







HEATLOKTM
SPRAY POLYURETHANE FOAM
SOYA

-  Zero Ozone
Depletion Substance
-  Recycled Plastics
-  Soya Oil
-  Durable



 **DEMILEC**

SUSTAINABLE DEVELOPMENT...

EVEN IN YOUR WALLS!

DEMILEC innovates by bringing a green solution to the challenges raised by the implementation of the Montreal Protocol with **HEATLOK™ SOYA**, a **sprayed polyurethane foam system** that does not contain any **Ozone Depletion Substance (Zero ODS)**. **HEATLOK™ SOYA** is the most technological advanced spray-applied polyurethane foam to meet the Canadian environmental regulations. **HEATLOK™ SOYA** is made in Boisbriand, Qc, Canada.

Meeting the Montreal Protocol's challenge (Zero ODS) since 2006, 4 years before the January 2010 deadline, DEMILEC – while maintaining the high quality and performance of their foam systems – has developed the expertise to embrace the ecological concern (the sustainable development approach) by introducing recycled plastics, renewable natural soya oil and water.

HEATLOK™ SOYA – a closed cell Spray Polyurethane Foam Insulation is of a unique ecological nature in North America. **DEMILEC** now recycles your plastic bottles into a Spray Polyurethane Foam and offers you in a one step application a performing and durable building envelope. This reduces not only your energy costs but also your energy consumption.

HEATLOK™ SOYA meets all the requirements of the National Building Code of Canada (NBC), exceeds the quality standards of CAN/ULC S705.1 type 2 for Thermal Insulation Spray Applied Rigid Polyurethane Foam, Medium Density, Material specifications and is approved by the Canadian Construction Material Center (**CCMC # 13244-L**).

HEATLOK™ SOYA, a green, high performance, closed cell rigid polyurethane foam used for insulation, is spray-applied exclusively by certified applicators in accordance with the CAN/ULC S705.2 (Standard for thermal Insulation Spray Applied Rigid Polyurethane Foam, medium density – Applicator's responsibilities), with an independent third party quality control inspection throughout Canada.

Due to its fast installation, **HEATLOK™ SOYA** decreases your construction costs while increasing the energy efficiency of your building envelope. The installation of 75 mm of **HEATLOK™ SOYA** on the exterior side of the walls can reduce up to 50% the energy consumption for heating and cooling purposes and increases the occupants comfort and the durability of the building.





HEATLOK™SOYA is ideal for use in walls, below grade exterior applications and cathedral ceilings.

HEATLOK™SOYA has been designed for use in the following building types :

- Commercial
- Residential
- Industrial
- Agricultural
- Institutional

The ideal Building Envelope System !

HEATLOK™SOYA is a system used to create a highly effective envelope which includes these three essential elements in one application :

- A High R value
- A Perfect air barrier
- A vapor barrier



Insulation :

Recognized Independent laboratory tests confirm that **HEATLOK™SOYA** provides a high efficiency of long term thermal resistance for a minimum thickness. Using **HEATLOK™SOYA** as the main insulation increases the thermal performance of the building envelope while reducing the depth of the walls. Conforming to CAN/ULC S 770, the long term thermal resistance (LTTR is ; (R-6 / 1") RSI 1,05 / 25mm.

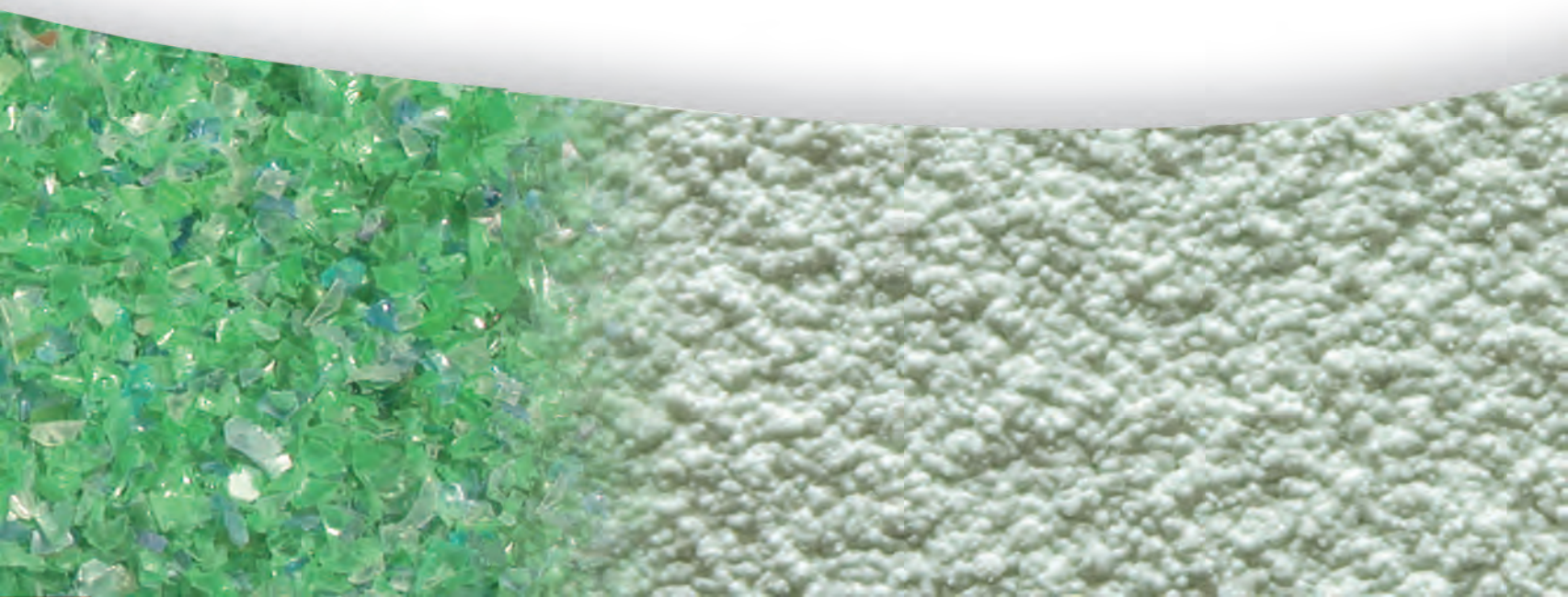
HEATLOK™SOYA is fully self-adhered to the substrate which makes your building much stronger and much stiffer. There is no air space between the insulation material and the substrate, no joints, no glue, no mechanical fasteners and no convection air movement. With **HEATLOK™SOYA** , you get 100% of the insulating value during the lifetime of the building.

Air barrier :

Research show that 40% of building heat loss can be attributed to air leakage through the building envelope. Tests for air leakage conducted by an independent laboratory recognized by the CCMC show that, 25mm of **HEATLOK™SOYA** exceeds 500 times the requirements of the NBC as an air barrier material.

- National Building Code requirements : Air barrier material = 0.02 L / (s.m²) @ 75 Pa
- Tested results of **HEATLOK™SOYA** :
Air barrier material, thickness 25 mm = 0.00004 L / (s.m²) @ 75 Pa

*These results confirm that **HEATLOK™SOYA** is one of the highest performing air barrier materials on the market and this feature is the key element in an air barrier system that meets the objectives of the NBC.*



By creating a high performance sealed air barrier and eliminating air exfiltration, **HEATLOK™SOYA** does not allow wall condensation that can often result in mold, mildew and wall degradation. **HEATLOK™SOYA** fully adheres to provide a seamless, monolithic air barrier that conforms to irregular shapes and allows easy detailing around penetrations. Its closed cell rigid polyurethane foam formulation creates an **effective, rigid, seamless and durable** air barrier.

Vapor Barrier :

Water vapor permeance is the speed to which water vapor goes through a homogeneous material. The National Building Code, stipulates that a vapor barrier must have a water vapor permeance less than 1.05 PERM (60 ng/Pa•s•m²).

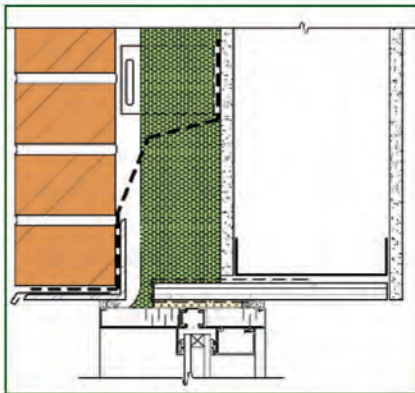
- 75 mm of **HEATLOK™SOYA** spray applied on an exterior gypsum board = 29 ng / Pa•s•m² (0.51 PERM).
- 75 mm of **HEATLOK™SOYA** spray applied on an exterior plywood = 20 ng / Pa•s•m² (0.35 PERM).
- 75 mm of **HEATLOK™SOYA** spray applied on concrete blocks = 08 ng / Pa•s•m² (0.14 PERM).


When a building envelope assembly contains only a plastic foam as insulating material and that the permeance rate of this assembly is less than 1.05 PERM (60 ng/Pa•s•m²), this assembly (NBC Art. 9.25.2.2.6) does not need any additional vapor barrier. As far as sustainability of the building envelope is concerned, in normal usage of the building, it is imperative to have a perfect continuity of the air barrier material which is much more important than the performance of the vapor barrier that controls diffusion only.

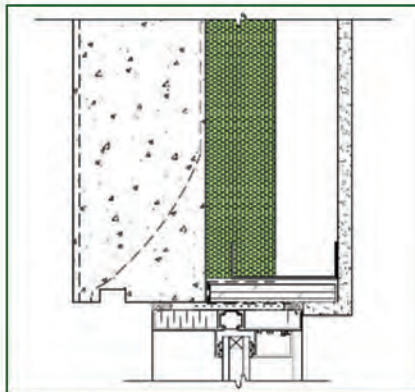
Mold resistant :


Resistance tests have been performed in independent laboratories and confirm that the product resists to mold and mildew and does not contribute in any way to their growth. Furthermore, **HEATLOK™ SOYA** resists to water and humidity. There is no food source in the rigid insulation product.

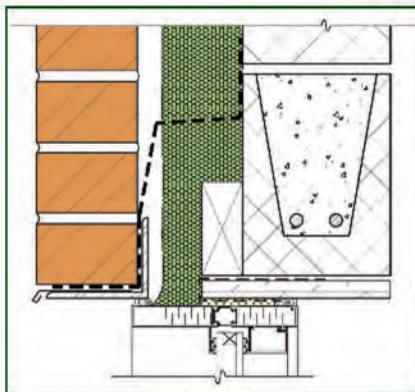





STEEL STUD WALL		
Spray by the exterior		
75mm (3") of 		
Thermal resistance (wall assembly)	3,9 RSI	22 R
<small>(Source of data: National Energy Code of Canada)</small>		
Water vapor permeance (no additional vapor barrier)	29 NG/(Pa·s·m ²)	0,51 Perm
Air barrier system	0,005 L·s/m ² @ 75 Pa	



PREFAB CONCRETE PANEL		
Spray by the interior		
75mm (3") of 		
Thermal resistance	3,7 RSI	21 R
<small>(Source of data: National Energy Code of Canada)</small>		
Water vapor permeance (no additional vapor barrier)	08 ng/(Pa·s·m ²)	0,14 Perm
Air barrier (Assembly)	< 0,05 L·s/m ² @ 75 Pa	



CONCRETE BLOCK WALL		
Spray by the exterior		
75mm (3") of 		
Thermal resistance	3,7 RSI	21 R
<small>(Source of data: National Energy Code of Canada)</small>		
Water vapor permeance (no additional vapor barrier)	08 ng/(Pa·s·m ²)	0,14 Perm
Air barrier system	0,005 L·s/m ² @ 75 Pa	

DEMILEC optimizes the quality and the durability of your construction projects with its building envelope product **HEATLOK™ SOYA**, which reduces energy consumption, air leakage as well as water vapor diffusion in your buildings.

Sustainable and Ecological Design

HEATLOK™ SOYA's engineered building envelope systems also contribute to construction projects by allowing additional credits for the Canadian Green Building rating system. "Leadership in Energy and Environmental Design (LEED) program". LEED aims to improve occupant well-being, environmental performance and economic returns of buildings using established and innovative standards and technologies like **HEATLOK™ SOYA**.

Greenguard Gold

In addition to the CAN/ULC S774 mandatory testing, HEATLOK SOYA is tested every 3 months by the UL laboratories regarding the VOC content to be Greenguard Gold certified.





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Factories
Distribution centers

DEMILEC is a well-known leader in research, development, manufacturing and marketing of high quality spray polyurethane foam insulation. For more than 30 years, **DEMILEC** has been offering a wide range of innovative products to its customers in the construction, refrigeration and transport industries as well as nautical and various consumer products. Its head office, research center and Canadian production manufacture are situated in Boisbriand, Quebec. A second plant dedicated to manufacturing with state of the art equipment is located in Arlington, Texas for the USA and international market.



www.demilec.com

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By using this paper, **DEMILEC** helps to save these resources :

TREES SAVED	WATER SAVED	NET GREENHOUSE EMISSIONS REDUCED	WOOD SAVED	LANDFILL REDUCED	ENERGY REDUCED
203 TREES	175 632 GALLONS	32 191 LBS	108 260 LBS	17 672 LBS	180 734 (BTU) (KWh)

