

### (MD-C-200v3)

### THERMAL INSULATION AND AIR BARRIER CCMC 13683-L

Specification Sections: 07 21 19 Foamed-in-Place Insulation, 07 27 00 Spray Polyurethane Foam Air Barriers

#### PRODUCT DESCRIPTION

Icynene ProSeal™ is a spray-in-place is a closed cell spray applied polyurethane foam insulation and air barrier material. Icynene ProSeal™ has Type 2 thermal resistance performance and meets the requirements of CAN/ULC-S705.1-01 (with Amendments No. 1, 2 and 3). The product is for use as a thermal insulation and air barrier in:

- exterior walls as continuous insulation
- wall cavities
- floors separating living spaces from a garage
- cathedral ceiling assemblies
- overhanging floor assemblies
- interior, exterior below-grade foundation walls

#### PROPERTIES OF CURED FOAM

Characteristic	Test Method	Value Metric (Imperial)
Core Density	ASTM D 1622	38.2 kg/m <sup>3</sup> (2.4 lb/ft <sup>3</sup> )
Colour		Platinum
Long Term Thermal Resistance at 50 mm	CAN/ULC- 770-03	2.02 (m <sup>2</sup> ·K)/W Type 2 (R12 at 2")
Long Term Thermal Resistance at 25 mm		1.0 (m <sup>2</sup> ·K)/W (R6 at 1")
Long Term Thermal Resistance at 75 mm		3.1 (m <sup>2</sup> ·K)/W (R18 at 3")
Conditioned Thermal Resistance at 50 mm	ASTM C 518	2.3 (m <sup>2</sup> ·K)/W (R13 at 2")
Initial Thermal Resistance at 50 mm	ASTM C 518	2.4 (m <sup>2</sup> ·K)/W (R14 at 2")
Air Permeance at 35mm	ASTM E 2178	0.0005 L/s.m <sup>2</sup>
Water Vapour Permeance at 50 mm	ASTM E 96	34 ng/Pa.s.m <sup>2</sup> (0.6 perm at 2")
Open Cell Content (by Volume)	ASTM D 6226	2%
Compressive Strength	ASTM D 1621	262 kPa (38 psi)
Tensile Strength	ASTM D 1623	283 kPa (41 psi)

Dimensional Stability at 28 days (Volume Change)	ASTM D 2126	-0.1% at -20°C
		-0.5% at 80°C
		12.1% at 70°C and 97% RH
Water Absorption (by Volume)	ASTM D 2842	0.6%
Surface Flame Spread Rating	CAN/ULC-127	340
Smoke Developed Classification	CAN/ULC-102	325
Time to Occupancy <sup>1</sup>	CAN/ULC-S774	24 Hours
Fungus Testing	ASTM C 1338	No growth

<sup>1</sup> Volatile organic compound (VOC) emissions were evaluated in accordance with CAN/ULC-S705.1 requirements.

#### AIR BARRIER/ MECHANICAL VENTILATION

- Icynene ProSeal™ fills any shaped cavity, and adheres to most construction materials, creating assemblies with very low air permeance.
- Additional interior or exterior air infiltration protection is subject to applicable codes.
- All buildings insulated and air sealed with Icynene ProSeal™ must be designed to include adequate mechanical ventilation/ outdoor air supply.
- For mechanical ventilation see CAN/CSA F-326 - Residential Mechanical Ventilation, HRAI (Heating, Refrigeration and Air Conditioning Institute of Canada) Digest, ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) guidelines, or any other acceptable good engineering practice.

#### BURN CHARACTERISTICS

- Icynene ProSeal™ is a combustible product and is therefore, consumed by flame, but will not sustain flame upon removal of the flame source. It leaves a charred foam residue. It will not melt or drip.
- Icynene ProSeal™ is subject to all applicable National and/ or Provincial building codes regarding fire prevention. Requirements for thermal barrier coverings must be met as per the applicable building code having jurisdiction.



## PLASTIC PIPING

- Icynene ProSeal™ is compatible in direct contact with the following piping systems, as per Paschal Engineering Study:
  - CPVC
  - ABS
  - PVC
  - PP-R

## INSTALLATION

- Icynene ProSeal™ is installed by a network of Licensed Dealers, trained in its installation.
- Maximum thickness per each pass is 50 mm (2"). Wait until first layer cools before applying a second layer/lift over the initial layer/lift.
- This product should not be installed within 76 mm (3") of heat emitting devices or where the temperature is in excess of 82°C (180°F), as per ASTM C411 or in accordance with applicable codes.
- It can be installed in hot, humid or freezing conditions.
- Surface preparation is generally not necessary.
- Within seconds the foaming process is complete.

## AVAILABILITY

Contact Icynene Inc. at 800-758-7325 or visit our website at [www.Icynene.com](http://www.Icynene.com).

## WARRANTY

WHEN INSTALLED PROPERLY IN ACCORDANCE WITH INSTRUCTIONS, THE COMPANY WARRANTS THAT THE PROPERTIES OF THE PRODUCT MEET PRODUCT SPECIFICATIONS AS OUTLINED IN THIS TECHNICAL DATA SHEET. SAVE AND EXCEPT ANY EXCLUSIONS REFERENCED IN THE WARRANTY.

## TECHNICAL

Icynene Licensed Dealers and Icynene Inc. provide support on both technical and regulatory issues. Architectural specifications in CSC 3-Part format and design details are available at our website at [www.Icynene.com](http://www.Icynene.com).

## REGULATORY

Icynene ProSeal™ has been independently evaluated by the Canadian Construction Materials Centre (CCMC). For regulatory issues concerning Icynene ProSeal™ in Canada, please see CCMC Evaluation Report 13683-L, The NBCC (National Building Code of Canada) or applicable Provincial Building Codes.

## RELATED REFERENCES

All physical properties were determined through testing by accredited third party agencies. Icynene Inc. reserves the right to change specifications in its effort of continuous improvement. Please confirm that technical data literature is current.

## PACKAGING AND STORAGE

- Packaging - 55 US gallon, closed top steel drums
- Component 'A' – 550 lb. per drum. Base Seal® MDI
- Component 'B' – 500 lb. per drum. Icynene ProSeal™ Resin
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- Icynene ProSeal™ (Component A) and (Component B) ideally should be stored between 15°C (60°F) and 29°C (85°F).
- Component A should be protected from freezing.
- Shelf life is 12 months.



**ICYNENE**®  
The Evolution of Insulation™

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Updated June 2014

# HEALTH & SAFETY

## CERTIFIED ICYNENE SPRAYER

Icynene products have an excellent health and safety record spanning more than 350,000 insulation projects over more than 25 years. Nonetheless, safe handling practices during and immediately following installation are required to eliminate the possibility of health effects from exposure to isocyanates. Asthma, other lung problems, and irritation of the nose and throat can result from inhalation of isocyanates. Direct contact with the skin and eyes can result in irritation. Different individuals will react differently to the same exposures; some will be more sensitive than others. Severe asthma attacks have been reported in some sensitized workers exposed repeatedly to isocyanates while not wearing proper protective equipment. Some reports indicate a reaction and sensitization can occur following a single, sustained occupational exposure to isocyanates without proper protective equipment above the OSHA permissible exposure limit. But sensitization might not occur immediately in some individuals. Consistent use of personal proper protective equipment to prevent exposure during spraying and within the 24 hour-period after spraying is completed is critical to eliminating the health hazard. Once sensitization has occurred, a worker might not be able work safely with spray foam insulation again.

Sprayers, sprayer helpers, and anyone else present during spraying or within 24 hours after spraying is complete: You must wear proper Personal Protective Equipment (PPE) at all times during spray, including full-body-coverage, chemical-protective clothing and a NIOSH-certified respirator with fresh air supply. While spraying and for 24 hours after spraying is completed, no one must be allowed within 50 feet of the sprayed foam without wearing this type of PPE at all times. Adequate active, negative pressure ventilation (exhaust fans) of the job site must be in place during spray and for 24 hours after spray is complete.

Independent studies indicate that with 24 hours' active ventilation after spraying is completed, Icynene spray foam insulation is safely cured.



SL-505-01 Updated January 2013

# HEALTH & SAFETY

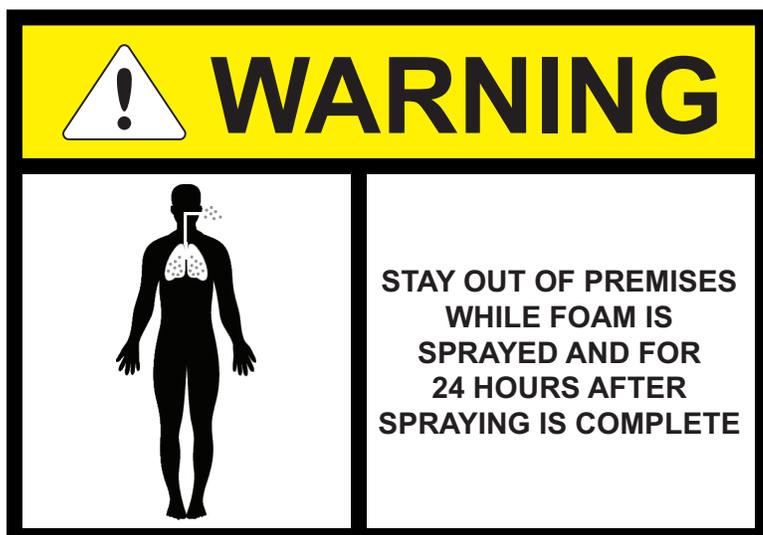
## HOMEOWNERS

COMMITTED TO THE RESPONSIBLE USE OF SPRAY FOAM CHEMISTRY FOR OVER 25 YEARS.

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Everyone (other than Icynene-certified spray technicians) must vacate the job site, remaining completely out of the building or at least 50 feet away, while the spray is applied and for at least 24 hours after spraying is completed to allow active ventilation of the job site and to ensure the foam chemicals are completely cured. *No exceptions.*

Independent studies indicate that with 24 hours' active ventilation after spraying is completed, Icynene spray foam insulation is safely cured.



SL-506-02 Updated March 2013