

# FOAMSULATE ECO™

*Medium Density Closed Cell Polyurethane Spray Foam System*

**TYPE 2 LTTR      CCMC 13527-L**

**Air Barrier System      CCMC 13583-R**

## DESCRIPTION

Premium Spray Products' FOAMSULATE ECO™ system is a true "Green" spray applied rigid polyurethane foam that contains rapidly renewable Soya, Corn, Sugar and Castor based polyols as well as recycled products derived from pre and post consumer products. FOAMSULATE ECO™ has a distinct colour of Georgian Pine green and is truly Green in nature, chemistry, colour and performance.

FOAMSULATE ECO™ meets the CAN/ULC 705.1 requirements and has a listing number of CCMC 13527-L for stud walls and CCMC 13583-R when used as part of an Air Barrier System.

FOAMSULATE ECO™ utilizes, zero ozone-depleting substances and is designed for use in commercial and residential construction applications that involve the National Building Code of Canada. Foamsulate Eco™ must be applied by licensed installers that follow the CAN/ULC S705.2 program. Premium Spray Products Canada utilizes Exova to administer our site quality assurance plan.

FOAMSULATE ECO™ provides the highest rated TYPE 2 LTTR insulation value while also meeting requirements as a vapour barrier and air barrier. Other benefits include reductions in noise, dust, pollen, pest infiltrations and significant improvements on structural racking strength of wall assemblies. FOAMSULATE ECO™ is available in three reactivities including winter, spring/fall and summer.

## ADVANTAGES

- *High R-value*
- *High Yield*
- *CCMC #13583-R listed Air Barrier*
- *Vapour Barrier*
- *Low Viscosity Resin*
- *Ease of Application*
- *High closed cell content*
- *Zero ODP*
- *Seamless Insulation*

For proper use of FOAMSULATE ECO™ spray foam, please refer to the PSP Foamsulate Installer Manual and the CAN/ULCS705.2 Rigid Polyurethane Foam Medium Density Application standard.

# Technical Data Sheet

**FOAMSULATE ECO™ TESTED PHYSICAL PROPERTIES**

Property	CAN/ULC 705.1 Requirements	Metric Value (Imperial) Foamsulate-Eco™ values	Test Method
Core Density	≥28 kg/m <sup>3</sup>	37 kg/m <sup>3</sup> (2.3 lb ft <sup>2</sup> )	ASTM D1622
Compressive Strength	≥170 kPa	282 kPa (41 psi)	ASTM D1621
Tensile Strength	≥200 kPa	406 kPa (59 psi)	ASTM D1623
Dimensional Stability -	At -20C	≥-1	ASTM 2126
	At 80C	≥-1; ≤+8	1.6
	At 70C, 97% ± 3% RH	≤+14	2.0
Open Cell Content	≤8 % by volume	5 %	ASTM D2856
Water Absorption	≤4 % by volume	0.3 %	ASTM D2842
Water Vapour Permeance	≤60 ng/(PAsm <sup>2</sup> )	58 ng/PAsm <sup>2</sup>	ASTM E96
Air Permeance	≤0.02 L/s @ 75 Pa(1.57 lbf <sup>2</sup> )	0.0005	
Flame Spread	≤500	295	CAN/ULC-S102/S127
Flame Spread	NA	(20)	ASTM E84
Smoke Developed	NA	(300)	ASTM E84
Volatile Organic Compounds (VOC)*	Declare	24 hours	CAN/ULC-S774
Initial R value	Declare	2.26 (R6.6)	ASTM C 518
LTTR (Long Term Thermal Resistance) (for 50 mm sample)	1.8 m <sup>2</sup> K/W for Type 1	<b>2.0 TYPE 2 (R5.7)</b>	CAN/ULC-S770
	2.0 m <sup>2</sup> K/W for Type 2		

*\*Independent lab results conducted at SRC conducting VOC testing for Foamsulate-Eco indicated a time to occupancy of 1 hour.  
CCMC minimum allowable limit for VOC/occupancy is 24 hours with 0.3 air changes per hour.*

**Long Term Thermal Resistance - TYPE 2**

Thickness mm (inches)	R Value per inch °F · ft <sup>2</sup> · hr / BTU · in	R Value total at thickness °F · ft <sup>2</sup> · hr / BTU · in	RSI K·m <sup>2</sup> /W
50 mm (2 inches)	5.7	11.4	2.0
75 mm (3 inches)	5.8	17.4	3.0
100 mm (4 inches)	5.9	23.6	4.1

\*LTTR is a predicted value for closed cell foams to simulate a 5 year aged specimen at various thicknesses. However, LTTR still utilizes the old style small scale R value test and is, in PSP Canada's opinion, not an accurate measurement of insulation and the broad scale field performance of any spray foam.



## APPLICATION INFORMATION

### STORAGE AND USE OF CHEMICALS

Cold A & B components can cause poor mixing, pump cavitation, or other process problems due to higher viscosity. Condition and maintain the liquid components in each drum to 60-80°F prior to use, do not exceed 90°F. Do not store in direct sunlight or weather. Keep drums tightly closed when not in use. Shelf life of resin (B component) is six months from date of manufacture.

### SAFE HANDLING OF LIQUID COMPONENTS

When removing bungs from containers use caution, contents may be under pressure. Loosen bung first and let any built up gas escape before completely removing. Avoid prolonged breathing of vapors. All individuals in contact with Foamsulate-Eco and Foamsulate Iso liquids should have access and familiarize themselves to the MSDS. Kit sizes are 454 kgs (227kg A and 227kg B).

### EQUIPMENT AND COMPONENT SETTINGS

Polyurethane foam systems should be processed through 1:1 fixed ratio spray equipment. FOAMSULATE-ECO™ B-side (white drum) is connected to the resin pump and the FOAMSULATE A-side (black or red drum) is connected to the isocyanate pump. The pre-heater should be set between 100-120°F (38°C-49°C) and the hose heat is able to maintain  $\pm 5^\circ$  F of the primary temperature right to the spray gun. Proportioner pumps must be able to maintain at least 1000 psi output during spray (dynamic spray pressure). Foamsulate Eco has varying reactivities of system depending on the ambient conditions with winter reactivity being labeled as FF, Spring/Fall reactivity being SF and summer reactivity being RG.

### APPLICATION GUIDELINES

15-50 mm (1/2 inch to 2 inch) is the required thickness per pass per of Foamsulate Eco as per CAN/ULC 705.2. Allow adequate time between each pass to allow the foam core to cool to ambient condition prior to applying next pass. Too thick a pass or inadequate time allowed between passes can result in scorching within the core of the foam products and possible fire or at the very least an unpleasant odour from the cellular plastic. Multiple passes can be applied to reach the desired thickness and insulation value but just ensure temperature of the core is at or near ambient temperature. Long term exposed applications should be protected from UV exposure with the use of a protective coating (project examples are tank or exposed ducting related applications). When in doubt follow CAN/ULC S705.2 guidelines for application limitations and protocol for residential and commercial applications.

Ambient Temperature guidelines for application of Foamsulate Eco™: (temperature will vary depending on substrate type and wind)

Winter FF	-10°C to +10°C (-14°F to 50°F)
Spring Fall SF	0°C to +20°C (32°F to 68°F)
Summer R	+15°C to +40°C (60°F to 104°F)

### CODE COMPLIANCE

The National Building code of Canada requires the use of a thermal barrier such as ½ inch gypsum board over any exposed cellular plastic insulation for occupied spaces within a dwelling.

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