## **Technical Data Sheet - US**



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# **ICYNENE MD-C-200™**

ICYNENE MD-C-200<sup>™</sup> 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/cu ft. MD-C-200<sup>™</sup> is used as a thermal insulation material in buildings in accordance with the IRC and the IBC in buildings of Type V construction and may be applicable to Types I, II, III and IV construction. The insulation is for use in wall cavities, floor assemblies, ceiling assemblies and attics and crawl spaces.

### PHYSICAL PROPERTIES

	Test			AC 377
Characteristic	Method		Result	Requirement
Core Density	ASTM D1622		2.17 pcf	As Reported
Aged - 1" (aged 90 days) @ 140℉	ASTM C518		6.5 @ 1"	As Reported
Aged - 4" (aged 180 days) @ 70F	ASTM C518		27.0 @ 4"	As Reported
Aged - 1" based on 4" thickness	ASTM C518		6.75 @ 1"	As Reported
Max. Thickness per Pass			2 inches	
Open Cell Content	ASTM D2856		2.90%	
Water Vapor Permeance	ASTM E96		0.884 perms @ 1.5"	< 1 perm
Air Permeance	ASTM E283		1" min. thickness	< 0.02 L/s.m2
Dim. Stability -20℃, 7 days	ASTM D2126	VOL %	1%	15 % max.
Dim. Stability 80℃, 7 days	ASTM D2126	VOL %	1%	15% max.
Dim. St. 70℃, 97% RH, 7 days	ASTM D2126	VOL %	6%	15% max.
Compressive Strength	ASTM D1621		28 lb/in2	15 lb/in2 min.
Tensile Strength	ASTM D1623		46 lb/in2	15 lb/in2 min.
Surface Burning FS @ 4"	ASTM E84		< 25	≤ 75
Surface Burning SDI @ 4"	ASTM E84		< 450	≤ 450
Commercial Fire Resistance	NFPA 285		Assembly Passed	
Commercial Fire Resistance	ASTM E119		1 Hour Rating	
DC-315 Thermal Barrier	NFPA 286	22 wet mils	> 15 minutes	15 minutes
Attic & Crawl Space walls & roof	NFPA 286 X	12" thickness	no coating required	
Wall & Ceiling application	NFPA 286		11 1/4" max.	
Fire Propogation of exterior wall	NFPA 285		Passed	
Hourly rated wall assembly	ASTM E119		60 minutes	
Fungus Testing	ASTM C1338		no growth	

**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 mechantability or fitness. This data is relied upon at the sole discretion and judgement of user/reviewer.

It is the installers responibility to ensure that the use and installation of this product complies with all applicable national and local building codes.



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# ICYNENE MD-C-200™

#### LIQUID COMPONENTS PROPERTIES

Property	Isocynanate	Resin
Color	Brown	Light Brown
Viscosity @ 25° C	200 cps	1400 cps
Shelf Life*	12 months	6 months
Mixing ratio (volume)	100	100

(\*) Resin and Isocynanaate should be stored at 60°- 85° F

See MSDS for more information

#### **RECOMMENDED PROCESSING CONDITIONS**

Open B-side drums carefully

When the MD-C-200<sup>™</sup> has been charged into the system, check all screens before spraying

Pre-heat drum temperatures: 50 - 80° F

Spray temperatures, primary heaters and hose heat: 120 - 130° F

Recommended Chamber size: 01 round (AR 4242)

Pressure setting: 1400 - 1500 Psi

Spray Gun distance from substrate: 12" - 24"

Can be sprayed in either a horizontal or vertical motion, but need to overlap and build material to get desired thickness Distance from substrate and spray motion will vary between cavity or flat open surface spray application **Maximum Thickness Per Pass** 2"

## REACTIVITY PROFILE

Cream time	1-2 sec		
Tack Free Time	4-7 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	<ul> <li>While spraying, always work with adequate ventilation.</li> <li>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 25 feet of the installers) at all times while spraying.</li> <li>Persons with known respiratory allergies must avoid exposure to the lsocyanate component.</li> <li>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.</li> <li>Avoid contact with eyes, skin and clothing.</li> <li>In case of eye contact, immediately flush with large amounts of water for at least 15 minutes and call a physician immediately.</li> <li>In case of skin contact, wash area with soap and water.</li> <li>Wash any clothing that has come into contact with the lso or resion before reuse.</li> <li>Do not apply in excess of 2' (50mm) per pass due to product exotherm, to do so may create a fire hazard Wait until 1st layer cools before applying a second layer / lift over an initial layer / lift</li> </ul>
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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