

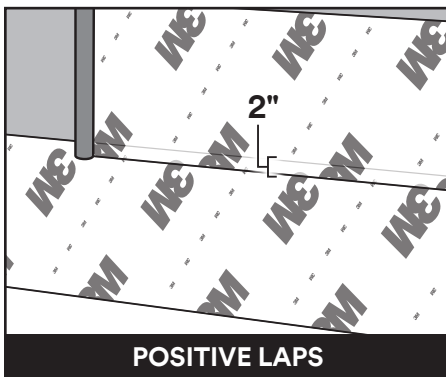


3M™ Air Barrier Systems — Includes: 3015NP, 3015VP, 3015TWF and 3015UC

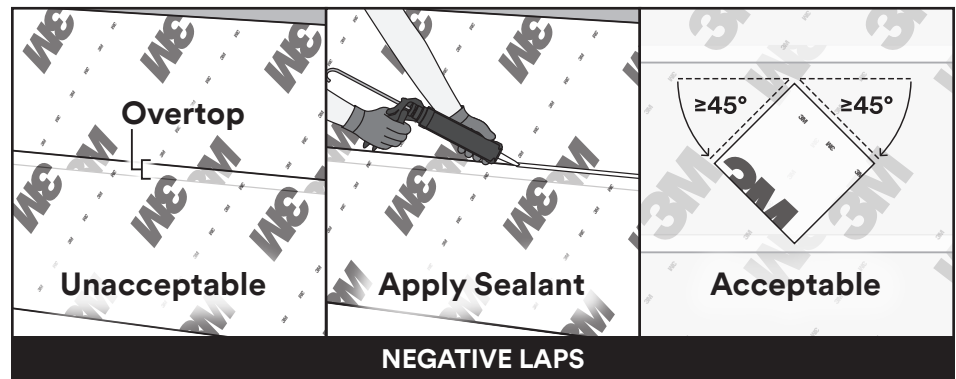
Construction is never a perfect environment. Cold, hot, damp, dusty, multiple substrates and complex penetrations are just a few of the difficult situations that must be overcome to keep a project on schedule.

3M's proprietary acrylic adhesive technology helps take on these tough conditions. This guide is designed to provide instructions on how to overcome many common construction challenges, what is required for a satisfactory repair, know when conditions will limit performance and how much overlap is needed in common tape overlays.

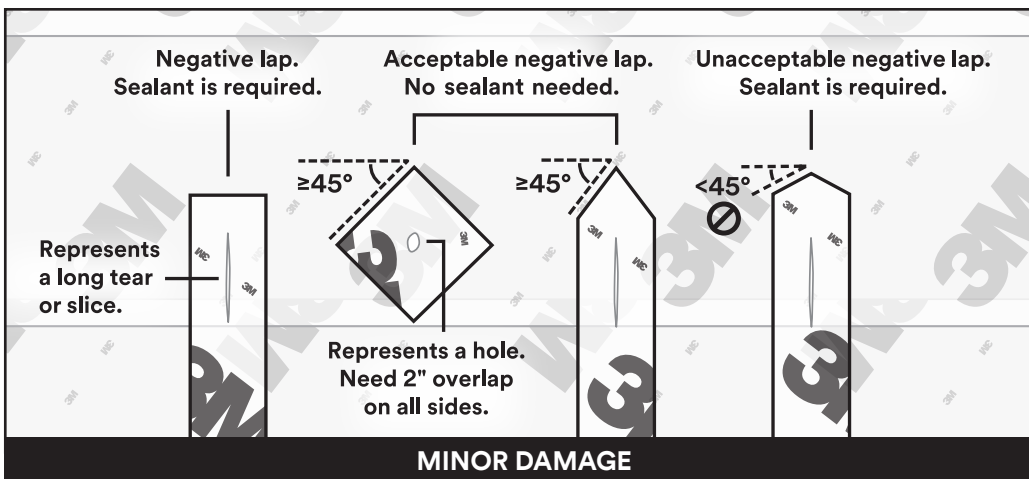
Negative and Positive Laps



On a vertical surface with multiple horizontal rows of tape, positive laps are created when the **higher tape covers the tape below it**.



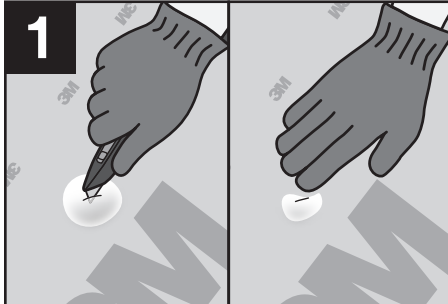
On a vertical surface with multiple horizontal rows of tape, negative laps are created when the **lower tape is applied overtop** of the higher tape. To address a negative lap, apply a bead of 3M™ Polyurethane Adhesive Sealant 540 or 3M™ Adhesive Sealant 740 UV (or equivalent) to the seam. For any negative lap where the covering tape is applied at a **45° or greater angle** from a horizontal tape, no sealant is needed.



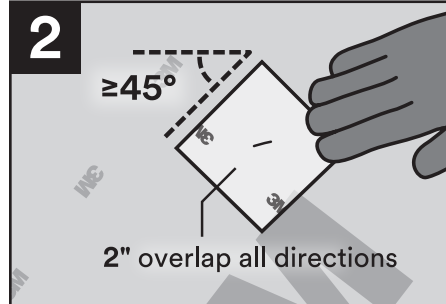
Small holes or damaged areas of the tape can easily be repaired with 3M™ Air and Vapor Barrier 3015NP. Follow the same negative/positive lap guidelines for repairing damaged areas. If damage affects the surface beneath the tape, holes 1/4"–1/2" require sealant and holes greater than 1/2" require a backer rod and sealant.

Air Entrapment Repair Process

When applying 3M™ Air and Vapor Barrier 3015NP, it is critical to apply pressure from middle towards the edge of the tape so air is not entrapped creating a bubble. Bubbles larger than 1" should be popped and repaired.



1 Poke or make a small slit to pop the bubble. Force the entrapped air out.

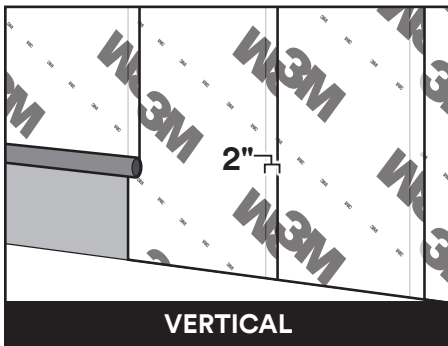


2 Apply a patch of 3M™ Air and Vapor Barrier 3015NP over the hole at a 45° angle to create an acceptable negative lap. Ensure a 2" minimum overlap in all directions.

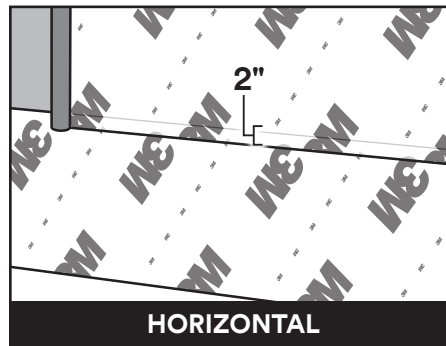


3 If the patch is applied at less than a 45° angle, the top edge will need a bead of sealant.

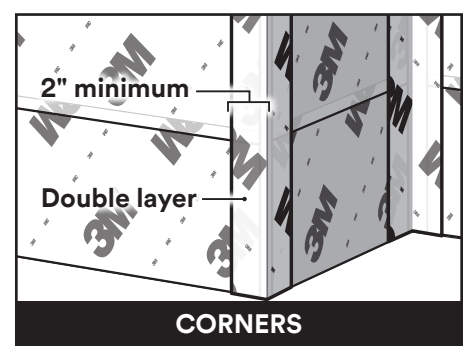
2" Minimum Overlap Required



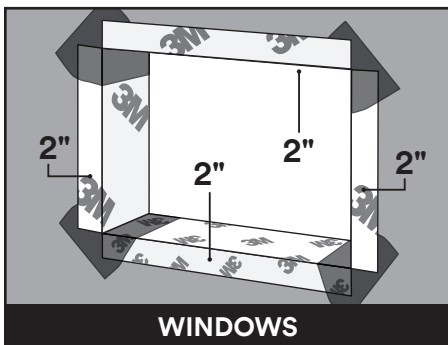
VERTICAL
Vertical wall applications require a 2" minimum overlap.



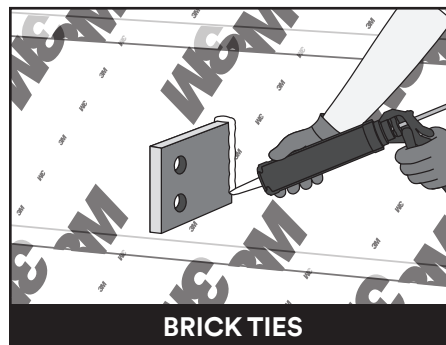
HORIZONTAL
Horizontal wall applications require a 2" minimum overlap. Start application at the bottom and work upwards to create positive laps.



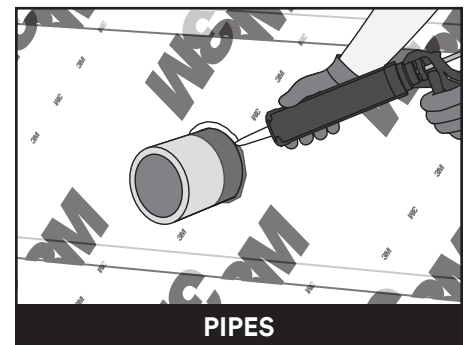
CORNERS
Inside/outside corners should have a double layer of 3M™ Air and Vapor Barrier 3015NP and will require at least a 6" wide piece to ensure there is a 2" minimum double layer on the entire corner.



WINDOWS
Window detailing requires a 2" minimum overlap with the field tape.



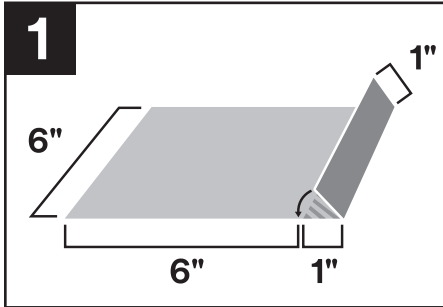
BRICK TIES
Brick tie detailing requires a minimum of 2" tape on all sides, along with a bead of sealant around the entire brick tie. It is acceptable to apply the sealant before or after the tape is applied.



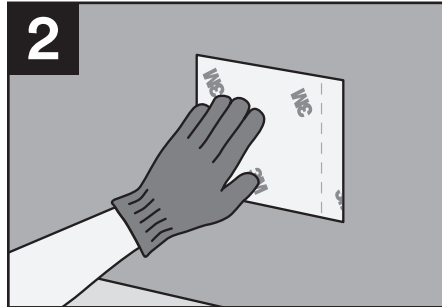
PIPES
Pipe penetrations should be flashed with 3M™ Ultra Conformable Flashing Tape 3015UC with a minimum of 2" on the wall and 2" on the pipe. A bead of sealant should be applied to the top of where the field tape and the 3M™ Ultra Conformable Flashing Tape 3015UC meet.

Adhesion Field Test

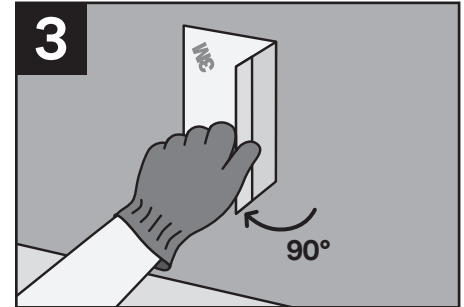
Construction conditions are tough which can limit initial adhesion due to numerous factors, including dampness, water, frost, extreme temperatures, dirt, and other contaminants. A quick field test can be performed using 3M™ Air and Vapor Barrier 3015NP to determine if it has adequate initial adhesion. 3M's acrylic adhesive will continue to build strength over time.



Cut approximately a 6" x 8" piece of 3M™ Air and Vapor Barrier 3015NP tape. On the adhesive side fold 1" over onto itself to create a 6" x 6" test strip with a finger tab.

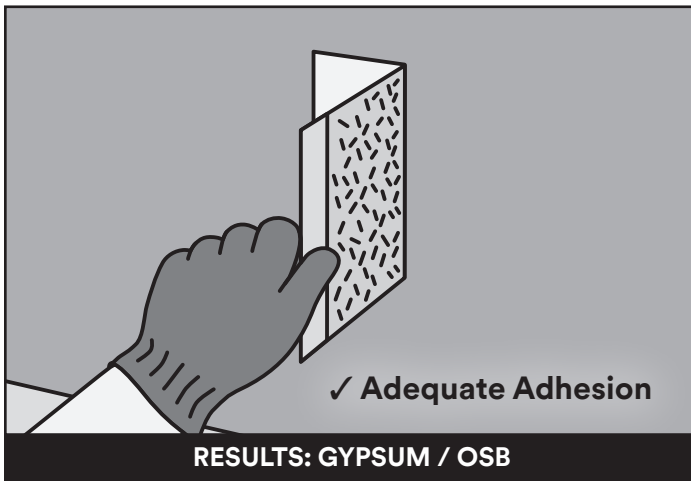


Stick the test strip to the substrate you intend to cover and apply pressure.

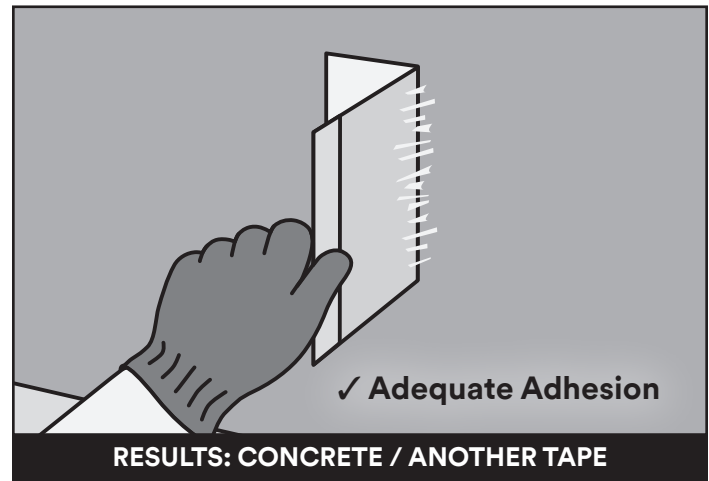


Slowly remove the test strip, pulling the tab up at approximately a 90° angle.

Test Results



If the 3M™ Air and Vapor Barrier 3015NP test strip is stuck to exterior gypsum or OSB, you should notice small fibers pulling from the substrate. If you are seeing these results, you can be confident you have adequate initial adhesion to continue applying to the walls.



If the 3M™ Air and Vapor Barrier 3015NP test strip is adhered to concrete or another tape, you should see small "legs" where the adhesive is stretching between the tape backing and the substrate. If you are seeing these results, you can be confident you have adequate initial adhesion to continue applying to the walls.

3M™ Air Barrier Systems — Installation Best Practices

Substrate Surface Requirements

3M™ Air Barrier Systems can be applied to a wide variety of sheathing substrates, typically without priming.

Substrate condition is crucial to the adhesion performance of any adhesive membrane.

- Substrate surfaces must be free of grease, oil, un-bonded paint, corrosion or other substances that would adversely affect the adhesive bond between the membrane and substrate.
- Substrate surface must be dry to the touch for optimum performance.
- Substrate surface temperature must be between 0°F and 150°F (-18°C and 66°C).
- Rolls must be stored at a temperature between 0°F and 150°F (-18°C and 66°C) to ensure initial bond performance.

Surface Preparation

- Fill gaps and cracks exceeding 1/4" but less than 1/2" width with 3M™ Polyurethane Construction Sealant 540 (or similar), and tool the surface flush and smooth.
- Fill gaps exceeding 1/2" width with closed cell foam backer rod, seal with 3M™ Polyurethane Construction Sealant 540 (or similar), and tool the surface flush and smooth.
- Concrete substrates shall have fins ground flush and void areas filled.
- Masonry substrates must have mortar joints tooled or struck flush.

Substrate Specific Guidelines

- Exterior gypsum sheathing shall have moisture content below 19%, with no open joints or cracks wider than 1/2".
- Plywood sheathing shall have moisture content below 16%, with no open joints or cracks wider than 1/2".

Details, Penetrations, Windows and Doors

It is recommended to detail window and door penetrations before installing the field membrane, but post-installation is acceptable. All penetrations, including windows and doors, must be installed in proper sequence for appropriate moisture management. 3M recommends using 3M™ Air and Vapor Barrier 3015NP, 3M™ Air and Vapor Barrier Through Wall Flashing Tape 3015TWF, or 3M™ Ultra Conformable Flashing Tape 3015UC for flashing and detail work. Penetrations should be additionally sealed with 3M™ Polyurethane Construction Sealant 540 (or similar) to achieve a weather-tight result.

Learn about 3M's advanced technologies for controlling airflow and optimizing the indoor climate at 3M.com/airbarrier or contact your 3M representative at **866-513-4026**.



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