



Technical Data Sheet - USA

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ICYNENE ProSeal Eco™ (MD-R-210)

ICYNENE ProSeal Eco™ (MD-R-210) is a 100% water-blown, closed cell, 2.0 lb. spray applied polyurethane foam insulation and air barrier material. It delivers the higher R-value, cell structure and Class II water vapor permeance required in certain climate zones and design specifications, but with far less environmental impact. Designed to address installers' long standing desire for a 2.0 lb closed -cell product with better yield, consistency and ease of application, it also offers more aggressive adhesion with various substrates and low odor at time of installation.

PHYSICAL PROPERTIES

Characteristic	Test Method		Result	AC 377 Requirement
Core Density	ASTM D1622		2.2 lb/ft ³	As Reported
Aged Thermal Resistance - 1" (180 days)	ASTM C518		R-4.9 @ 1"	As Reported
Thermal Resistance			R-15 @ 3"	
Max. Thickness per Pass			2 inches	
Color of Final Foam			Cream	
Water Vapor Permeance	ASTM E96	Class II	<1 perm @ 2.4"	< 1 perm
100% Water Blown Technology			Yes	
Ozone Depleting			No	
Global Warming Potential Factor			1	
Recycled Content	ASTM D 6866		6%	
Air Permeance	ASTM E 2178	@ 75 Pa	0.00049 L/(s.m ²) @ 1.3"	< 0.02 L/s.m ²
Water Absorption	ASTM D 2842		<0.69 %	
Dimen. Stability -20°C and ambient RH	ASTM D 2126	Vol %	3.4%	15% max.
Dimen. Stability 80°C and ambient RH	ASTM D 2126	Vol %	3.1%	15% max.
Dimen. Stability 70°C and 97% RH	ASTM D 2126	Vol %	3.2%	15% max.
Compressive Strength	ASTM D 1621		26 lb/in ²	15 lb/in ² min.
Tensile Strength	ASTM D 1623		31 lb/in ²	15 lb/in ² min.
Surface Burning FS @ 4"	ASTM E84		< 20	≤ 75
Surface Burning SDI @ 4"	ASTM E84		< 450	≤ 450
Commercial Fire Resistance	NFPA 285		Assembly Passed	
Commercial Fire Resistance	ASTM E119		1, 2 & 3 Hour Ratings	
DC 315 Thermal Barrier	NFPA 286	22 wet mils (DC 315)	> 15 minutes	15 minutes
Attic & Crawl Space walls & roof	NFPA 286 X	6 wet mils (DC 315)	walls - 8", roof - 14"	
Wall & Ceiling application	NFPA 286		walls - 8", ceiling - 14"	
Fire Propagation of exterior wall	NFPA 285		Passed	
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 merchantability or fitness. This data is relied upon at the sole discretion and judgement of user/reviewer.

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

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LIQUID COMPONENTS PROPERTIES

Property	Isocyanate	Resin
Color	Brown	Light brown
Viscosity @ 25° C	350 cps	800 cps
Shelf Life*	12 months	6 months
Mixing ratio (volume)	100	100

(*) Resin and Isocyanate should be stored at 60° - 85° F (15-30° C). Never exceed 100° F (38° C)
See MSDS for more information

RECOMMENDED PROCESSING CONDITIONS

Requires only an initial mix prior to each use to make sure the components are well mixed. The resin does not require constant agitation since it is a solution and not an emulsion so after the initial mix, constant agitation is not required. **Do Not mix any other resin with MD-R-210 resin as this will result in poor foam quality.**

When the MD-R-210 has been charged into the system, check all screens before spraying

Pre-heat drum temperatures: 70 - 90° F (21 - 32° C)

Spray temperatures, primary heaters and hose heat: 100 - 140° F (45 - 60° C)

Chamber size: 01 round

Pressure setting: 900 - 1100 Psi, depending on type of machine and hose length

Distance from substrate: 12" - 24" (30 - 60 cm)

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

REACTIVITY PROFILE

Cream time	1-2 sec.
End of rise	3-4 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, helpers and others working within 50 feet of the installers at all times while spraying and for 24 hours after application.
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 Iso or resin before reuse.
Do not apply in excess of 2 inches (50mm) per pass due to product exotherm, to do so may create a fire hazard. Wait until 1st layer cools completely before applying a second layer/lift over an initial layer/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. If more than 2 inches is applied in one pass, the foam should be removed and broken in to small pieces to a possible fire situation.