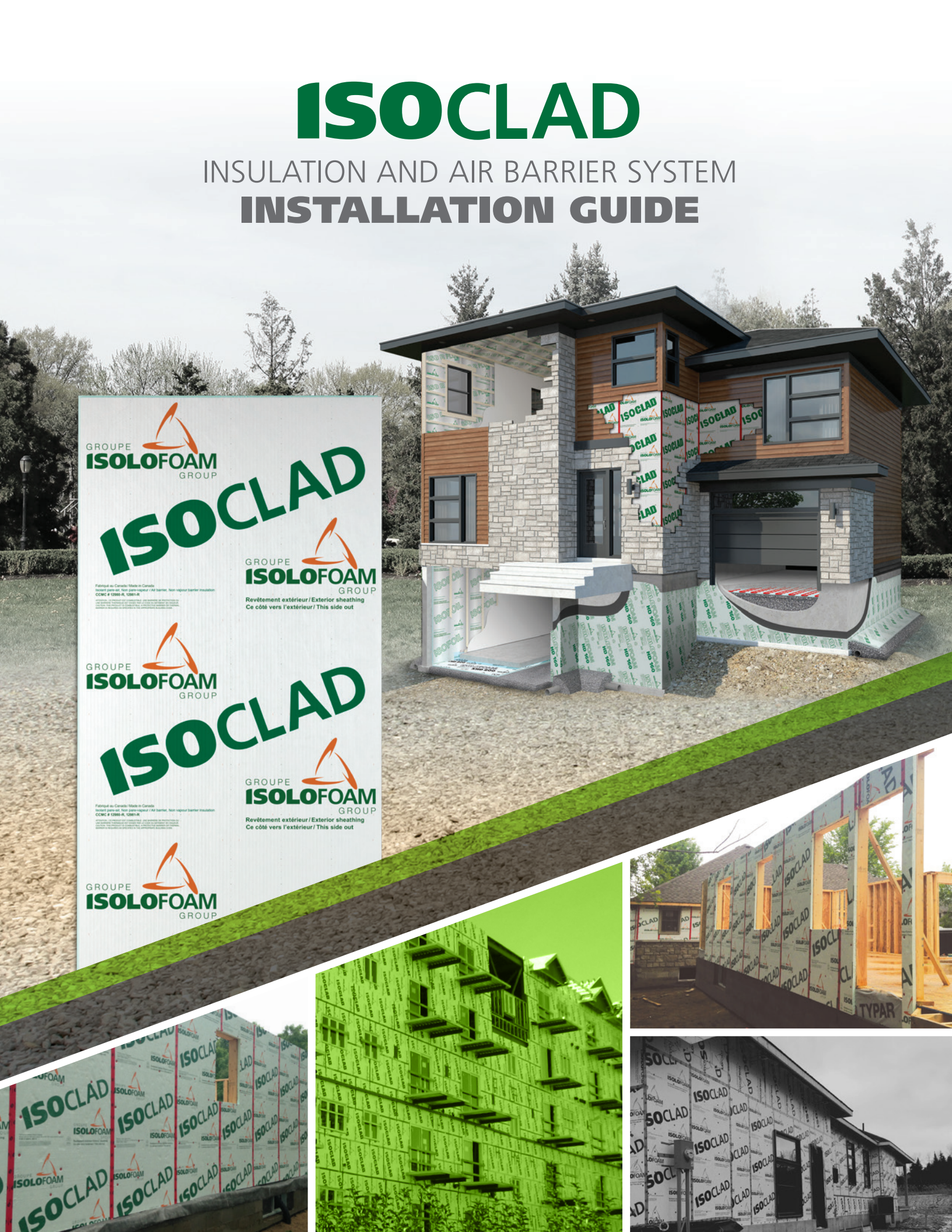
ISOCLAD

INSULATION AND AIR BARRIER SYSTEM

INSTALLATION GUIDE



BENEFITS

Ensures continuous insulation

- High-performance product, known and reputed for more than 20 years.
- Eliminates thermal bridges: creates a continuous insulating air barrier / weather barrier envelope.

Peace of mind

- Not a vapour barrier.
  Reduces risks of mould growth by allowing humidity in walls to evaporate.
- No need to determine dew point location in assembly.
- Very high permeance to water vapour.
  Nearly three times more permeable than the minimum requirement of ≥60 ng to be considered a vapour permeable material (i.e. not a vapour barrier):
  1" = 176.5 ng/ (Pa* s*m^2);
  2" = 74.9 ng/ (Pa* s*m^2).

In cold climate zones, it is preferable to favour the installation of an insulating and vapour permeable product outside the building to reduce the risk of condensation and to encourage the drying out of walls if there was infiltration from outside or inside the building.

Easy to install

- 2 steps in 1.
  Quick and easy to install thanks to its laminated membrane, notably when scaffolding is required.
- Flexible and weather resistant product. Reduces breakage on the jobsite.
- Shiplapped on 4 sides and easy to seal for better air and water tightness.

- Comprehensive guide for a simplified installation.

WORKING WITH **ISOCLAD** IS...

CHOOSING A COMPETITIVE SOLUTION
SPEEDING UP PROJECT COMPLETION
REDUCING CONSTRUCTION AND LABOUR COSTS
MAXIMIZING THE THERMAL PERFORMANCE AND AIRTIGHTNESS OF EXTERIOR WALLS.

COMPLIMENTARY INFORMATION

ISOCLAD insulation panels

- Are designed for abode grade walls.
- Cannot be used as structural sheathing for walls.
- Can be installed over structural sheathing or directly to the structure.
- Must not be used as backing, regardless of exterior wall cladding.
- Do not expose to weather and ultraviolet rays for more than120 days.

PRODUCTS AND RECOMMENDED USE

Developed by **Isolofoam Group**, **ISOCLAD** is an air barrier/ vapour permeable insulation panel with an integrated membrane.

ISOCLAD is a type 2 expanded polystyrene panel with a factory laminated membrane of spunbonded high density polyethylene fibers (DuPont™ Tyvek® HomeWrap®).

Designed as an exterior insulating sheathing for above ground walls of residential, commercial, industrial or institutional buildings, both for new construction and renovation.

Although other methods may be used, this installation guide presents best practices to achieve continuous insulation and optimum sealing of the building envelope.

CCMC # 12980-R: Intermediate sheating
CCMC # 12981-R: Air barrier material
CAN/ULC-S741: Standard for Air Barrier Materials - Specification

TOOLS AND ACCESSORIES

*Note: Ensure material compatibility.

AVAILABLE DIMENSIONS

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

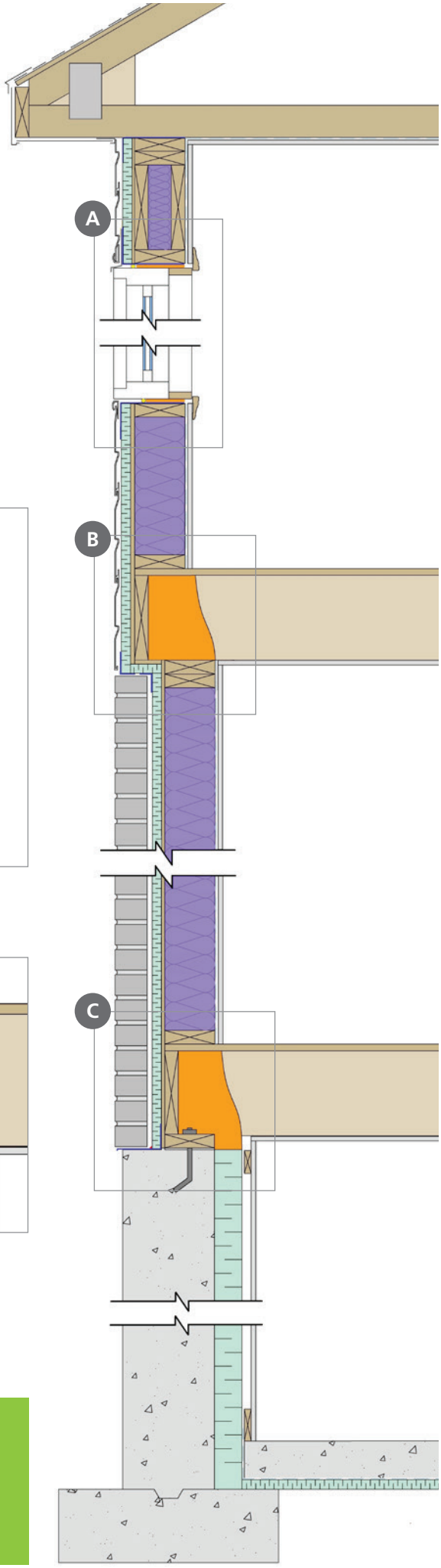
DIMENSIONS	THICKNESSES	R VALUE	SHEETS/PKG	SHEETS/SKID
48″ x 96″ (4′ x 8′) or 48″ x 108″ (4′ x 9′)  Shiplapped 4 sides	1/2″butt edge	2.1	48	96
	3/4″butt edge	3.2	32	64
	1″	4.66	24	48
	1 1/8″	5	21	42
	1 1/2″	6.7	16	32
	1 3/4″	7.5	14	28
	2″	8.6	12	24
	2 1/4″	9.5	11	22
	2 1/2″	10.6	9	18
	3″	12.6	8	16

Also available: 24″ x 96″ (2′ x 8′), 48″ x 120″ (4′ x 10′), other thicknesses; butt edge or shiplapped 2 sides.

AIR BARRIER CONTINUITY

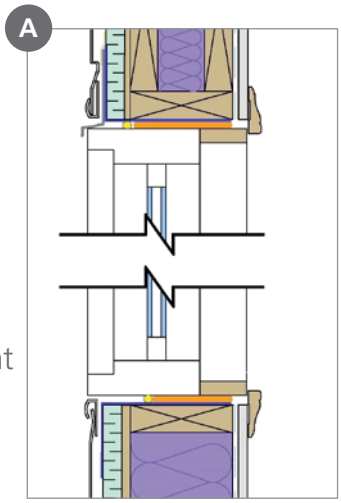
Cross-section View

During installation, take care to properly assemble and seal the various materials in order to ensure the air barrier system's integrity, paying attention to openings and penetrations, as well as envelope junctions (wall/roof, foundation, etc). When applying tape and self adhesive membrane, it is important to avoid folds, fish mouths or openings at material transitions to reduce risks of water or air infiltrations.

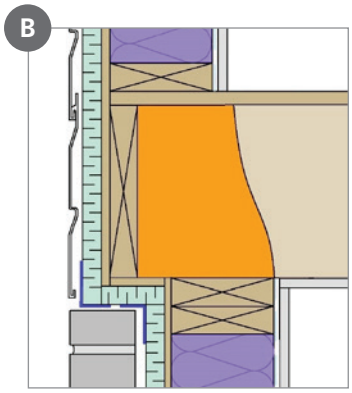


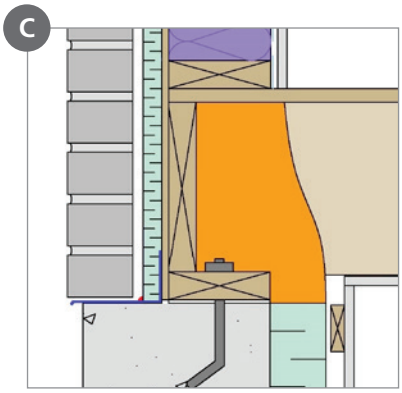
Legend:

- : **ISOCLAD** Rigid insulation
- : Self-adhesive sealing membrane
- : Backer rod
- : Caulking/sealant
- : Low expansion foam sealant
- : Interior vapour barrier
- : Batt insulation



Foundation wall insulation: ISOFOIL
Underslab insulation: iFLEXFOAM or HD/XHD + vapour barrier

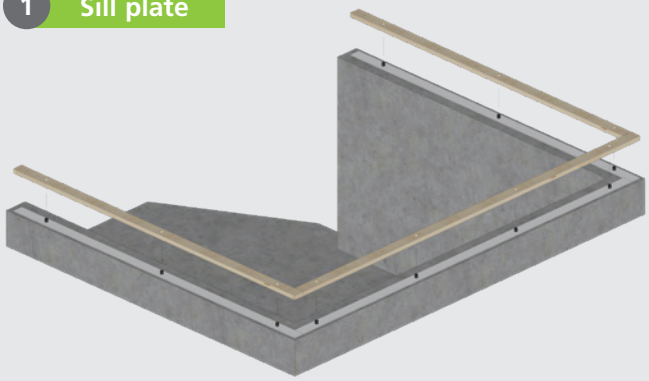




A NEW HOME CONSTRUCTION PROJECT IN MIND?
Read the ''Meet the OBC 2017: Efficient Insulation" brochure available on our website.

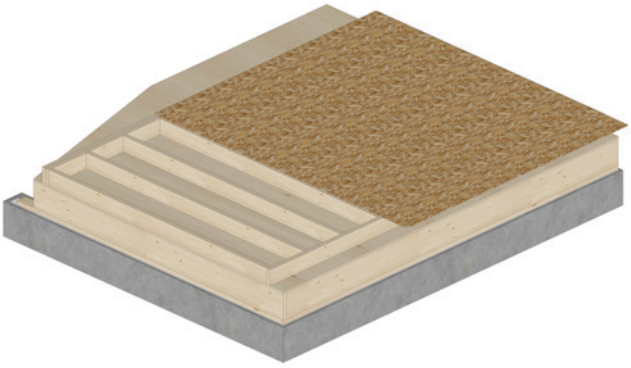
INSTALLATION STEPS

1 Sill plate



- 1.1 Install sill plate gasket on top of foundation walls.
- 1.2 Install sill plate to anchor floor joists.

2 Wall Framing

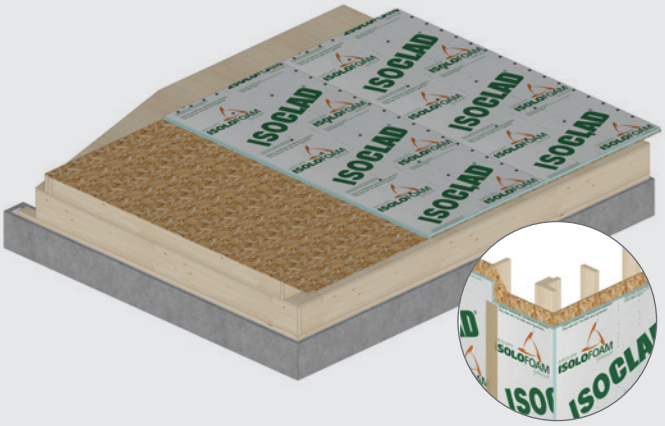


- 2.1 Build floor structure and cover with subfloor.
- 2.2 Assemble wall structure.
- 2.3 Install wall bracing; metal T-brace at a 45° angle or wood sheathing, such as OSB, can be used.

Refer to applicable building code requirements for bracing.

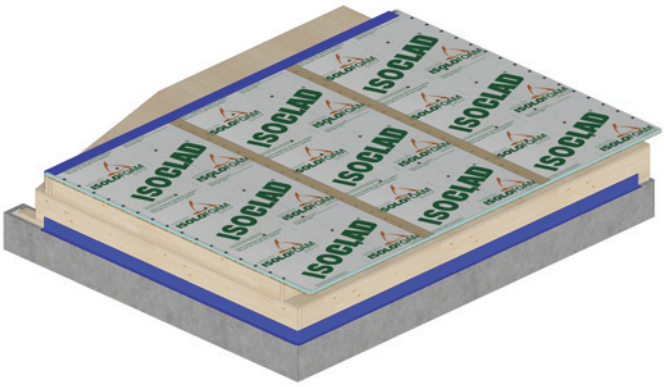
Ensure OSB panel installation avoids contact with top of foundation wall, for example, leave gap or install moisture break between panels and foundation wall.

3 Install insulation



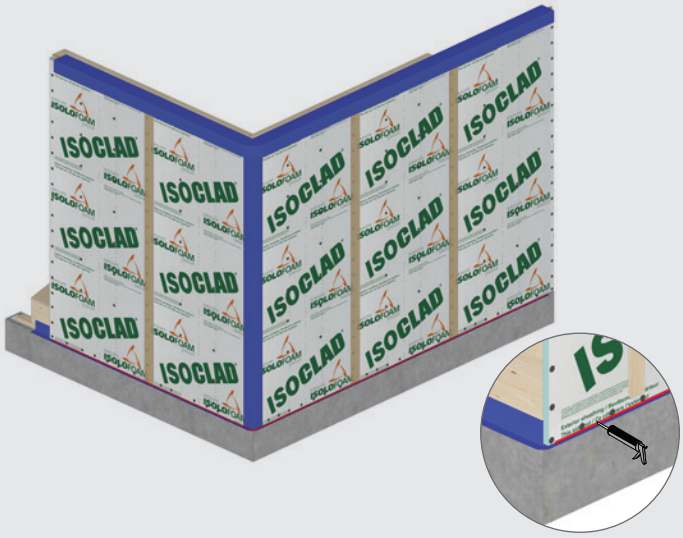
- 3.1 Install ISOCLAD insulation on wall structure and make sure that all panel edges are well supported.
  - If 9 ft panels are used, cut and remove lap edge along bottom of panel, to cover floor joist and sill plate.
- 3.2 Attach ISOCLAD insulation to wall studs with nails and washers every 6" along perimeter and at 12" in field of panel.
- 3.3 At outside corners, allow panels to exceed beyond wall framing to ensure continuity of insulation and air barrier.

4 Sealing - water and air



- 4.1 Seal all joints between panels with sealing tape or self-adhesive sealing membrane.
- 4.2 If wall section is on the top floor, seal top panel edge to the top plate with a self-adhesive sealing membrane.
- 4.3 To ensure air and water tightness of the building, it is important to seal all openings, junctions, penetrations and perforations in the membrane.
- 4.4 Install wood furring if required.
- 4.5 Install a sealant joint between the top of the foundation wall and the flexible flashing (self-adhesive sealing membrane), ie under the flexible flashing. (Not illustrated)
- 4.6 Install the flexible flashing (self-adhesive sealing membrane) at the bottom of the floor joist and overflow it from the foundation before lifting the wall.

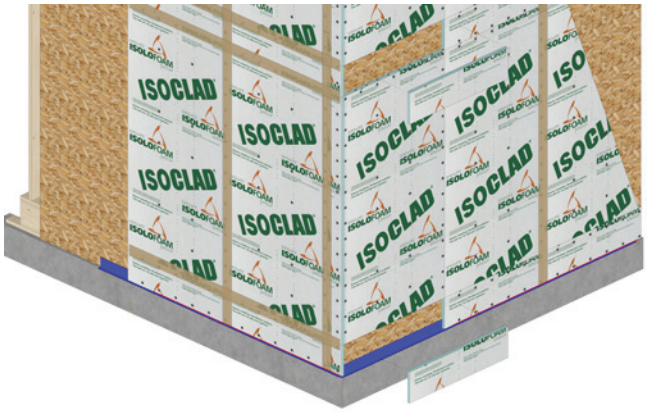
5 Erect the wall



- 5.1 Erect and support walls with temporary bracing.
- 5.2 Fix bottom of each panel to rim joist.
- 5.3 To ensure the airtightness of the assembly, a sealant seal must be applied at the bottom. If the space between the panel and the flashing is large, an expanding foam sealant should be applied.
- 5.4 Seal joints between floor walls with sealing tape or self-adhesive sealing membrane.
- 5.5 Seal wall corners using minimum 6" wide self-adhesive sealing membrane for best results.
- 5.6 Ensure continuity of self-adhesive sealing membrane previously applied on top plate of the walls.

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

6 Insulate joists



- 6.1 When ISOCLAD panels don't extend to cover rim joists, panels must be fastened to top and bottom plates and studs.
- 6.2 When all walls are up, install flexible flashing to perimeter of rim joists, extending flashing onto foundation.
- 6.3 Complete insulation by installing ISOCLAD panel sections to cover rim joists.
- 6.4 Seal panel joints with sealing tape.
- 6.5 Where space between panel edge and flashing is wide, use expanding foam and sealant to seal wide joints between ISOCLAD panels and flashing to ensure assembly airtightness.

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

7 Cantilevered floors

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

7.1 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.

7.2 Seal joints between panels with self-adhesive sealing membrane.

7.3 Seal corner junctions using minimum 6'' wide self-adhesive membrane for better results.

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

Refer to applicable building code requirements for cantilevered floor insulation.

8 Windows: waterproofing and flashing

8.1 Install self-adhesive sealing membrane strip to cover entire window sill.

8.2 Extend strips up on the sides of silljambs.

8.3 Add to bottom corners pre-cut self-adhesive sealing membrane pieces.

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

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9.1 Add self-adhesive sealing membrane to cover sills.

9.2 Adhere strips to jambs, up to top of window opening.

9.3 Add to top corners pre-cut self-adhesive sealing membrane pieces.

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10.1 Add self-adhesive sealing membrane to cover window header.

10.2 Adhere strip down the jambs to cover membrane installed in the previous step.

10.3 Install window.

Refer to window manufacturer for sealing recommendations.

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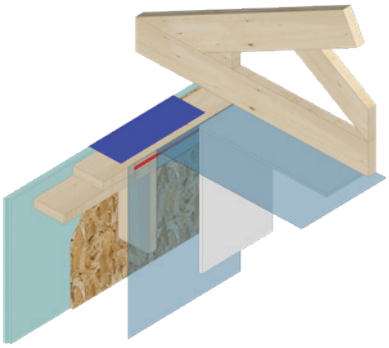
11.1 Install metal flashing above window. Fasten properly to the structure.

11.2 Apply a self-adhesive sealing membrane strip over the metal flashing to ensure water tightness.

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

12 Wall to ceiling air barrier continuity



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

12.1 Attach vapour barrier to ceiling framing members with staples.

12.2 Seal ceiling vapour barrier of last floor to top plate with acoustic sealant.

12.3 Install vapour barrier on interior walls.

12.4 Seal all joints.

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

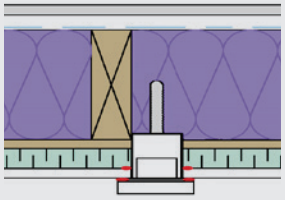
13 Water and air tightness - Penetrations and exterior openings with rims, edges or flanges

- 13.1 Install exterior outlet or penetrating accessory.
- 13.2 Seal lower lip/edge with sealing tape or self-adhesive sealing membrane.
- 13.3 Seal, following this order: side lips/edges followed by upper (top) lip/edge, with sealing tape or self-adhesive sealing membrane.

14 Water and air tightness - Round openings and penetrations

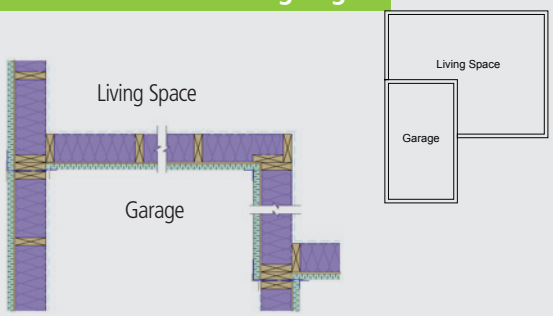
- 14.1 If opening is slightly bigger than pipe, seal with expanding foam sealant.
- 14.2 Seal around pipe using flexible self-adhesive sealing membrane.
- 14.3 Add additional strips of sealing tape or self-adhesive membrane onto upper edge of flexible membrane to ensure water tightness.

15 Water and air tightness - Exterior electrical boxes and openings without rims, edges or flanges



- 15.1 Select exterior use airtight electrical box.
- 15.2 Seal around electrical box with sealant.
- 15.3 If opening is too wide, fill gaps with expanding foam sealant.

16 Junction with insulated garage



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

- 16.1 Ensure air barrier continuity on exterior side of dividing wall between house and garage.
- 16.2 Ensure air barrier continuity of exterior garage walls.
- 16.3 Exterior walls of heated garage must include a vapour barrier; garage vapour barrier to be sealed to the sheathing membrane of ISOCLAD panels installed on dividing walls between house and garage, using sealing tape or self-adhesive sealing membrane.

A **PARTNER** OF CHOICE

EXPERTS AT PROVIDING SOLUTIONS

Isolofoam Group is renowed for its innovative and responsible thermal insulation solutions. The company has been investing in expanded polystyrene product research and development for more than 40 years.

Its insulation solutions are tested and proven and meet the highest insulation requirements in the industry.

Isolofoam Group is proud to offer construction and renovation specialists, dealers and consumers a complete line of products that stands out in the market.

DISCLAIMER

The procedures presented in this document are intended as a guideline only, to provide a basic understanding of the concepts involved in the proper and effective installation of **Isolofoam Group ISOCLAD®** product. It remains the responsibility of the installer and/or builder to ensure that all work performed conforms to applicable building code and labour safety regulations governing the construction. While care has been taken to ensure accuracy, and convey proper construction practices, **Isolofoam Group** does not assume responsibility for consequential loss, errors or oversights resulting from the information contained herein. Our liability is expressly limited to replacement of defective goods from **Isolofoam Group**.

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