials.

1. Measure the length of the sill and add 12" to accommodate for turning up both jambs approximately 6".
2. Cut appropriate length of ForceField Flex Flashing with a sharp knife.
3. Position the tape inside the rough opening over the sill, starting at one side peel and fold half of the release liner back and press into place.
4. Remove the remaining liner, starting at the corners, stretch flashing out and onto the face of the panel and up the jamb. Then pull the flashing down onto the face of the panel at the sill. Ensure a minimum 2" of flashing extends onto the panel surface.
5. Apply firm pressure using a J-roller to ensure that a continuous bond is achieved between the flashing and the surface and to eliminate wrinkles and air bubbles.

6. Cut two 4" pieces of AT Flashing and position into each head-jamb corner.

Cut two additional pieces of AT Flashing for the jambs long enough so the tape extends over the ForceField Flex Flashing and past the header approximately 2".

Remove the release liner and position the AT Flashing over the ForceField Flex Flashing wrapping into the rough opening and onto the panel surface a minimum 2".

7. Measure the header length and add 4"-5" to accommodate for overlapping the jamb flashing. Remove release liner and install so that it shingle laps over the jamb flashing. Ensure a minimum 2" of flashing extends onto the panel surface and into the rough opening.
8. Roll over all of the flashing tapes with a J-roller, applying firm pressure to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles.

Optional for Flanged Windows:

Install AT Flashing tape or ForceField® Seam Tape Plus over the jamb and head flanges in a shingle type application, but do not apply tape over the sill flange.



Door Rough Opening Treatment

1. Ensure the surface is free from moisture, frost, dust, dirt and other bond-inhibiting materials.
2. At the sill, install flashing tape or ForceField® Flex Flashing extending up the jamb a minimum 6" and out and over the panel surface a minimum 2" if applicable.
3. Cut two pieces of AT Flashing to the appropriate length and position over the jamb so that it extends past the header approximately 2", overlaps the sill flashing and extends onto the face of the panel surface a minimum 2".
4. Cut a piece of AT Flashing for the header long enough so that it extends over and past the jamb flashing. Position over the jamb flashing tape in a shingle type application. Ensure a minimum 2" of overlap onto the panel surface is achieved.
5. Install door per manufacturer's requirements.

Quick Note:

A separate head flashing should be installed over non-flanged doors; refer to project specification for type and configuration of head flashing and follow all applicable building code requirements.

Optional for Flanged Doors:

Install AT Flashing tape or ForceField Seam Tape Plus over the jamb and head flanges in a shingle type application. Consult door manufacturer for installation requirements and guidelines.

Treatment of Material Transitions and Penetrations

1. Ensure the surface is free from moisture, frost, dust, dirt and other bond-inhibiting materials.

Provide a minimum 1/2" gap between ForceField® Panel and masonry. Fill gaps between substrates with a backer rod to support the tape.

2. If no movement is anticipated, ForceField Seam Tape Plus may be used. If using AT Flashing, remove the backing, center over the joint and press firmly into place. Ensure minimum 2" of flashing tape is on each substrate or material surface.
3. Overlap a minimum 2" at all end laps of flashing. For vertical transitions, overlap tapes in a shingle type application.
4. Apply firm pressure using a J-roller to ensure that a continuous bond is achieved between the flashing or tape and the surface and to eliminate wrinkles and air bubbles.



Flashing Deck Intersection

1. Install flashing (by others) over the ForceField® Weather Barrier System extending above the ledger board approximately 3-4".
2. Install the ledger board following all applicable building code requirements.
3. Fasten a rigid flashing (by others) over the deck ledger board.
4. Install ForceField® Seam Tape Plus or AT Flashing over the flange of the rigid flashing.
5. Install all tapes in a shingle lap application and overlap a minimum 2" at all splices.



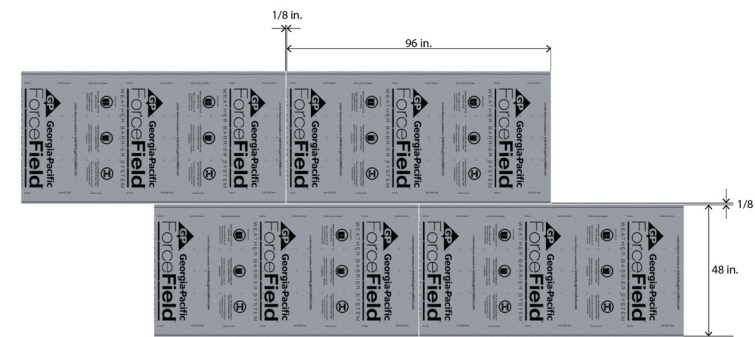
Installing Wall Cladding Over ForceField® Panels

Conventional exterior claddings—including, but not limited to, wood, vinyl, metal or cement composition, stone, brick or exterior insulation & finish system (EIFS)—may be applied over ForceField Panels. For stucco, install a vapor-permeable, water-resistive barrier equal to or greater than the performance of Grade D paper over ForceField Panels before applying metal lath. For brick, a minimum 2" air gap should be between ForceField Panels and the brick veneer.



Installing the Panels on Sloped Roofs

In roofing system applications, ForceField® Weather Barrier System must be installed per the roofing system manufacturer's instructions, project technical documentation and local codes. ForceField® Panels are intended for roofs with 2/12 pitch or greater and to replace the first layer of the underlayment required by the International Building Code (IBC) section 1507.1.1. ForceField Panels are not intended to replace the interlayment of a roofing system, or serve as an ice barrier.



Installation:

1. When installing the ForceField® Panels on the roof, orient the panel so the gray weather barrier side faces out and long direction (8') is perpendicular to the roof trusses or rafters and spans a minimum of three supports. The short edge (4') of the panel should be centered over a framing member and staggered a minimum of 24" from the adjacent panels.
2. Spacing of 1/8" between the panels should be maintained at all edges and end joints.
3. ForceField Panels shall be attached to the roof trusses or rafters per the project specifications or local codes and must meet the following minimum requirements.

Use a minimum of 8d common nail spaced 6" o.c. along panel edges and 12" o.c. at intermediate supports. Fasteners must be placed a minimum of 3/8" from all panel edges.

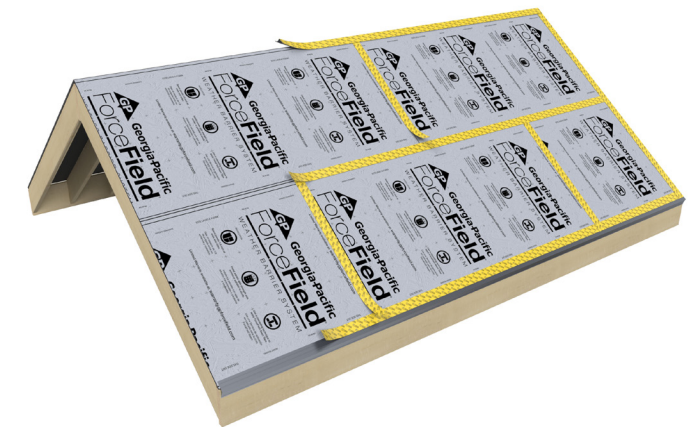
If pneumatic nail guns are used, be sure to set the air pressure to drive the nail heads flush or a maximum of 1/16" below the panel surface.

Note:

Unsupported 7/16" ForceField Panels spanning more than 16" require panel edges blocked or H-clips installed midway between the roof trusses or rafters. Maximum allowable load of the roof for the given truss or rafter spacing does not increase by using edge supports.

Taping the Roof Panel Seams

ForceField® Premium Tape must be used to treat seams between the roofing panels. Substitutions are not covered under Georgia-Pacific's limited warranty. For best performance results, immediate sealing of panel seams with tape is required. Before the application of tape, ensure that the roofing panel surfaces are free from moisture, frost, dust, dirt and other bond-inhibiting materials.



Installation:

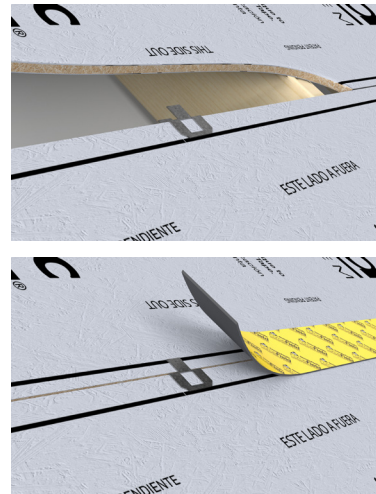
1. Center the ForceField® Premium Tape over the roof panel seam.
2. Apply firm pressure on the ForceField Premium Tape with your hand to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles. As a best practice, use a J-roller to roll over the tape after hand application.
3. Wherever tape splices occur, a 2" overlap should be used. Sequence tape application such that a shingle lap application is achieved. At T-joints, the tape should overlap by 2".



Taping of Common Roofing Conditions

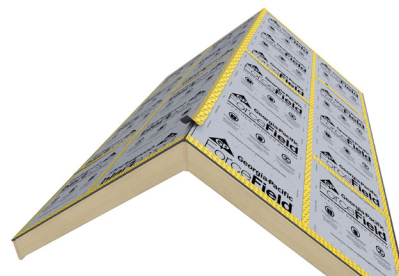
Installed H-Clips:

1. H-clips must be taped using ForceField® Premium Tape. Center the tape over the H-clip to ensure it is covered; apply adequate pressure on all sides of the clip using your hand or a J-Roller.



Ridge Roof Systems:

1. Center the ForceField® Premium Tape over the ridge seam.
2. Apply firm pressure on the tape surface with your hand or a J-roller to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles.



Note:

The tape on the ridge is for temporary moisture protection. Prior to installing the ridge vent, the ridge tape must be cut to allow for proper ventilation.

Roof to Wall Transition:

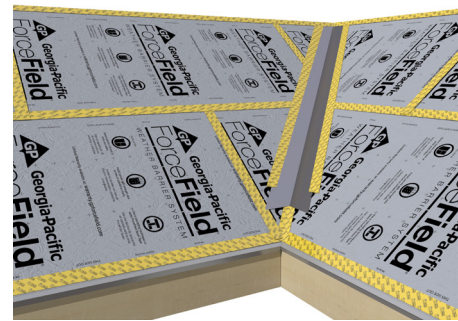
1. Center the ForceField® Premium Tape over the joint/transition between the wall and roof panels.
2. Install metal flashing at the roof to wall transition per project design or local building code.



3. Apply ForceField Seam Tape Plus or ForceField Premium Tape to the top edge of the installed metal flashing and onto the wall panel. The applied tape should cover all flush-driven fasteners used to attach the flashing and a minimum of 2" onto the panel face. If more than one piece of tape is needed to achieve proper coverage, a shingle lap application of the tape must be used.
4. Apply firm pressure on the tape surface with your hand or a J-roller to ensure that a continuous bond is achieved between the tape and the surfaces and to eliminate wrinkles and air bubbles.
5. Finish by applying ForceField Premium Tape to the bottom edge of the metal flashing and onto the ForceField Panel covering all flush-driven fasteners used to attach the metal flashing and by maintaining a minimum of 2" onto the face of the roofing panel.
6. Apply firm pressure on the tape surface with your hand or a J-roller to ensure that a continuous bond is achieved between the tape and the surfaces and to eliminate wrinkles and air bubbles.

Valley with Flashing:

1. Using ForceField® Premium Tape, center the tape over the valley seam where the roof panels join.
2. Apply firm pressure on the tape surface with your hand or a J-roller to ensure that a continuous bond is achieved between the tape and the panel surface and to eliminate wrinkles and air bubbles.
3. Install metal flashing over the installed ForceField Premium Tape per the project specifications, local building code requirements and the manufacturer's instructions.
4. Apply ForceField Premium Tape over the edges of the installed metal flashing a minimum of 2" onto the flashing and roof panel face. If fasteners were used to secure or attach the flashing, the installed tape must cover all flush-driven fasteners. If more than one piece of tape is needed to achieve proper coverage and to cover flush-driven fasteners, a shingle lap application of the tape must be used.
5. Apply firm pressure on the tape surface with your hand or a J-roller to ensure that a continuous bond is achieved between the tape and surfaces and to eliminate wrinkles and air bubbles.



The following recommendations and limitations are important to ensure the proper use and benefits of ForceField® Weather Barrier System. Failure to strictly adhere to such recommendations and limitations may void the limited warranty provided by Georgia-Pacific Building Products for such products. For details, please go to warranty.gpforcefield.com.

- Unsupported 7/16" ForceField® Panels spanning more than 16" require panel edges blocked or H-clips installed midway between the roof trusses or rafters. The use of H-clips or edge blocking does not increase the maximum allowable loads of the roof.
- ForceField Panels are intended for roofs with 2/12 pitch or greater.
- Do not use abutted to general stone or masonry without providing a minimum of a 1/2" gap.
- Do not install ForceField Weather Barrier System or accessories in temperatures less than 20°F or if frost or ice is present on the panel surface.
- Where multiple layers of a water-resistive barrier or underlayment are needed, ForceField Weather Barrier System is intended to replace only the first layer.
- ForceField Weather Barrier System is not an ice barrier. Where ice barriers are required, the ice barrier should be installed over the ForceField Weather Barrier System.
- ForceField Tapes are not recognized as a replacement for rigid, metal or other through wall flashings prescribed by others.
- ForceField Weather Barrier System is resistant to normal weather conditions for up to 6 months for walls and 3 months for roofs. It is not intended for use as an ice barrier, finished roof covering or cladding system, long-term outdoor exposure or immersion in water or cascading water from an unfinished roof or floor. Water should always be directed away from the ForceField Weather Barrier System.
- Avoid conditions that will create moisture in the air and condensation within the exterior walls or roof supports. This precaution is especially important during periods when the exterior and interior temperature differentials can create a condensation point within the exterior wall. The use of forced air heaters creates volumes of water which, when not properly vented, can condense on building materials. The use of heaters and any resulting damage is not the responsibility of Georgia-Pacific Building Products. Consult heater manufacturer for proper use and ventilation.

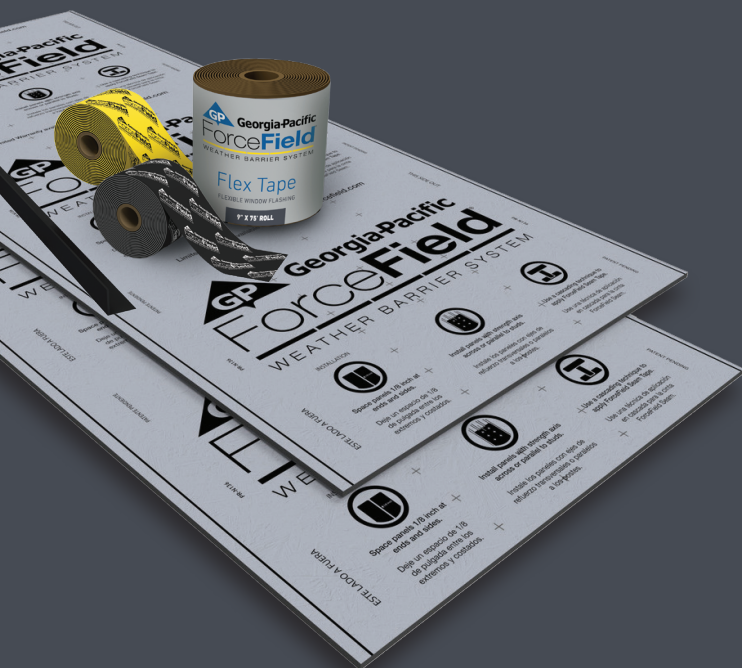


- Georgia-Pacific Building Products does not warrant and is not responsible or liable for the performance of any cladding or cladding system that is attached or adhered to the ForceField Weather Barrier System. The compatibility of any cladding system is the responsibility of the cladding manufacturer or design authority.
- Do not attach cement board panels directly to ForceField Panels.
- ForceField Weather Barrier System is not intended for interior applications or as a substrate for adhered exterior tile, stone, EIFS or brick.
- Panel fasteners shall be driven into framing and shall be flush with the face, not countersunk.
- Exterior wall or roof assembly design details including, but not limited to, cladding attachments, control joints, material transition details, drainage establishment product, window and door integration, per the project specification, must be properly installed.
- Joints, openings, transitions and penetrations must be properly sealed, taped or flashed. Failure to do so may void Georgia-Pacific's limited warranty.
- ForceField Panels should not be glued to framing members or roofing supports.
- Do not install ForceField Panels on a horizontal surface; ensure panels are installed with sufficient positive slope to prevent ponding and pooling.
- Do not install ForceField Weather Barrier System below grade.
- All damages to the facer or vacated fastener holes must be repaired prior to installing the cladding or roofing system.
- When re-roofing or replacing the roof on an installed ForceField Weather Barrier System, an additional weather-resistant barrier or underlayment must be installed prior to installing the new roof assembly.



*These renderings are for illustration purposes only and not intended for design purposes.

Georgia-Pacific makes no representations or warranties concerning the installation or performance of the overall assembly or components in such assembly other than the ForceField Panels or approved ForceField Accessories. Any components other than the ForceField Panels or approved ForceField Accessories are shown merely for illustration. Ultimately, the design and detailing of any project, assembly or system is the responsibility of a professional, and all projects must comply with applicable building codes and standards. Georgia-Pacific disclaims any responsibility or liability for the architecture, design, engineering or workmanship of any project, assembly or system. The final decision of material and acceptance is ultimately made by the local code authority.



GP Georgia-Pacific
ForceField[®]
 WEATHER BARRIER SYSTEM

GP Building Products
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TECHNICAL HOTLINE
 U.S.A. and Canada: 800-225-6119

PRECAUTIONS – For product fire, safety and use information, go to buildgp.com/safetyinfo or call 800-225-6119.

WARRANTIES AND TERMS OF SALE –
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