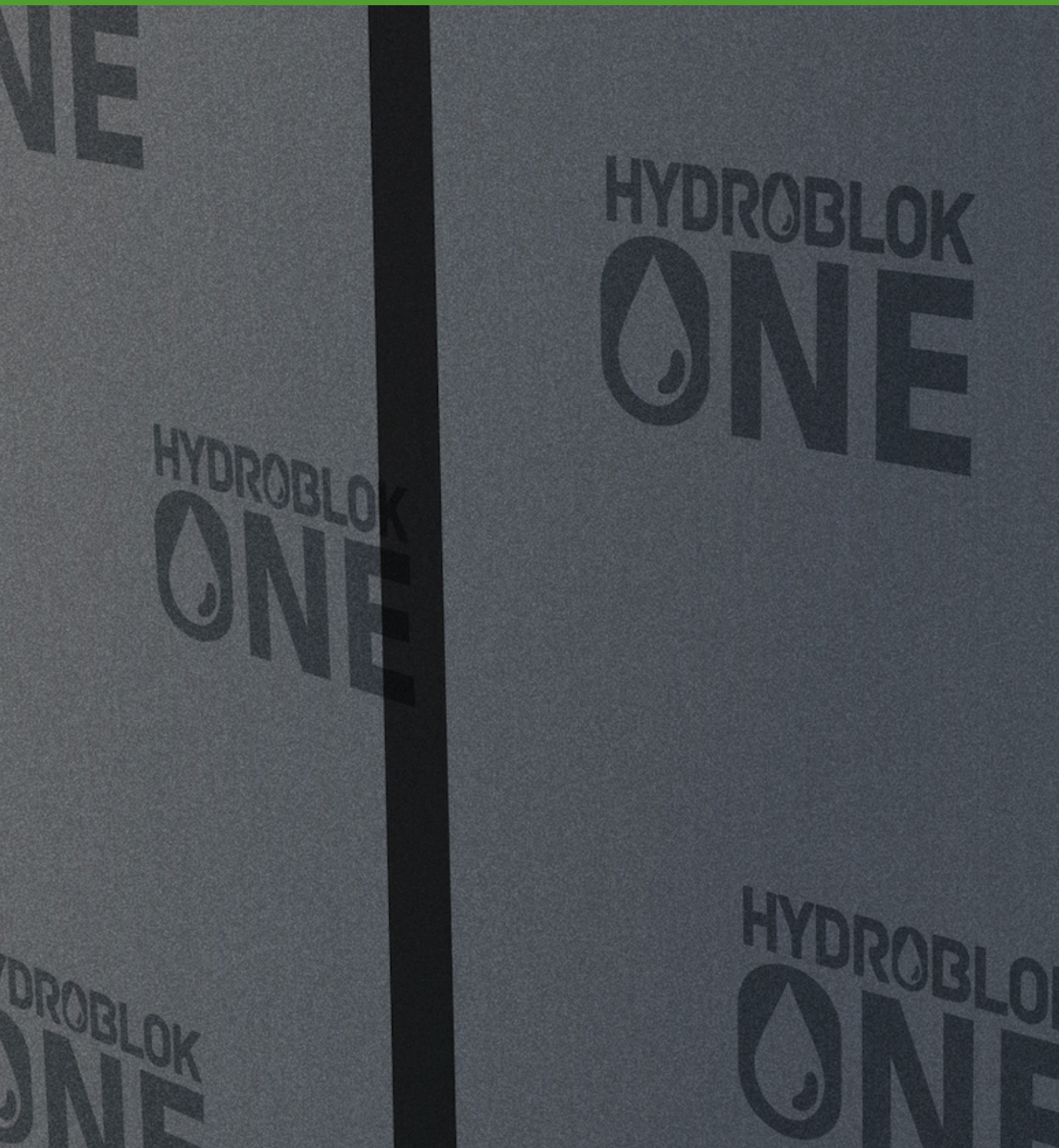


STRUCTURAL INSULATED SHEATHING INSTALLATION GUIDE



SHEATHING INSTALLATION GUIDE

HYDROBLOK ONE INSTALLATION GUIDE

In today's construction industry, efficiency, durability, and performance are more important than ever. Traditional sheathing methods, such as OSB combined with house wrap (WRB), are outdated and prone to moisture-related failures, air leakage, and long-term degradation.

HydroBlok One is the next-generation solution that eliminates the need for OSB and WRB, providing a high-performance sheathing system that integrates structural strength, weather resistance, and energy efficiency into a single board.

Designed for both structural and non-structural applications, HydroBlok One simplifies the building envelope by combining:

■ SUPERIOR STRUCTURAL PERFORMANCE

Engineered for high shear values, making it a direct replacement for OSB in shear walls, bracing, and load-bearing applications.

■ INTEGRATED WEATHER BARRIER

Unlike traditional OSB that requires a separate WRB layer for vapor transmission, Hydroblok is fully waterproof and air tight when properly installed thus eliminating the need for WRB.

■ MOISTURE & MOLD RESISTANCE

Will not absorb water, swell, or rot—eliminating the risk of mold growth and delamination that plague wood-based sheathing.

■ LIGHTWEIGHT & EASY TO INSTALL

50% lighter than OSB, reducing labor time and making it easier to handle, cut, and fasten with standard tools.

■ ENERGY EFFICIENCY & AIRTIGHTNESS

Sealed with approved polyurethane sealant, Hydroblok one creates a continuous vapor and air barrier which repels moisture and enhances insulation performance improving the overall efficiency of the building envelope.

Whether used in residential, multifamily, or commercial construction, HydroBlok One is the ideal solution for builders, architects, and contractors who want a stronger, more durable, and more efficient exterior wall assembly.

This guide provides step-by-step installation instructions for HydroBlok One, ensuring that you maximize its performance in your building projects.

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This manual is subject to periodic re-examination and revision. For information on the current status of these documents please check the HydroBlok website, www.hydroblok.com. The reader is responsible for ensuring that they are using the most up-to-date information.

SHEATHING INSTALLATION GUIDE

SHEATHING OVERVIEW

HydroBlok One wall sheathing boards are a composite solution that removes the need for additional building wrap. A rough dry-in is achieved once HydroBlok One flashing tape, with a minimum width of 3-3/4", is correctly applied, and window and door openings are properly flashed.

For walls, HydroBlok One sheathing is a combination wall sheathing that functions as an air barrier and whose water resistance is equivalent to a Type II water-resistive barrier (WRB).

HydroBlok One sheathing can be used with a range of exterior claddings and roof coverings. Wall coverings that can be used with HydroBlok One sheathing include brick, vinyl, stone, fiber cement, wood (shake, shingle and lap siding), and acrylic/synthetic stucco finishes. Follow all cladding manufacturer's installation instructions.

HydroBlok One sheathing may be used for walls in Type V-B construction and other construction permitted under the International Residential Code® (IRC) and International Building Code® (IBC). Unlike OSB, HydroBlok One sheathing has a Class A Fire Rating.

TOOLS NEEDED

COMMON

- ✓ Impact drill
- ✓ Utility knife
- ✓ Flat trowel
- ✓ Long straightedge or screed tape measure
- ✓ Laser or traditional level
- ✓ Staple gun (if applying WRB)
- ✓ Rubber roller (for mesh/tape)
- ✓ Pneumatic nail gun
- ✓ Framing hammer
- ✓ Air compressor
- ✓ PPE

RECOMMENDED

- ✓ Flush nail collars
- ✓ Air line regulators

STORAGE & HANDLING

- Store flat and dry off the ground with breathable, waterproof cover
- Elevate from Ground: Store the boards on a flat surface or pallet, elevating them at least 4 inches off the ground. Avoid placing directly on soil.
- Stack boards flat and secure them to prevent warping or bending. Use spacers between layers to ensure airflow and avoid pressure on the boards.
- Anchor covers on top of the stack, but keep away from sides and bottom to assure good air circulation.
- If storing outdoors, cover the boards with a breathable tarp or protective sheeting to shield them from prolonged direct sunlight.

Outdoors, cover boards loosely with waterproof protective material.

- Store the boards away from harsh chemicals, solvents, or other materials that could damage the surface or integrity of the sheathing.

SIZE & SHEAR CAPACITY

BOARD SIZE

HydroBlok One boards are available in the following span ratings and performance categories:

16/0, 1/2 PERF CAT

NOTE: Available in 4x8 lengths in 1/2 thickness.

ALLOWABLE SHEAR CAPACITIES

Visit <https://icc-es.org/report-listing/ESR-5685/> for current allowable shear capacities.

SHEATHING INSTALLATION GUIDE

APPROVED PRODUCTS

APPROVED FASTENERS

HydroBlok One sheathing must be installed with code-approved fasteners. Fasteners used to install HydroBlok sheathing boards are not required to be ring-shank, galvanized, or stainless steel unless otherwise stated by the local building code or designer of record.

APPROVED SEALANT TAPE

Minimum 3-3/4" wide approved flashing tape must be used where two HydroBlok One boards come together to create a board joint at inside corners, outside corners and in the same plane; however, other code approved flashing tapes that satisfy AAMA-711 or AC-148 can be used to flash rough openings, penetrations, and fenestrations.

APPROVED SEALANTS

HydroBlok Joint Sealant
Sika Boom
Sto Turbo Stick

APPROVED POLYURETHANE FOAM

Great Stuff Expandable Polyurethane Foam
GE Multipurpose Polyurethane Foam
Gorilla Foam Seal
Loctite TiteFoam

APPROVED ADHESIVES

Loctite® PL Premium® Polyurethane Construction Adhesive
AdvanTek™ Polyurethane Foam Adhesive

APPROVED FLASHING TAPE

DuPont™ FlexWrap® NF
3M™ All Weather Flashing Tape 8067
SIGA Fentrim® F 230
Blueskin® Butyl Flash

NOTES & LIMITATIONS

- **R-value of 1/2" HydroBlokOne = R 1.8**

HydroBlokOne has a Class A Fire Spread Rating per

- **ASTM E84 requirements** but must be used within approved fire-rated wall assemblies to meet local building codes.

- When compared with the Zip System® sheathing system HydroBlokOne is fully waterproof and does not absorb moisture. Additionally, it eliminates the risk of mold and rot while providing superior long-term vapor control.

- HydroBlokOne may be installed over existing sheathing as long as the substrate is structurally sound and clean. Additional fasteners or adhesives may be required.

- HydroBlokOne may be installed behind rainscreen cladding systems, as long as proper ventilation and drainage gaps are incorporated.

- Do not apply primers to HydroBlok One boards. This may cause delamination.

- Veneer cladding should not exceed **20 lbs per square foot** unless structurally approved.

- Expansion joints are required only for stucco systems.

- Do not use abutted against stone or masonry without providing a minimum of a 1/2" gap.

- Do not install flashing tape or stretch tape to HydroBlok sheathing in temperatures less than 0 degrees Fahrenheit.

- HydroBlok One sheathing should be covered with the exterior wall cladding within 180 days of installation.

- Finished exterior cladding products should be installed per the manufacturer's installation instructions.

SHEATHING INSTALLATION GUIDE

FASTENING

The type of fastener and spacing depends on whether HydroBlok ONE is being used in a structural or non-structural application.

Fasten the boards to the framing members with code approved fasteners. Space fasteners 6" o.c. along supported edges and 12" o.c. at intermediate supports, unless otherwise specified by local code or the designer of record. It's the responsibility of the general contractor to verify proper fastener type and spacing prior to installation. Apply fasteners a minimum 3/8" from board edges.

See Table 1

FASTENING GUIDE NOTES

- Structural applications require tabbed washers to increase shear performance and hold the board securely in place.
- Do not overdrive/tighten screws; washers should sit flush with the surface.






Assembly Type	Screw Type	Picture	Screw Length Needed Based on Board Thickness			Spacing Requirement
			½"	1"	1½"	
HB One Boards to Wood Sheathing (Non-Structural)	7/16 Medium Crown Staples		1½"	2"	NA	12 inches in field, 6" on perimeter
HB One Boards to Wood Sheathing (Non-Structural)	Standard Roofing Nails		1¾"	1¾"	NA	12 inches in field, 6" on perimeter
HB One Boards direct to wood studs (Structural)	HydroBlok or Standard Exterior Grade Screws		1⅝"	2"	2½"	6 inches in field, 3" on perimeter
HB One Boards direct to metal studs (Structural)	Self-Drilling Pan Head Screws + HB 1¼" Tabbed Washers		1½"	2"	2½"	12 inches in field, 6" on perimeter
HB One Boards direct to CMU (Structural)	Bugle Head TapCon/Concrete Screws + HB 1¼" Tabbed Washers		1¼"	1¾"	2¾"	16" on center

Table 1

SHEATHING INSTALLATION GUIDE

GENERAL WALL INSTALLATION

The following installation steps provide a general overview of the process and are based on the manufacturer's recommendations. It is the responsibility of the user and installer to ensure all safety requirements are met. Adherence to proper construction and safety practices is essential at all times.

To achieve the best results in reducing air leakage, all untaped edges of the boards should be sealed using approved sealants. Take extra care to eliminate any voids or trapped air beneath the boards during installation.

BOARD ORIENTATION & SPACING

For maximum shear allowances, install HydroBlok One sheathing boards vertically to the framing members.

Walls designed to resist lateral shear forces and sheathed with structural boards generally require solid backing, such as framing or blocking, behind all board edges. When walls are designated as braced or shear walls, install blocking at all horizontal joints to ensure proper structural performance.

When walls are designated as braced or shear walls, install blocking at all horizontal joints to ensure proper structural performance.

- 1/8" spacing between square edges of all adjacent boards is recommended in accordance with industry standards for sheathing installation.

- HydroBlok One sheathing boards do not require manual gapping along the 8' edges.

TAPING

Apply minimum 3-3/4" approved flashing tape after all HydroBlok One sheathing boards are fully fastened to wall-framing members. Approved flashing tape use an acrylic adhesive that requires pressure from a rubber headed roller for an adequate seal.

- Use approved flashing tape with a minimum width of 3-3/4" or approved polyurethane sealant to seal the seams of HydroBlok One sheathing boards, including at all inside and outside corners.
- Make sure the board surface is clean and dry—free of sawdust, dirt, or debris—before applying tape.
- Center the tape over the seam within $\pm 1/2"$ to ensure proper coverage.
- At any tape splice along horizontal or vertical seams, overlap the tape by at least 3" (see next page for details).
- For T-joints, maintain a minimum 1" overlap between tape pieces (see next page).
- Cover any board areas that are damaged during construction with tape.
- Use a rubber-headed roller to firmly press the tape into place and remove any wrinkles.

SHEATHING INSTALLATION GUIDE

TAPING CORNERS

INSIDE CORNERS

Apply approved flashing tape with a minimum width of 3-3/4" to all inside corners. For easier handling, cut a manageable length and hold it at both ends using just your index fingers and thumbs. Gently pull to create tension, which will cause the edges to curl inward naturally. While maintaining tension, press the tape into the center of the inside corner. Continue this process as you move up the wall. Roll the tape firmly into place.



OUTSIDE CORNERS

Use approved flashing tape with a minimum width of 3-3/4" for outside corners. Begin by applying a manageable length of tape along a single plane. To fold the tape around the corner onto the adjacent plane, use your hands to guide the tape. Start at the top of the tape and work your way down as you press it onto the second plane. Once in place, roll the tape securely.



ADHESIVE APPLICATION

For additional shear strength (up to 688 plf) and air sealing, HydroBlok ONE can be installed with adhesive in addition to mechanical fasteners.

- Apply a 1/2-inch bead of approved polyurethane sealant or approved polyurethane foam or adhesive to the face of framing members before setting boards in place.
- Secure the board immediately while the adhesive is wet and fasten with screws and washers.

SEALING FOR WEATHER & AIR TIGHTNESS

One of the key benefits of HydroBlok ONE is its ability to function as both a structural sheathing and a weather-resistant barrier. To achieve this, all seams, fastener penetrations, and cut edges must be properly sealed. This ensures the wall assembly remains airtight and watertight, preventing moisture infiltration and energy loss.

SEALING BOARD JOINTS

Properly sealed seams eliminate air leaks and moisture penetration, preserving the integrity of the building envelope.

- Apply a 1/2-inch bead of approved polyurethane sealant along all exposed foam edges.
- Press adjacent boards together tightly to ensure full compression of sealant.
- Tool the sealant flat using a putty knife to create a smooth, continuous seal.

SEALING FASTENER HEADS

Every penetration through the board must be sealed to prevent water intrusion and maintain a complete vapor barrier.

- Apply a small dab of approved polyurethane sealant over each fastener head.
- Smooth with a putty knife to create a flush finish.

SHEATHING INSTALLATION GUIDE

FLASHING DETAILS NOTES

When it comes to installing HydroBlok One sheathing, HydroBlok One requires the use approved flashing tape with a minimum width of 3-3/4", or approved polyurethane sealant, to seal the seams of HydroBlok One sheathing boards, including at all inside and outside corners. When using approved flashing tape, the tape must be rolled with a rubber headed roller.

The construction details on pages 7-11 are provided to assist in the installation of HydroBlok One product(s) and may not apply to every situation. It is the sole responsibility of the designer of record to provide and approve details to be used on specific products.

More construction details including alternate windows & doors, penetrations, cladding transitions and foundation details can be found by contacting your HydroBlok One rep.

FOUNDATION TRANSITION

NOTE: ALWAYS install a capillary break as required by code between the foundation and the sill plate.

SHEATHING IN PLANE WITH FOUNDATION WALL

Ensure the bottom edge of the HydroBlok One sheathing is positioned at least 1/2 inch above the foundation wall.

SHEATHING OUT OF PLANE WITH FOUNDATION WALL

Install HydroBlok One sheathing in line with the bottom of the sill plate.

BASE FLASHING

Install base flashing along the bottom edge, tape top edge of flashing back to sheathing.



SHEATHING IN PLANE



SHEATHING OUT OF PLANE



BASE FLASHING

SHEATHING INSTALLATION GUIDE

FLANGED WINDOW

TOOLS NEEDED: FLASHING TAPE, SEALANT, SHIMS

■ STEP 1: CUT THE OPENING

Cut HydroBlok One sheathing flush with the rough opening. Ensure there is a 3/16-inch (0.188") expansion gap between the window flange and the sheathing.

■ STEP 2: APPLY FLEXIBLE FLASHING AT THE SILL

Install a self-adhered flexible flashing tape (minimum 9 inches wide) along the sill. Extend the flashing at least 6 inches up each side of the rough opening. Roll it firmly into place to ensure full adhesion.

TOOLS NEEDED: TAPE & RUBBER ROLLER

■ STEP 3: APPLY APPROVED POLYURETHANE SEALANT

Run a continuous 1/2-inch bead of sealant along the backside of the window nailing flange (top and sides, but NOT along the sill). The sill must remain unsealed to allow for proper drainage.

■ STEP 4: INSTALL THE WINDOW

Position the window into the rough opening and press firmly to embed it into the sealant. Secure the window per manufacturer instructions using appropriate fasteners.

■ STEP 5: FINAL SEAL & INTEGRATION WITH SHEATHING

Apply a continuous bead of approved polyurethane sealant along the outer perimeter where the flashing meets HydroBlok One. Tool the sealant to ensure a smooth, watertight connection.



NON-FLANGED WINDOW

TOOLS NEEDED: TAPE

■ STEP 1: CUT THE OPENING

Cut HydroBlok One sheathing leaving a 3/16-inch (0.188") around all sides of the window.

■ STEP 2: INSTALL THE WINDOW

Position the window and press it into place firmly, ensuring even spacing. Secure using appropriate fasteners (screws or anchors) per the manufacturer's instructions.

■ STEP 3: INSTALL BACKER ROD (IF NEEDED)

If the gap exceeds 1/4 inch, install a closed-cell backer rod to control sealant depth and allow for expansion/contraction.

TOOLS NEEDED: WINDOW/DOOR FOAM

■ STEP 4: APPLY APPROVED POLYURETHANE SEALANT

Run a continuous 1/2-inch bead of sealant around the entire perimeter of the window. Ensure the sealant fully bridges the gap between the window frame and sheathing.

■ STEP 5: TOOL & FINISH SEALANT JOINT

Use a putty knife or sealant tool to smooth the sealant joint, ensuring full adhesion to both the window and sheathing. The final seal should have a concave profile to allow for slight movement and prevent cracking.

■ STEP 6: APPLYING FLASHING FOR ADDITIONAL PROTECTION (OPTIONAL)

If additional protection is required, self-adhered flashing tape can be applied around the perimeter, extending onto the sheathing by at least 1 inch.

STEP 1

STEP 2

STEP 3

SHEATHING INSTALLATION GUIDE

ADDITIONAL NOTES FOR DOOR OPENINGS

TOOLS NEEDED: TAPE, SEALANT, ROLLER

FOR PRE-HUNG DOORS (WITH FLANGE)

Follow the same steps as flanged windows (flash the sill, seal the perimeter, and integrate the head flashing).

FOR NON-FLANGED DOORS

Follow the same steps as non-flanged windows, ensuring a full perimeter seal with backer rod as needed.

FOR ALL DOORS

Always use sill pans or a sloped sill flashing to direct water away from the threshold.

■ STEP 1

Apply approved flashing tape to the jambs of the rough opening. Apply sealant as three separate beads along the threshold and at least 6 inches up the jambs.

■ STEP 2

After the door is installed according to the manufacturer's guidelines, apply a bead of sealant where the molding meets the HydroBlok One sheathing.

■ STEP 3

Install head flashing above the door, then tape the top of the head flashing in place.

T JOINT ALTERNATIVE

TOOLS NEEDED: TAPE & RUBBER ROLLER

■ 3 ¾ INCH APPROVED FLASHING TAPE

If the vertical board seam has been taped before the window installation, apply 3-3/4-inch approved flashing tape to the window head flange. Where the vertical board seam meets the head flashing, add a "hat" piece of 3-3/4-inch approved flashing tape, extending 1 inch on either side of the vertical seam tape. Roll the tape into place.

■ 6-INCH OR WIDER APPROVED FLASHING TAPE

If the vertical board seam has been taped before the window installation, apply a single piece of 6-inch or wider approved flashing tape to the head flange of the window. Roll the tape into place.



STEP 1



STEP 2



STEP 3

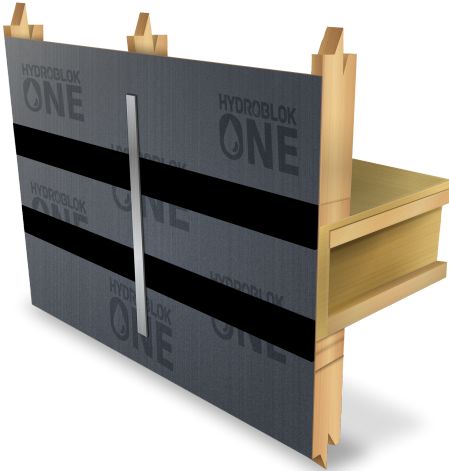
SHEATHING INSTALLATION GUIDE

STRAPPING

TOOLS NEEDED: TAPE & RUBBER ROLLER

■ STEP 1

Apply tape to all edges of the HydroBlok One sheathing boards and roll it into place. Then, install the strapping.



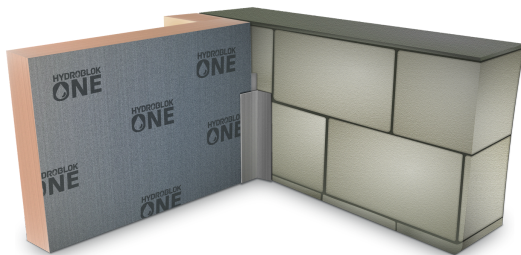
NOTE: If the board seams are taped after the strapping is installed, apply the board seam flashing tape up to the strapping, then cover the strapping with approved flashing tape. Ensure that at least 1 inch of approved flashing tape contacts the HydroBlok One sheathing on all relevant sides. Roll the tape into place.

CONCRETE/MASONRY

TOOLS NEEDED: TAPE & RUBBER ROLLER

■ STEP 1

Leave a 1/2" space at vertical transitions where HydroBlok One boards meet concrete or masonry surfaces. Insert a properly sized backer rod into the gap, then apply an approved liquid flashing product over the joint, ensuring at least 1" of coverage extends onto both adjoining surfaces.

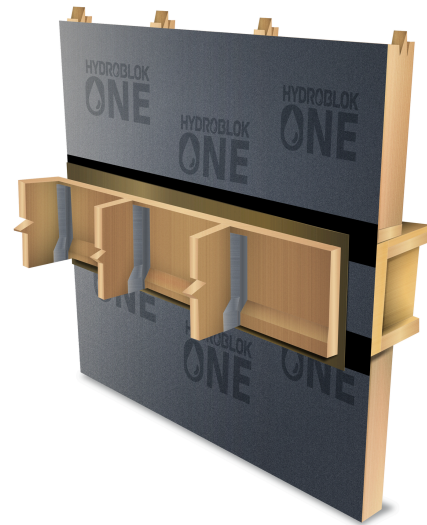


DECKS & PORCHES

TOOLS NEEDED: TAPE, ROLLER

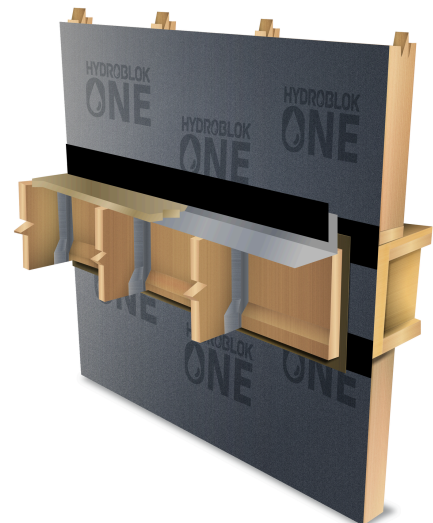
■ STEP 1

Once all seams between HydroBlok One sheathing boards have been taped, install the ledger board as specified by the project's design professional. If required by the designer of record, place a membrane between the deck ledger and the HydroBlok One sheathing.



■ STEP 2

Secure the upper edge of the deck ledger flashing by taping it to the face of the HydroBlok One sheathing.



SHEATHING INSTALLATION GUIDE

COMMON FIXES

For common field repairs in wall applications, always ensure you have approved tape and a tape roller.

DIRTY BOARDS

Ensure that the boards are clean and free of dirt or debris before applying approved flashing tape. If the boards are dirty prior to tape application, follow the steps outlined below.

■ STEP 1

Clean the surface by wiping away dirt with water and a towel.

■ STEP 2

Ensure the boards are completely dry to the touch before applying approved flashing tape.

OVERDRIVEN FASTENERS

Steps must be taken to seal fastener penetrations when either:

- 1) a fastener penetrates more than halfway through the board; or
- 2) a board fastener misses the framing and results in a "shiner."

Fasteners that penetrate more than halfway through the board must be covered with an approved tape or polyurethane sealant. Shiners must be removed and resulting holes covered with an approved tape or polyurethane sealant. Failure to seal these types of fastener penetrations as required will void the HydroBlok One sheathing warranty.

Fasteners should be installed with their heads flush to the surface of the HydroBlok One board. To achieve consistent placement, adjust the air compressor to the tool manufacturer's recommended pressure or use an in-line pressure regulator. Many nail guns include depth control settings—use these to avoid overdriving. For tools without built-in depth control, a flush-drive collar can be added to control embedment. Any underdriven fasteners must be hand-driven flush prior to applying flashing tape.

SMALL HOLES

TOOLS NEEDED: TAPE & RUBBER ROLLER

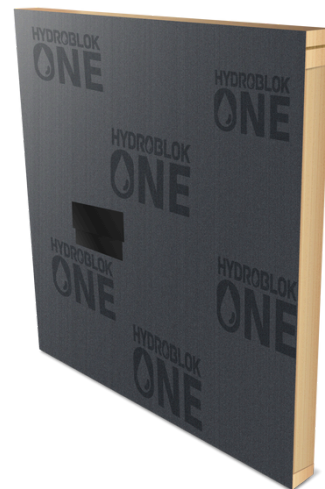
■ STEP 1

A small hole is defined as any opening less than 2 inches in diameter.



■ STEP 2

Apply 1 to 2 layers of approved flashing tape over the hole, ensuring a minimum of 1 inch of overlap on all sides.

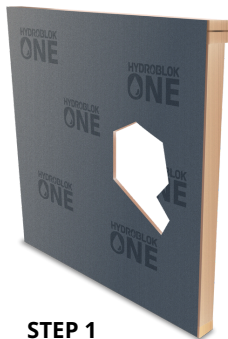


SHEATHING INSTALLATION GUIDE

LARGE HOLES

TOOLS NEEDED: TAPE & RUBBER ROLLER

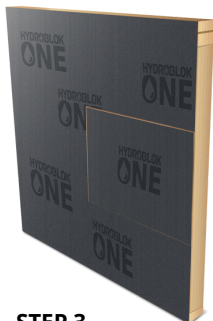
- **STEP 1**
Large holes in HydroBlok One sheathing can compromise both its water-resistive and air barrier properties, as well as its structural integrity.
- **STEP 2**
Remove the section of the board surrounding the hole by cutting from vertical stud to vertical stud. For shear wall applications, install horizontal blocking between the vertical studs to provide the necessary lateral support and meet structural requirements.
- **STEP 3**
Cut a new piece of HydroBlok One sheathing to fit the hole. Properly fasten according to fastening guide.
- **STEP 4**
Tape all newly created seams with approved flashing tape and roll the tape into place.



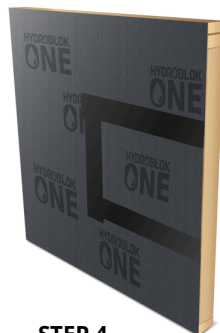
STEP 1



STEP 2



STEP 3



STEP 4

SIDING REMOVAL

TOOLS NEEDED: TAPE & RUBBER ROLLER

- **STEP 1**
Siding may become damaged during construction or over the life of the structure, necessitating its removal.
- **STEP 2**
When removing siding from HydroBlok One sheathing, ensure that a new, code-compliant water-resistive barrier is installed over the exposed areas.
- **STEP 3**
If the water-resistive barrier is a loose-laid wrap ending in the middle of the wall plane, apply approved flashing tape along the edges. Roll the tape into place.



STEP 1



STEP 2



STEP 3