INSTALLATION GUIDE



INSULATION, AIR AND WATER TIGHTNESS **ABOVE GRADE** EXTERIOR WALLS

Expanded polystyrene insulation panel laminated to a 7/16" oriented strand board (OSB) with integrated air barrier



THE PRODUCT AND ITS BENEFITS

Manufactured by Isolofoam Group, ISOBRACE AIR+ is a composite panel consisting of expanded polystyrene insulation laminated to a 7/16" oriented strand board (OSB) perforated at regular intervals and laminated with a membrane made of strong non-woven engineered fabrics laminated on the OSB surface.

Designed for installation on above grade exterior walls, when properly installed and sealed, ISOBRACE AIR+

panels can serve as an air barrier, a weather barrier, and continuous insulation at the same time; only one product to install. They can also be used to increase the structural rigidity of the building and provide support for fixing exterior cladding.

To achieve air and water tightness, several sealing tapes and self-adhesive sealing membranes are compatible with ISOBRACE AIR+.

ISOBRACE AIR+ FOUR-IN-ONE INSULATION

Provides Continuous Exterior Insulation

- Eliminates thermal bridging between the structure and the exterior cladding.
- Meets the highest insulation requirements.
- Stable and permanent insulating value.



Increases Structural Rigidity

- Contributes to the structural strength of the building's walls.
- · Can eliminate the need to add temporary bracing.
- Provides support for exterior cladding (according to cladding manufacturer's recommendations).
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Integrated Water-Resistive Barrier

• Can eliminate the need for housewrap over the OSB panel.



Continuous Air Barrier

- Taped joints creating a continuous exterior air barrier sheathing.
- Flashing easy to install simply by lifting the air barrier membrane.

ISOLOFOAM ISOBRACE AIR+

Water Vapour Permeability

OSB panel perforated at regular intervals to increase water vapour permeability.

Several Compatible Sealing Tapes and Self-Adhesive Sealing Membranes

The membrane can be sealed using most butyl-free air barrier tapes and membranes.

Ease of Installation

All-in-one product that speeds up building construction by eliminating multiple installations.

NOTES, LIMITATIONS AND STORAGE

ISOBRACE AIR+ PANELS

- ✓ Are intended for exterior walls above ground level.
- Can be installed directly on the structure or on existing intermediate sheathing.
- Can provide support for fixing exterior cladding.
 (When in accordance to cladding manufacturer's recommendations)
- × Cannot be used as a structural product, as specified in building codes.
- Must be covered and protected from weather and ultraviolet rays within 180 days of installation.
- × Combustible material.
- × Avoid contact between insulation and petroleum-based solvents or their vapours.
- × Butyl-based adhesives are not recommended with the product.

Damage to the Membrane

If the damage is limited, it can be repaired with tape. Make sure that the surface of the tape and the membrane is uniform and smooth, preventing any penetration of water or passage of air. Pieces of weather barrier membrane can be used to cover the damaged section.

Damage to the OSB

The damaged section of the ISOBRACE AIR+ panel can be cut. The remaining section can be used if it is at least 24" (600 mm) wide and if the size allows the perimeter of the panel to be supported on all sides.

Damage to the Insulation

Any damage to the corners of the panels or affecting a dimension of more than 2" (51 mm) must be corrected. If it cannot be repaired, it is necessary to remove the damaged part of the panel. If the damaged piece of insulation has been ripped from the panel but can be salvaged, the broken piece must be glued back to the panel before attaching the panel to the framing. If the thermal resistance of the panel is affected by the insulation damage, remove the damaged section of the panel.

STORAGE SPECIFICATIONS

- This product should be stored under the same conditions as common OSB boards.
- When possible, indoor storage is recommended.
- If stored outdoors, cover the panels with a plastic sheeting (tarp) to protect them from bad weather and ultraviolet rays. Tarp installation must allow air circulation under it.
- Store and handle panels flat.
- Products must be stored at least 4" (10 cm) from the ground.
- Use at least three supports on the 8' (96") length, one at center and the others at approximately 16" (400 mm) from ends to reduce the risk of deformation.
- Do not stack more than three pallets high.

TOOLS, ACCESSORIES, AND DIMENSIONS

TOOLS AND ACCESSORIES



*Note: Ensure material compatibility.

DIMENSIONS

ISOBRACE AIR+ insulation panels are available in a variety of sizes and thicknesses in order to meet applicable construction requirements in your area or to fulfill building energy performance targets.



DIMENSIONS	THICKNESSES	R-VALUE (RSI)	SHEETS/PALLET	NAIL LENGTH
48" × 96" (4' × 8')	1 5/16″	R4.15 (RSI 0.73)	36	Min. 2.5" (63 mm)
48" × 108" (4' × 9')	1 9/16″	R5.15 (RSI 0.91)	30	Min. 3" (76 mm)
	1 13/16″	R6.18 (RSI 1.08)	26	Min. 3" (76 mm)
Butt edge*	2 3/16″	R7.65 (RSI 1.35)	22	Min. 3.5" (89 mm)

*Insulation part slightly exceeds panel to insure continuous insulation as well as the recommended 1/8" spacing between the OSB panels. Other thicknesses also available on request

AIR BARRIER CONTINUITY

CROSS-SECTIONAL VIEW

During installation, take care to properly assemble and seal the various materials to ensure the air barrier system's integrity, particularly at the perimeter, openings, and penetrations.

When applying sealing tapes and self-adhesive sealing membranes, it is important to avoid folds or openings at material transitions to reduce the risk of air or water infiltration. They must not be torn, frayed, cut, wrinkled, or damaged in any way. If after installation folds or openings are detected, it is recommended to seal them using sealant. Sealing tapes and self-adhesive sealing membranes must also be installed, overlapping to evacuate water. Installers should always validate installation instructions and conditions, in particular application temperatures mentioned by the manufacturer.

In the event that a nail punctures the panel during fastening and misses a frame stud, do not remove it, and seal perforation created with a sealing tape or self-adhesive sealing membrane to ensure air and water tightness. Use another nail to complete panel fastening.



Legend



Foundation wall insulation: ISOFOIL

Under slab insulation: iFLEXFOAM or HD/XHD + vapour barrier

INSTALLATION **STEPS**

GENERAL PRACTICES

The following installation steps are presented as a general outline of the installation process. These are manufacturer recommendations. Installer or contractor is fully and solely responsible to ensure compliance of the work with applicable building codes and safety regulations governing construction. Good construction and safety practices should always be followed.

PANEL ORIENTATION

Install the ISOBRACE AIR+ panels with the printed membrane facing out, allowing insulation to be in direct contact with the framing.

Panels can be oriented vertically or horizontally. ISOBRACE AIR+ panels should be oriented so that writing be legible when affixed vertically.



Vertical orientation



Horizontal orientation

AIR AND WATER TIGHTNESS OF FASTENERS

In order to ensure air and water tightness, framing nails must be covered at all times with tape or a self-adhesive sealing membrane.

At the perimeter of the panels, framing nails can be used since they will be covered with tape to seal the joints.

At the center of the panels, cap nails are recommended since they do not have to be covered with tape.

INSTALLATION STEPS

Images shown for illustration purposes only





Continue using one of the two methods (A or B) presented below.

METHOD A

By lifting the air barrier membrane

5A

INSTALL FLASHING UNDER THE AIR BARRIER MEMBRANE



5.1 Manually peel the laminated air barrier membrane over approximately 6" in length.

5.2 Install the flexible flashing (self-adhesive sealing membrane) between the membrane and the OSB and let a section exceed the panel.

Add a bead of caulking/sealant between the airbarrier membrane and the flashing. Unfold the air barrier membrane over the flashing.

METHOD **B**

Without lifting the air barrier membrane



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5.1 If necessary, install wood furring strips vertically to the studs of the structure. Marks are visible on the panels to facilitate positioning of the wood furring strips.

5.2 Omit the wood furring strips at the ends of the walls so that the air and water tightness can be achieved at a later step.

5.3 It is recommended to leave a space of 1/2" between the bottom of wood furring strips and the flashing.

5.4 If a second floor is planned, leave a 4" space at the top to allow the junction of the two floors to be sealed. Plan the opposite for wood furring strips fixed to the panels of the second floor.

Note 1: For furring strips installation requirements, refer to the exterior finish manufacturer's installation guide.

Note 2: If wood furring strips are installed, the air gap thus created between the ISOBRACE AIR+ panel and the exterior cladding may require the installation of a fire block in accordance with the building code.

METHOD A

By lifting the air barrier membrane

6A	INSTALL WOOD FURRING STRIPS	6B	INSTALL FLASHING BEHIND INSULATION
	Contraction of the second seco		
6.1	If necessary, install wood furring strips vertically to the studs of the structure. Marks are visible on the panels to facilitate positioning of the wood furring strips.	6.1	Install a bead of caulking/sealant between the top of the foundation wall and the flexible flashing (self-adhesive sealing membrane), i.e., under the flexible flashing.
6.2	Omit the wood furring strips at the ends of the walls so that the air and water tightness can be achieved at a later stage.	6.2	Install the flexible flashing (self-adhesive sealing membrane) at the bottom of the floor joist and let it exceed from the foundation before lifting the wall.
6.3	It is recommended to leave a 1/2" space between the bottom of wood furring strips and the flashing.		
6.4	If a second floor is planned, leave a 4" space at the top to allow the junction of the two floors to be sealed. Plan the opposite for wood furring strips fixed to the panels of the second floor.		
Note 1: For furring strips installation requirements, refer to the exterior finish			

manufacturer's installation guide. **Note 2:** If wood furring strips are installed, the air gap thus created between the ISOBRACE AIR+ panel and the exterior cladding may require the installation of a fire block in accordance with the building code.

METHOD B

Without lifting the air barrier membrane

METHOD A

By lifting the air barrier membrane



ERECT THE WALL



7.1	Erect wall and support it with temporary bracing. Make sure that the flashing exceeding the panel folds outwards.
7.2	Fasten the ISOBRACE AIR+ panels and the bottom of wood furring strips to the floor joist.
7.3	To ensure the airtightness of the assembly, install a bead of caulking/sealant between the top of the foundation wall and the portion of the flexible flashing (self-adhesive sealing membrane) that exceeds the ISOBRACE AIR+ panel.
7.4	Seal the flexible flashing (self-adhesive sealing membrane) to the foundation wall.

Note 1: The wall must be supported from the inside until the entire structure is assembled and permanently fixed.

Note 2: Cap nails should be used for panel nailing to the rim joist. It is also possible to use framing nails; however, they will need to be covered with sealing tape.

METHOD B

Without lifting the air barrier membrane





7.1	Erect wall and support it with temporary bracing.
7.2	Fasten the ISOBRACE AIR+ panels and the bottom of the wood furring to the floor joist.
7.3	To ensure the airtightness of the assembly, a bead of caulking/sealant must be applied at the bottom. If the space between the panel and the flashing is large, an expanding foam sealant should be applied.

Note 1: The wall must be supported from the inside until the entire structure is assembled and permanently fixed.

Note 2: Cap nails should be used for panel nailing to the rim joist. It is also possible to use framing nails; however, they will need to be covered with sealing tape.

INSULATE JOISTS



8.1

8

If insulation does not cover the floor joists, cut sections of panels to fill the uninsulated space.

Note: When possible, it is recommended to use panels with a length that will cover the end joist. This way, the rigidity of the structure will be increased.

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9.1	Seal joints between floor walls with sealing tape or a self-adhesive sealing membrane.
9.2	Seal wall corners using a self-adhesive sealing membrane that is at least 6″ wide.
9.3	If necessary, complete the installation of wood furring strips at floor wall junctions and wall corners.

10 CANTILEVERED FLOORS

Cantilevers are treated in the same manner as exterior corners of walls.

Continue using one of the two methods (A or B) presented below.

METHOD A

1

By lifting the air barrier membrane

SURACE AND SOBRACE AND

10.1	Install the insulation boards by leaving the vertical panel to cover the end of the horizontal panel (under the cantilever face) and thus ensure continuity of insulation at the outer corners of the walls.
10.2	Seal joints between panels with a self-adhesive sealing membrane.
10.3	For the panel at the end of the cantilever, manually peel the laminated membrane from the product.
10.4	Seal the outside and inside corner of the cantilever using a self-adhesive sealing membrane that is at least 6" wide.
10.5	Seal the laminated membrane to the flashing using sealing tape or a self-adhesive sealing membrane.

Note 1: If cantilevered floor intersects foundation, adapt sealing method to the foundation.

Note 2: Refer to applicable building code requirements for cantilevered floor insulation.

METHOD B

Without lifting the air barrier membrane





Note 1: If cantilevered floor intersects foundation, adapt sealing method to the foundation.

Note 2: Refer to applicable building code requirements for cantilevered floor insulation.

WINDOWS - FLASHING AND WATER/AIR TIGHTNESS

11.1	Install a self-adhesive sealing membrane strip to cover the entire windowsill.	
11.2	Extend strips up at least 6" on the sides of sill jambs.	ISOLOFOAN
11.3	Add butterfly-shaped pre-cut self-adhesive sealing membrane pieces to bottom corners.	
11.4	Continue using one of the two methods (A or B) presented below. If the exterior finish is masonry, method A must be used to meet effective requirements.	ISOBRAC

Note 1: The windowsill should be built to ensure the drainage of water to the outside.

Note 2: When applying sealing tape and a self-adhesive sealing membrane, it is important to avoid folds, fish mouths or openings at material transitions to reduce the risk of air or water infiltration. If after installation, folds, fish mouths or openings are detected, sealant can be used to repair and seal defects.

METHOD A

METHOD B

12B

Without lifting the air barrier membrane

1	2A

12.1	Cut the sheathing membrane at both top corners following a 45° angle for about 6″, and manually peel the laminated membrane from the product.
12.2	Install a self-adhesive sealing membrane to cover both jambs.
12.3	Extend a self-adhesive sealing membrane beyond the window header.
12.4	Add butterfly-shaped pre-cut self-adhesive sealing membrane pieces to top corners.

By lifting the air barrier membrane



12.1	Add a self-adhesive sealing membrane to cover sills.
12.2	Adhere strips to jambs up to top of window opening.
12.3	Add butterfly-shaped pre-cut self-adhesive sealing membrane pieces to top corners.



METHOD A

By lifting the air barrier membrane

13A		
13.1	With the laminated membrane peeled back, install a self-adhesive sealing membrane to cover the header.	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9
13.2	Fold the excess portion of the membrane towards the inside of the opening.	ISOBRAS
13.3	Install the window and seal it.	ACE

Note: Refer to window manufacturer for sealing recommendations.

METHOD **B**

Without lifting the air barrier membrane

13B

13.1	Add a self-adhesive sealing membrane to cover window header.
13.2	Fold the excess portion of the membrane towards the inside of the opening.
13.3	Install the window and seal it.

Note: Refer to window manufacturer for sealing recommendations.

14A		148
14.1	Install metal flashing above window. Fasten properly to the structure.	14.1
14.2	Fold down the air barrier membrane over the metal flashing and seal in sequence the upper part of the air barrier membrane and the angled joints previously cut with sealing	14.:
	tape or a self-adhesive sealing membrane.	Note: applic

Note: Metal flashing must comply with requirements of applicable building code and be installed above window.

4.1	Install metal flashing above window. Fasten properly to the structure.
1.2	Apply a self-adhesive sealing membrane strip over metal flashing to ensure water tightness.

Note: Metal flashing must comply with requirements of applicable building code and be installed above window.



SOBRACE

15 WALL-TO-CEILING AIR BARRIER CONTINUITY

Air barrier continuity at wall-to-roof junction transferred through interior vapour barrier.

15.1	Attach vapour barrier to ceiling framing members with staples.	
15.2	Seal ceiling vapour barrier of last floor to top plate with acoustic sealant.	
15.3	Install vapour barrier on interior walls.	
15.4	Seal all joints.	

Note: If partition or load-bearing walls need to be erected before vapour barrier installation, vapour barrier continuity must be ensured at each junction.



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WATER AND AIR TIGHTNESS -ELECTRICAL BOXES



19 JUNCTION WITH INSULATED GARAGE



18.1	Select exterior use airtight electrical box.
18.2	Seal around electrical box with sealant.
18.3	If opening is too wide, fill gaps with expanding foam sealant.

19.1	Ensure air barrier continuity on exterior side of dividing wall between house and garage.
19.2	Ensure air barrier continuity of exterior garage walls.
19.3	Interior side of garage exterior walls must have a vapour barrier. Said vapour barrier should be sealed to adjacent ISOBRACE AIR+ membrane using sealing tape or a self-adhesive sealing membrane.

The common wall between a heated garage and a house must be insulated according to the requirements of the current building code. Adding insulation to cut thermal bridges at this point is a good practice.

Exterior walls of heated garages must be built like other exterior walls.

INGENIOUS INSULATION DESIGNED HERE

Isolofoam is a Canadian manufacturer that specializes in the fabrication of innovative and eco-responsible products made of expanded polystyrene.

Adapted to any type of project, our insulation products will always allow you to meet the highest building code standards and requirements.

LEGAL NOTICE: Data, procedures, and information contained herein are presented in good faith and provided for informational purposes only to ensure basic understanding of the concepts that are part of a proper installation of the ISOBRACE AIR+ product from Isolofoam Group. It is the responsibility of the installer or contractor to ensure that all work performed complies with applicable building codes and labour safety regulations governing the construction. While measures have been taken to ensure the accuracy of the information and to convey good construction practices, Isolofoam Group expressly disclaims any liability for consequential damages, errors or omissions arising from information contained herein. Since government regulations and terms of use may vary not only from place to place but also over time, it is the responsibility of the customer to determine whether the product is suitable for the intended purpose and whether the workplace and practices are in accordance with applicable laws. Our liability is formally limited to the replacement of defective products from Isolofoam Group.



