

# Installation Procedures for Insulating and Air Sealing Interior Basement Walls



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## SAFETY AND CONDITIONS OF USE

### DuPont™ Great Stuff Pro™, DuPont™ Great Stuff™, and DuPont™ Enerfoam™

- Read the label and (Material) Safety Data Sheet carefully before use.
- **Great Stuff Pro™, Great Stuff™, and Enerfoam™** sealant and adhesive products contain isocyanate and a flammable blowing agent. Vapour may travel to other rooms. Ensure adequate ventilation. Shut off all pilot lights and extinguish open flames; eliminate all sources of ignition before use. Do not smoke or use lighters or matches while dispensing foam.
- Do not breathe vapour or mist. Use in well-ventilated areas or wear proper respiratory protection. Isocyanate is irritating to the eyes, skin and respiratory system, and may cause sensitization by inhalation or skin contact.
- Foam is very sticky and will adhere to most surfaces and skin. Do not get foam on skin. Wear long sleeves, gloves, and goggles or safety glasses. Cured foam must be mechanically removed or allowed to wear off in time.
- The contents are under pressure. The can may burst if left in areas susceptible to high temperatures, such as motor vehicles, or near radiators, stoves or other sources of heat. Do not place can in hot water. Do not puncture, incinerate or store at temperatures above 120°F (48°C).
- Cured foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F. Foam should not be used around heaters, furnaces, fireplaces, recessed lighting fixtures or other applications where the foam may come in contact with heat-conducting surfaces. For proper ventilation of combustion appliances, visit [www.epa.gov/iaq/homes/hip-ventilation.html](http://www.epa.gov/iaq/homes/hip-ventilation.html).
- Do not inject foam into large or confined cavities, such as behind holes in drywall or under tub wall surrounds, where flammable vapours may collect. Foam must be exposed to atmospheric moisture to thoroughly cure.

### DuPont™ Froth-Pak Foam Sealant™

- Read the label and Material Safety Data Sheets carefully before use.
- **Froth-Pak™ Foam Sealant** spray polyurethane foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Do not breathe vapor or mist. Use only with adequate ventilation. It is recommended that applicators and those working in the spray area wear respiratory protection. Increased ventilation significantly reduces the potential for isocyanate exposure; however, supplied air or an approved air purifying respirator equipped with an organic vapor sorbent and a particulate filter may still be required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus). Spraying large amounts of foam indoors may require the use of a positive-pressure, air-supplying respirator.
- Isocyanate is irritating to the eyes, skin and respiratory system, and may cause sensitization by inhalation or skin contact.
- **Froth-Pak™** foam will adhere to most surfaces and skin. Do not get foam on skin. Wear protective clothing (including long sleeves), gloves, and goggles or safety glasses. Cured foam must be mechanically removed or allowed to wear off in time.
- The contents are under pressure.
- **Froth-Pak™** foam should not be used around heaters, furnaces, fireplaces, recessed lighting fixtures or other applications where the foam may come in contact with heat-conducting surfaces. Cured **Froth-Pak™** foam is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F.

## INSTALLATION FOR RSI 2.11 (R-12) WALLS

### Materials Checklist

- DuPont™ Styrofoam™ Brand XPS Foam Insulation
- 19mm x 63mm or 19mm x 90mm (1" x 3" or 1" x 4") wood furring strips or thicker 39mm x 63mm (2" x 3" or 2" x 4") to provide space to run wiring
- Concrete fasteners, such as Buildex, Tapcon or equivalent concrete anchor screws (Phillips head) sized to accommodate furring, insulation and min. 25mm (1") penetration into concrete
- Drywall and attachment/finishing accessories
- Optional for temporary attachment: DuPont™ Great Stuff™ Construction Adhesive, DuPont™ Enerfoam™ Professional Foam Sealant, LOCTITE PL 300 or equivalent construction adhesive compatible with polystyrene foam
- *Optional: Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant\**

### Installation Instructions

1. Prepare walls. Walls should be clean, dry and free of dirt, oil, release agents or other loose materials that may impair adhesive bond. Note: Water intrusion issues should be addressed before installing insulation.
2. Air seal gaps and cracks around perimeter and projections using **Great Stuff Pro™ Gaps & Cracks**. (Figures A & B)
3. Measure and cut insulation boards with handsaw to fit wall space and accommodate projections.
4. To temporarily bond insulation board until furring strips are installed to wall, apply 12.7mm (1/2") diameter beads of polystyrene foam-compatible adhesive to the back and near the top of the **Styrofoam™ Brand insulation** boards. Position insulation board vertically, making sure they are plumb. Butt insulation boards tightly together. Alternatively, you may nail the top edge of the board to the sill plate (if sill plate is flush with the interior surface of the concrete wall). This will prevent air convection behind the insulation board.
5. Install furring strips in the foam slots and fasten to the underlying concrete foundation wall using Buildex, Tapcon or similar fasteners. Use four fasteners per furring strip. (Figure D) **Note: If using any product other than Styrofoam™ Brand Wallmate™ Insulation, skip this step.**
6. Install drywall to furring strips and finish according to manufacturer guidelines. (Figure E)





## INSTALLATION FOR RSI 3.08 (R-17.5) WALLS [QUÉBEC ONLY] AND RSI 3.52 (R-20) WALLS

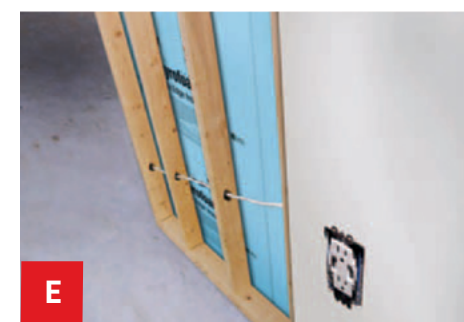
### Materials Checklist

- 25mm (1") DuPont™ Styrofoam™ Brand Insulation plus Rsi 2.11 (R-12) batt for Rsi 3.08 (R-17.5) wall solution
- 38mm (1.5") Styrofoam™ Brand Insulation plus Rsi 2.11 (R-12) batt or 25mm (1") Styrofoam™ Brand Insulation plus Rsi 2.46 (R-14) batt for Rsi 3.52 (R-20) wall solutions
- DuPont™ Great Stuff Pro™ Construction Adhesive, DuPont™ Enerfoam™ Professional Foam Sealant, LOCTITE PL 300 or equivalent construction adhesive compatible with polystyrene foam
- 39mm x 90mm (2" x 4") wood or steel framing for interior wall assembly
- 12.7mm (1/2") gypsum drywall and attachment/finishing accessories
- *Optional:* Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant\*

### Installation Instructions

**Note:** Before installing insulation, be sure there are no leaks or structural cracks in the wall. DuPont insulation products insulate the basement wall. They do not stop water leakage.

1. Prepare walls. Walls should be clean, dry and free of dirt, oil, release agents or other loose materials that may impair adhesive bond. Note: Water intrusion issues should be addressed before installing insulation.
2. Air seal gaps and cracks around perimeter and projections using **Great Stuff Pro™ Gaps & Cracks**. (Figures A & B)
3. Measure and cut insulation boards with handsaw to fit wall space and to accommodate projections.
4. To bond insulation boards to the wall, apply 12.7mm (1/2") diameter beads of polystyrene foam-compatible adhesive to the back of the **Styrofoam™ Brand Insulation** boards. Beads should be spaced 600mm (24") across the height of the board and 300mm (12") across the width of the board. Position insulation board vertically (plumb). Press board onto wall, pull board away and immediately press board against wall again. Hold until adhesive provides holding strength. Butt insulation boards tightly together. Alternatively you may nail the top edge of the board to the sill plate (if sill plate is flush with the interior surface of the concrete wall). This will prevent air convection behind the insulation board. (Figure C)
5. Build and install conventional 39mm x 90mm (2" x 4") wood or steel frame assembly against insulation boards. Stud spacing of 400mm (16") is recommended, but 600mm (24") is also acceptable. (Figure D)
6. Ensure the frame wall is plumb and well fastened at the top and bottom. Seal any space between the frame's top plate and the surface of the **Styrofoam™ Brand Insulation** with **Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant** to prevent air convection between the batt insulation and the Styrofoam™ Brand Insulation.
7. Install Rsi 2.11 (R-12) batt insulation in the frame cavity, ensuring all spaces are filled.
8. Install 0.15mm (6 mil) polyethylene vapour retarder as per usual practice.
9. Run wiring through framing as required. (Figure E)
10. Attach drywall to wood framing and finish according to drywall manufacturer guidelines.



## OPTIONS FOR INSULATING AND/OR SEALING RIM JOISTS

### Option A: Seal and Insulate

#### Products:

- DuPont™ Styrofoam™ Brand rigid foam insulation
- DuPont™ Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant or DuPont™ Enerfoam™ Professional Foam Sealants
- Great Stuff Pro™ Foam Dispensing Gun
- Great Stuff Pro™ Foam Cleaner

1. Prepare materials and area. Rim joist area should be clean, dry and free of dirt, cobwebs and other loose material that may impair sealant bond.
2. Measure and use a handsaw or utility knife to cut insulation board to fit snugly in the rim joist bay. Remove cut insulation from bay before applying foam sealant.
3. Consult "Safety and Conditions of Use" (page 2) before applying foam sealant.
4. Shake sealant can vigorously for 1 minute. Use in well-ventilated area.
5. Gun version: Attach gun to can. Open and adjust flow control knob and press trigger to dispense approx. 1" bead along joint/crack around the rim joist bay perimeter.  
or
6. Straw version: Attach straw to nozzle. Invert can and press nozzle lever to dispense approx. 1" bead along joint/crack around the rim joist bay perimeter.
7. Press insulation board back into rim joist bay area on top of sealant and press firmly against joist. Repeat steps for each bay.
8. Unless a drywall-finished ceiling is installed, a thermal barrier consisting of 1/2" drywall must be installed over the **Styrofoam™ Brand Insulation**. Cut pieces of drywall to fit each rim-joist cavity and attach to the **Styrofoam™ Brand Insulation** using polystyrene foam-compatible adhesive or **Great Stuff Pro™ Construction Adhesive**.



Option A

### Option B: Quick Seal

#### Products:

- Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant or Enerfoam™ Professional Foam Sealant
- Great Stuff Pro™ Foam Dispensing Gun
- Great Stuff Pro™ Foam Cleaner

1. Prepare materials and area. Rim joist area should be clean, dry and free of dirt, cobwebs and other loose material that may impair sealant bond.
2. Consult "Safety and Conditions of Use" before applying foam sealant.
3. Shake sealant can vigorously for 1 minute. Use in well-ventilated area.
4. Gun version: Attach gun to can. Open and adjust flow control knob and press trigger to dispense approx. 1" bead along joint/crack around the rim joist bay perimeter.
5. Straw version: Attach straw to nozzle. Invert can and press nozzle lever to dispense approx. 1" bead along joint/crack around the rim joist bay perimeter.
6. Repeat steps for each bay.



Option B

## Option C: Professionally Seal

### Product: DuPont™ Froth-Pak™ Foam Sealant, a two-component polyurethane foam sealant

1. Prepare materials and area. Rim joist area should be clean, dry, and free of dirt, cobwebs and other loose material that may impair sealant bond.
2. Cover articles, equipment and surrounding area to protect against overspray.
3. Refer to “Safe Handling Instructions” and “Tech Solutions 219.0 Froth-Pak™ Foam Insulation Kits (Class A) in Rim Joist Applications” at [www.insulateyourhome.ca](http://www.insulateyourhome.ca) before applying.
4. Use in a well-ventilated area. Ensure that the temperature of the Froth-Pak™ cylinders is above 70°F. Wear personal protective equipment (PPE) as prescribed in the Safe Handling Instructions.
5. Rock kit back and forth for 30 seconds to mix contents.
6. Attach fan spray nozzle to gun.
7. Hold nozzle 1’–2’ from surface and spray along top, bottom and side joints of rim joist bay (“picture frame”).
8. Spray back surface of rim joist to a maximum foam thickness of 2” (cured). Applying a wet spray thickness of 1/2” will typically expand to a cure thickness of 2”.

9. Repeat in next bay. If spraying stops for more than 30 seconds, the components react in the nozzle and plug it. If this happens, replace the nozzle. *Tip: Release a short spray into a disposable container (empty box or lined trash can) every 15–20 seconds during stoppages to prevent frequent nozzle replacement.*

**Note:** Unless a drywall-finished ceiling is installed, a thermal barrier consisting of 1/2” drywall must be installed over the **Styrofoam™ Brand Insulation**. Cut pieces of drywall to fit each rim joist cavity and attach to the **Styrofoam™ Brand Insulation** using polystyrene foam compatible adhesive or **Great Stuff Pro™ Construction Adhesive**.



Option C



For more information visit us at  
[building.dupont.com](http://building.dupont.com)  
or call 1-866-583-2583

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**CAUTION:** This product is combustible. Protect from high heat sources. A protective barrier or thermal barrier may be required as specified in the appropriate building code. For more information call the DuPont Contact Center at 866-583-2583 or contact your local building inspector. For emergencies contact Chemtrec 800-424-9300, CCN (Contract Number) 7442.

**WARNING:** Rigid foam insulation does not constitute a working walkable surface or qualify as a fall protection product.

Froth-Pak™ Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing (including long sleeves), gloves, goggles or safety glasses, and proper respiratory protection.

Do not breathe the vapor or mist. Use only with adequate ventilation. It is recommended that applicators and those working in the spray area wear respiratory protection. Increased ventilation significantly reduces the potential for isocyanate exposure; however, supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a particulate filter may still be required to maintain exposure levels below ACGIH, OSHA,

WEEL or other applicable limits. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure, air-supplying respirator (air line or self-contained breathing apparatus). Spraying large amounts of foam indoors may require the use of a positive-pressure, air-supplying respirator. Contents under pressure.

Great Stuff Pro,™ and Enerfoam™ sealant and adhesive products contain isocyanate and a flammable blowing agent. Read the label and MSDS carefully before use. Eliminate all sources of ignition before use. Wear long sleeves, gloves, and safety glasses or goggles. Provide adequate ventilation or wear proper respiratory protection. Contents under pressure.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including DuPont can give assurance that mold will not develop in any specific system.

When air sealing buildings, ensure that combustion appliances, such as furnaces, water heaters, wood burning stoves, gas stoves and gas dryers, are properly vented to the outside. Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including DuPont can give assurance that mold will not develop in any specific system.

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