

# SHEATHING APPLICATION

**EXCEL II**  
revêtement EXTREME sheathing



## EXTREME SHEATHING, MADE BY EMCO CORP.

When applied according to the manufacturer's specifications and once the joints are sealed, these insulation panels constitute the main component of an airtight exterior housewrap that performs over and above the standard required by the National Building Code,  $0.02 \text{ L}/(\text{s}\cdot\text{m}^2)$ . It is the level of performance every designer or architect aims for.

EXCEL II™ also serves as intermediate waterproof sheathing and features remarkable sound deadening properties that reduce outside noise. And because it is also a structural board, EXCEL II™ boasts excellent racking strength to help stabilize the frame.

## AIR BARRIER SYSTEM PERFORMANCE

EXCEL II™ and their sealed joints combine to form the principal element of the air barrier system. Other elements include doors, windows and any other component used to block openings in the wall, not to mention the joints, which must be made impermeable to air with the use of sealant.

The air barrier system must be continual and free of gaps at construction, fissured and expansion joints, at intersections with other parts of the system (openings, roof or other), and also where elements (ducts, etc.) cross through the exterior walls. It must be designed and applied in such a way as to withstand any overloads to the system caused by wind.

The air infiltration rate, through the main component of the air barrier system measured under a differential pressure of 75 Pa, will be equal or inferior to  $0.005 \text{ L}/(\text{s}\cdot\text{m}^2)$ .

## PACKAGING AND STORAGE

Whether in the field or in a warehouse, the insulation panels must be stored a minimum 76.2 mm (3 in.) from the finished/unfinished floor or ground and sheltered from rain or snow with a waterproof cover.

## PRODUCTS

### WOOD FIBRE INSULATION PANEL

EXCEL II™ EXTREME insulation sheathing is made of a rigid wood fibre panel with an air barrier skin to block wind, rain and snow while letting water vapour escape to the outside of the wall. These properties give the panels a thermal resistance rating of RSI 0.53/25.4 mm (R-3/ inch) thick.

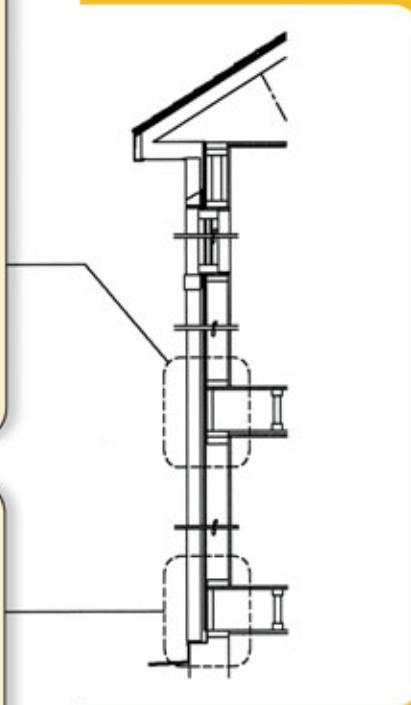
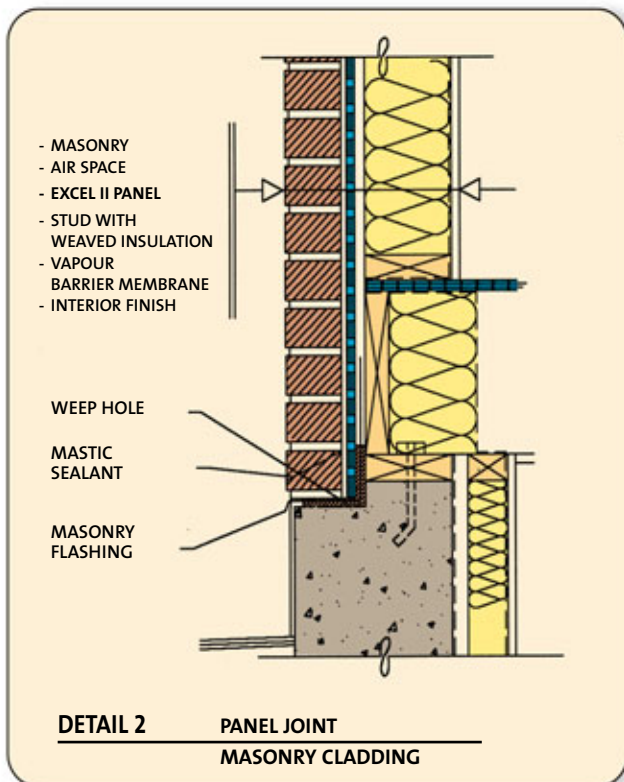
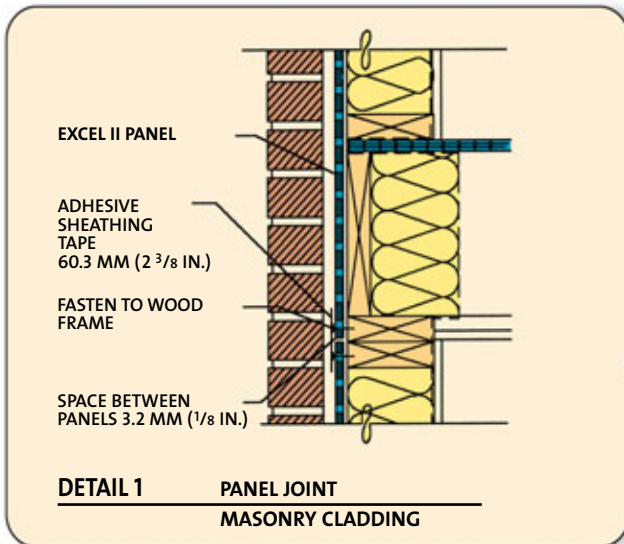
### ACCESSORIES

- Mechanical fasteners: 44 mm (1 3/4 in.) galvanized roofing nails with an 11.1 mm (7/16 in.) head and a 3.2 mm (1/8 in.) shank. Do not recess nail head.
- Membrane flashing and adhesive: polyethylene flashing, 0.5 mm (20 mils) thick; adhesive compatible with materials over which it is to be applied.
- Sheathing tape: in compliance with the CCMC's Registry of Product Evaluations, report 07281, minimal width of 60.3 mm (2 3/8 in.) for flat joints and 101.6 mm (4 in.) for corner joints; 1585 CW-P2/48001 "Sheathing Tape" type or Tuck 20502 "Contractor's Sheathing Tape".
- Caulking: mastic sealant that retains its flexibility and adhesive capacity as well as all other remaining physical properties in a temperature range of -40 °C and 82 °C (-40 °F and 180 °F); acoustic-type, in compliance with the CAN/CGSB 19.21M87 standard.

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## RIGID EXTERIOR AIR BARRIER SYSTEM

N.B.: The use of mastic sealant is recommended to ensure a double layer of air, sound and water proofing of the joints in and around areas where it is impossible to use sheathing tape (e.g. over polyethylene flashings) or where there are no framing studs or other supporting element (e.g. around plumbing or ventilation ducts, etc.)



## FASTENING

Fasten EXCEL II™ panels to the wood framing studs, which should be 304.8 mm (12 in.), 406.3 mm (16 in.) or 609.5 mm (24 in.) apart. If these conditions cannot be met, please consult an EMCO Building Product technical representative. It is required that you leave an air space between the siding and the back of the wall to ensure adequate ventilation for the insulation panel at all times.

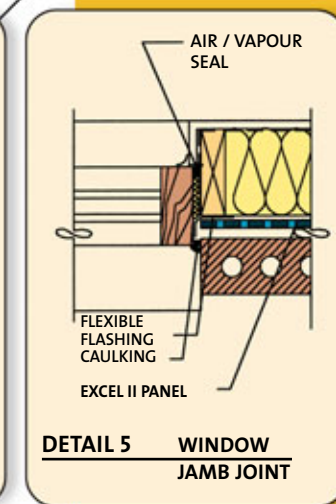
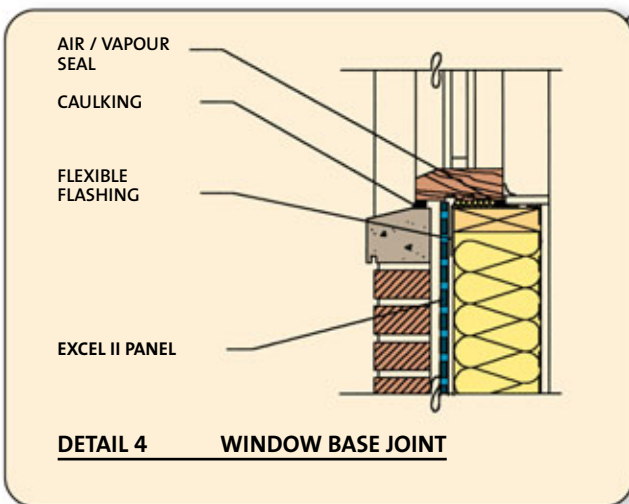
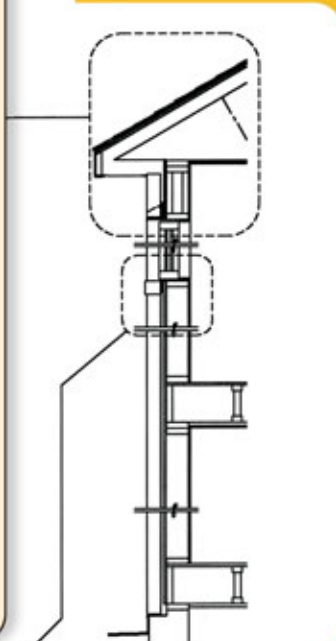
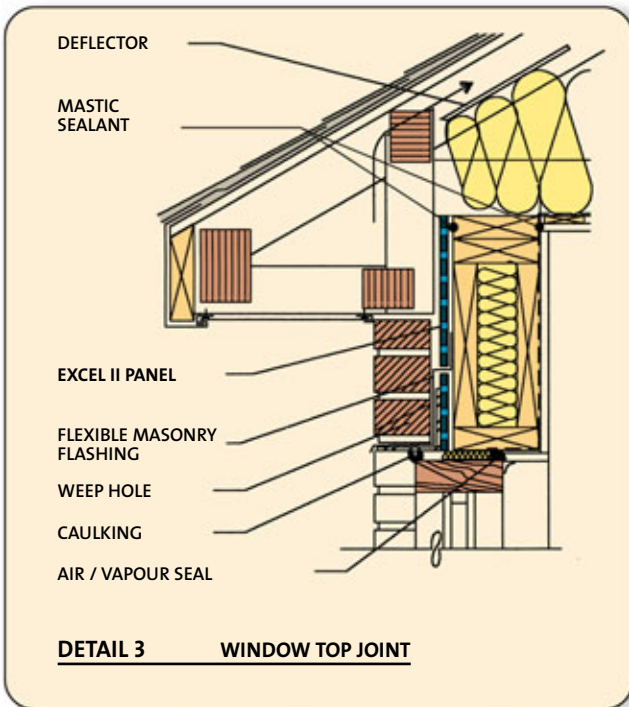
To this end, make sure the building contractor installs 25.4 mm x 50.8 mm (1 in. x 2 in.) or 25.4 mm x 76.2 mm (1 in. x 3 in.) vertical or 45° furring strips to act as a nailing base for the siding, or, where applicable, that the mortar does not protrude out the back of the brick siding.

Begin fastening near the centre of the panel and progress outwards toward the edges, spacing nails 304.8 mm (12 in.) apart across the framing studs. Then, fasten panel edges and along framing members at window and door openings every 152.4 mm (6 in.). Nails should not be less than 9.5 mm (3/8 in.) from panel edge. The crown must be driven parallel to the framing.

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## GENERAL

Before work begins, make sure the framing studs over which the panels are to be applied are spaced as required. Make necessary changes with the help of wood nailing bases.



## APPLICATION OF SHEATHING PANELS

1) Install sheathing panels only once all support/framing materials are dry.

2) Install sheathing and prescribed accessories to form an uninterrupted air barrier and provide continuous thermal protection around the entire building.

3) If required, carefully adjust sheathing around accessories, plumbing pipes, ventilation liner and other applicable components.

4) Carefully cut and size sheathing to generously cover empty spaces and gaps. Joints should be 3.2 mm (1/8 in.) apart. Offset vertical joints. Panels with broken edges or with punctures should not be installed. Use the largest possible panels to keep the number of joints to a minimum.

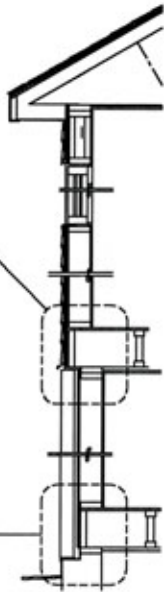
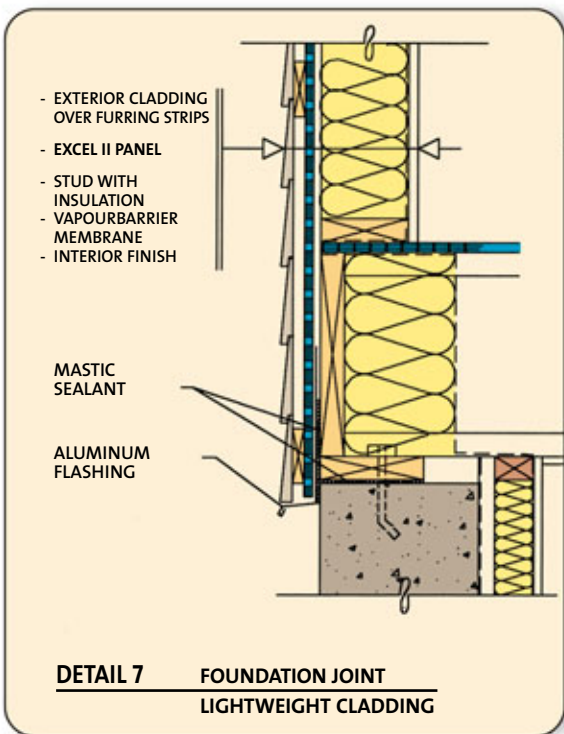
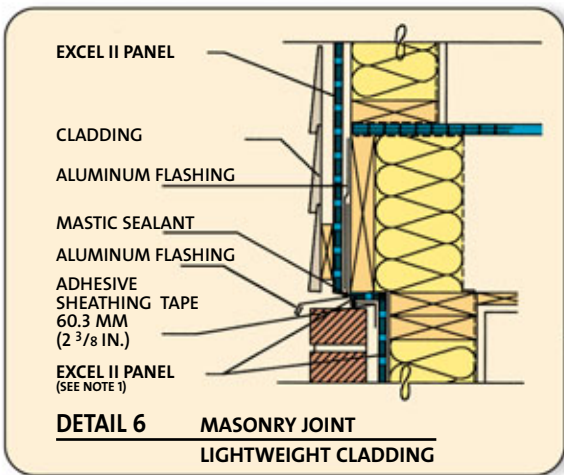
5) Apply sheathing tape over every joint. Make sure it overlaps the joint by at least 25.4 mm (1 in.) on either side, and by at least 50.8 mm (2 in.) for inward or outward corner joints.

N.B.: For extra air, water and sound proofing of the air barrier panel/tape system, over and above the use of sheathing tape, fill the joints with a mastic sealant, making sure not to overfill beyond the side of the joint (if necessary, use a compressible roll of closed cell neoprene foam).

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6) Do not cover sheathing until the installation has been inspected and approved by the architect.

7) Sheathing must be covered within 60 days of installation to protect it from the elements and UV rays.



## INSTALLATION OF FLASHING MEMBRANE

1) Install flashing membrane underneath the first row of masonry wall and to the foundation walls and floor tiles, on free lintels, underneath bases harbouring weep holes, below projected bases and any other areas as per the specifications outlined in the manufacturer's detailed renderings.

2) Install flashing membrane so it intersects the exterior cladding from the outer side of the wall and by raising the inner part at least 152.4 mm (6 in.) over the back wall.

3) Overlap joints by 152.4 mm (6 in.) and use a manufacturer recommended adhesive to seal.

**EMCO**  
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