



## POLARFOAM<sup>®</sup>SOYA: FOR A DURABLE FOUNDATION

A stable and watertight foundation is the first step to a successful structure. It keeps our buildings standing straight and dry for their lifetime. With climate stress, (freeze - thaw, rain, snow, ice), a number of forces act on your foundation which is often a source of problems: cracks, caused by movement, spalling due to water infiltration and wood rot due to poor water management. A simple and effective solution is to insulate the foundation from the exterior, below grade with Polarfoam Soya.



With an insulation value of **R-6/inch**, Polarfoam Soya, applied to a thickness of **2 1/2" (65 mm - R-15 for the insulation only)**, achieves the **R-17** (for the complete wall assembly) building code<sup>1</sup> requirement of residential foundation walls and exceeds the R-12. The product is sprayed from the exterior and provides continuous, fully bonded and seamless insulation. No seams to tape, no gaps to fill, no boards to glue in place, - one product, one application. Polarfoam Soya expands 30 times its initial volume in 5 seconds and self-seals the entire foundation. Polarfoam was tested below grade by the NRC<sup>2</sup> and the study concluded that the product retains all of its properties and does not absorb water over time.



## NEW CONSTRUCTION

In new buildings, insulation is often installed from the interior. Yet, the foundation can easily be accessed from the exterior and insulated on its cold side, below grade before backfilling, which is the preferred method of insulating a below grade foundation. Existing homes often have to be excavated to waterproof the foundation, as a result of water infiltration. Polarfoam can be sprayed on the entire surface of the foundation and even cover the footing to create a slope towards the drain. Applying Polarfoam Soya directly to the concrete, blocks or stone is recommended, depending on the type of foundation. Polarfoam Soya however is not a waterproofing product, so applying a polyurea, a bituminous coating, sprayed-on membrane or drainage membrane directly on the polyurethane is recommended in areas where water accumulates or the water table is above the footings.



⬡ The photo on the left shows a bituminous coating applied directly over spray polyurethane foam. The photo on the right shows a drainage membrane that will be lifted in front of the spray polyurethane foam as the soil is backfilled.



⬡ Polarfoam Soya is ideal for insulating old concrete or stone foundations from the exterior





The best way to insulate and waterproof the foundation while keeping cost low, is from the exterior while excavating an existing foundation or before backfilling a new foundation.



## AND RENOVATION



Foundation before being repaired



Foundation before being repaired



When an old foundation is excavated, it is the ideal time to insulate them by the exterior with spray polyurethane foam.



## BENEFITS

- High R value - Lower energy cost
- Perfect seal - Eliminates leaks and water damage
- Good adhesion over the entire surface - Will not sag or move over time - No air gaps between the insulation and the substrate.
- Quickly done - Saves times for projects completion
- Suitable for all details - Less complication for every details
- Fungi resistant - Has been tested for fungi and does not develop any
- Durable - Will not deteriorate over time
- Continuous seamless waterproof barrier - Prevents water infiltration
- Resistant to Flood damage<sup>3,4</sup> - Can stay in place after a flood
- GreenGuard Gold certified
- Applied exclusively by certified applicators



# FINISHING THE ABOVE-GRADE PORTION

What about the above-ground portion of the foundation? Many options are available but one of those is to simply install a structure (Z-bars are recommended) on the above-ground portion of the foundation only. This must be done before applying Polarfoam Soya. Once the insulation work has been completed, we recommend installing a light-cement board on the Z-bars, still only on the above-ground portion. A finish is then applied over the light-cement board, once the backfilling has been completed, to provide the desired appearance.



Example of the above-grade portion of the foundation.



During construction light concrete panel and finished coating

## POLARFOAM®SOYA, for a dry and energy efficient foundation

*Put on the market in 2006, Polarfoam Soya is a Canadian product made in Quebec with 18% recycled plastic bottles. DEMILEC has recycled over 426,000,000 plastic bottles to this date. Its installation does not generate any waste on the job site and the product is delivered in liquid form, in returnable or recyclable containers.*

### References ;

- <sup>1</sup> Quebec and Canada building code 2005 and 2010
- <sup>2</sup> In-situ Performance Evaluation of Exterior Insulation Basement System (EIBS) – Spray Polyurethane Foam Summary Report – IR-820F, NRC
- <sup>3</sup> Technical Bulletin 2, Flood Damage – Resistant Materials Requirements, FEMA, August 2008
- <sup>4</sup> Severe Weather and Closed-Cell Spray Foam: A Better Building Technology, Honeywell