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ICYNENE MD-C-200™v2

ICYNENE MD-C-200i v2 is a closed-cell medium density spray applied polyurethane foam insulation and air barrier material. The insulation is applied at a nominal density of 2 lb/ft³. ICYNENE MD-C-200i v2 meets the requirements of CAN/ULC-S705.1. The insulation is for use in wall cavities, floor assemblies, ceiling assemblies and attics and crawl spaces.

CCMC# 13593-L

PHYSICAL PROPERTIES

Characteristic	Test Method	Details	Imperial	Metric	CAN/ULC-S705.1-05 *
					Requirement
Core Density	ASTM D 1622		2.19 lb/ft ³	35 kg/m ³	> 28 kg/m ³
Initial Thermal Resistance	ASTM C-518	2" - 50 mm	R - 6.8 per inch	RSI:2.4 m ² K/W	Declare
Long Term Thermal Resistance	CAN/ULC S 770	1" - 25 mm	R - 5.5 per inch	RSI: 0.96 m ² .K/W	Type 1 Min. 1.8
		2" - 50 mm	R - 5.6 per inch	RSI: 1.93 m ² .K/W	
		3" - 75 mm	R - 5.9 per inch	RSI: 3.05 m ² .K/W	
Open Cell Content	ASTM D 2856		< 5%	< 5%	< 8%
Fungi Growth	ASTM G 21		No Growth	No Growth	N/A
PBDE's			None	None	N/A
Flame Spread	CAN/ULC S102/S127	FSI	290	290	<500
Air Permeance	ASTM E 2178	@ 75 Pa		0.0006 L/s.m ² @ 2"	< 0.02 L/s.m ²
Tensile Strength	ASTM D 1623		71 psi	488 kPa	> 200 kPa
Compressive Strength	ASTM D 1621		38 psi	259 kPa	> 170 kPa
Colour			Platinum	Platinum	
Dimensional Stability (% volume change)	ASTM D 2126	80°C (176° F) and ambient R.H.	2.50%	2.50%	- 1% to + 8%
Dimensional Stability (% volume change)	ASTM D 2126	-20°C (-4° F) and ambient R.H.	0.10%	0.10%	< -1%
Dimensional Stability (% volume change)	ASTM D 2126	70°C (158° F) and 97% humidity	4.60%	4.60%	< +14%
Water Absorption by volume	ASTM D 2842		0.40%	0.40%	Max 4%
Water Vapor Permeance	ASTM E 96		0.98 perm @ 2"	56 ng/Pa's.m ²	<60 ng/Pa's.m ²
VOC's	CAN/ULC-S774		Passed	Passed	Pass

* Amendments 1 & 2

Disclaimer: Data presented in this document is based on tests and information, which we believe to be reliable. This document is provided for information purposes only and does not constitute a warranty, expressed or implied, including any warranty of merchantability or fitness. This data is relied upon at the sole discretion and judgement of user/reviewer.

ICYNENE MD-C-200™v2 should not be left exposed and must be protected by an approved thermal barrier as required under code ICYNENE MD-C-200™v2 must be installed in accordance with CAN/ULC S705.2 and Icynene's Site Quality Assurance Program (SQAP) Consult CAN/ULC S705.2 for guidance on substrate preparation Only Icynene Certified Installers can install ICYNENE MD-C-200™v2

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LIQUID COMPONENTS PROPERTIES

Property	Isocyanate	Resin
Color	Brown	Black
Viscosity @ 25° C	350 cps	290 cps
Shelf Life*	12 months	12 months
Mixing ratio (volume)	100	100

(*) Resin and Isocyanate should be stored at 15 to 30° C (60 to 85° F).

See MSDS for more information

RECOMMENDED PROCESSING CONDITIONS

When the ICYNENE MD-C-200i v2 has been charged into the system, check all screens before spraying

Drum Temperature in use: 15 to 30° C (60 to 85° F)

Spray temperatures, primary heaters and hose heat: 32 to 65_C (90 to 150_F)

Surface Temperature: -5_C to 50_C (23_F to 122_F)

Spray Pressure (dynamic): 1000 to 1500 psi

Distance from substrate: 45 to 60 cm (18" to 24")

The spray gun shall always be held perpendicular to the substrate

Can be sprayed in either a horizontal or vertical motion, but need to overlap and build material to get desired thickness

REACTIVITY PROFILE

Cream time	2 sec.
Gel Time	9 sec.

Tack Free Time	14 sec.
End of Rise	4 sec.

HEALTH & SAFETY CONSIDERATIONS

Handling Recommendations

Use personal protective equipment (see MSDS)

Avoid all contact with skin and eyes

Do not inhale the vapors

Do not store in conditions outside of the recommended parameters

In case of a spill / leak, see MSDS.

For more information, please consult the MSDS

Application Safety

While spraying, always work with adequate ventilation.

Protective gloves, overalls, eye protection, safety shoes, hard hats and a properly fitting breathing apparatus supplying fresh air must be worn by the installers (and others working within 50 feet of the installers) at all times while spraying.

Persons with known respiratory allergies must avoid exposure to the isocyanate component.

If inhalation of the vapors occurs, remove the person from the working area to breathe fresh air and if breathing is still difficult, call a physician.

Avoid contact with eyes, skin and clothing.

In case of eye contact, immediately flush with large amounts of water for at least 15 minutes and call a physician immediately.

In case of skin contact, wash area with soap and water.

Wash any clothing that has come into contact with the isocyanate or resin before reuse.

Do not apply in excess of 2 inches (50 mm) per pass due to product exotherm.

To do so, may create a fire hazard

Wait until the 1st pass/lift cools completely before applying a second pass/lift.

Fire hazard

Fires involving either component may be extinguished with carbon dioxide, dry chemical or an inert gas. Application of large quantities of chemical spray is recommended for spill fires.

Personnel fighting the fire must be equipped with self-contained breathing apparatus.

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.



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