ICYNENE®
The Evolution of Insulation™

THERMAL INSULATION AND AIR BARRIER
ESR-1826

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

PRODUCT DESCRIPTION
Icynene Classic Max™ is a spray-in-place low density, open celled, flexible, 100% water-blown polyurethane foam insulation manufactured by Icynene Inc. Icynene Classic Max™ is a nominal 0.5 lbs/ft³ density, free rise material suitable for buildings in accordance with the IRC and the IBC including Type I, II, III, IV and V construction. The product is for use as a thermal insulation and air barrier in:

- wall cavities
- floor assemblies
- ceiling assemblies
- attics (vented and unvented)
- crawl spaces (vented and unvented)

PROPERTIES OF CURED FOAM

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Test Method</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Density</td>
<td>ASTM D 1622</td>
<td>0.5 lb/ft³</td>
</tr>
<tr>
<td>Color</td>
<td></td>
<td>Cream</td>
</tr>
<tr>
<td>Aged Thermal Resistance at 1&quot;</td>
<td>ASTM C 518</td>
<td>R-3.7</td>
</tr>
<tr>
<td>Air Permeance at 3&quot;</td>
<td>ASTM E 2178</td>
<td>0.014 L/s.m²</td>
</tr>
<tr>
<td>Water Vapor Permeance at 5.5&quot;</td>
<td>ASTM E 96</td>
<td>11 perm</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>ASTM D 2842</td>
<td>5%</td>
</tr>
<tr>
<td>Dimensional Stability at 28 days</td>
<td>ASTM D 2126</td>
<td>0.0% at 158°F and 95% RH</td>
</tr>
</tbody>
</table>

UNVENTED ATTICS
Icynene Classic Max™ can be applied to the underside of the roof deck to a maximum of 20 inches and be left bare if its thickness is a minimum of 3½ inches at roof decking. Consult Icynene Engineering Department for details.

ACOUSTICAL PROPERTIES
Performance in a 38 x 89 mm (2 x 4") wood stud wall:

<table>
<thead>
<tr>
<th>STC Sound Transmission Class</th>
<th>Hertz Frequency (Hz)</th>
<th>125</th>
<th>50</th>
<th>500</th>
<th>1000</th>
<th>2000</th>
<th>4000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ASTM E90</td>
<td>19</td>
<td>30</td>
<td>31</td>
<td>42</td>
<td>38</td>
<td>46</td>
</tr>
</tbody>
</table>

NRC Noise Reduction Coeff. - .70
Hertz Frequency | 125 | 250 | 500 | 1000 | 2000 | 4000 |
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ASTM C423</td>
<td>.11</td>
<td>.43</td>
<td>.89</td>
<td>.72</td>
<td>.71</td>
</tr>
</tbody>
</table>

AIR BARRIER/ MECHANICAL VENTILATION
- Icynene Classic Max™ 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 Classic Max™ must be designed to include adequate mechanical ventilation/outdoor air supply for optimum IAQ (Indoor Air Quality).

For mechanical ventilation see ASHRAE Standard 62 – Ventilation for Acceptable Indoor Air Quality or any other acceptable good engineering practice.

WATER ABSORPTION PROPERTIES
• Water can be forced into the foam under pressure because it is open celled.
• Water will drain by gravity, given favorable drying potential, and upon drying all chemical and physical properties are fully restored.

ELECTRICAL WIRING
• Icynene Classic Max™ has been evaluated with energized 14/3 and 12/2 residential wiring (max. 122°F/50°C).
• It is chemically compatible with typical electrical wiring coverings.
• For any insulation of older knob and tube wiring, please reference local electrical code.

CORROSION
• Icynene Classic Max™ did not cause corrosion when evaluated in contact with steel and copper at 120°F (48°C) and 95% relative humidity conditions.

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

ENVIRONMENTAL AND HEALTH
• Icynene Classic Max™ is 100% water-blown and therefore contains no ozone-depleting blowing agents.
• The reaction used to create Icynene Classic Max™ generates carbon dioxide to expand the foam. Carbon dioxide has a very low Global Warming Potential (GWP of 1).
• Icynene Classic Max™ is PBDE-free.

INSTALLATION
• Icynene Classic Max™ is installed by a network of Licensed Dealers, trained in its installation.
• Not intended for exterior use. Not to be installed within 3” (76 mm) of heat emitting devices or where the temperature is in excess of 180°F (82°C), as per ASTM C411 or in accordance with applicable codes.
• Installation is generally independent of environmental conditions.
• It can be installed in hot, humid or freezing conditions.

Minimum substrate temperature for application is 14°F (-10°C).
• Surface preparation is generally not necessary.
• Within seconds, the foaming process is complete.

OSHA CONFINED SPACE INFORMATION
• An ASTM E-918 test of Icynene Classic Max™ for flammability at 140°F concluded that it is not flammable. Consult Safety Data Sheets for details.

HANDLING AND SAFETY

AVAILABILITY
Contact Icynene Inc. at 800-758-7325 or visit our website at 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 CSI 3-Part format and design details are available at our website at www.Icynene.com.

REGULATORY
• ESR-1826 has been issued by the ICC-ES for Icynene Classic Max™
• Icynene Classic Max™ has been tested as per the requirements of the International Code Council Evaluation Service’s AC377 Acceptance Criteria (November 2012).
• For regulatory issues concerning Icynene Classic Max™ contact Icynene at 800-758-7325.

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 Classic Max™ – Resin
• Icynene Classic Max™ (Component A) and (Component B) ideally should be stored between 60°F (15°C) and 85°F (30°C).
• Component A should be protected from freezing.
• Shelf life is 1 year
COMMITTED TO THE RESPONSIBLE USE OF SPRAY FOAM CHEMISTRY FOR OVER 25 YEARS.

Icynene spray foam insulation products have an excellent health and safety record spanning more than 425,000 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.

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 2 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 and third party toxicologist verification indicates that when the prescribed ventilation rates and periods are followed, Icynene spray foam insulation is safely cured.

* For installations of low VOC products (Icynene Classic Max and Icynene ProSeal) in the United States only, re-occupancy of the job site is permitted after 2 hours provided that the rate of air exchange during spraying and for 2 hours thereafter equals or exceeds 40 Air Changes per Hour (ACH).

I have read and understand the information on this document. I understand that I must vacate the premises during spraying and for at least 2 hours* after spraying has been completed.

NAME:  
BUILDING ADDRESS:  
CITY:  
STATE / PROVINCE:  
ZIP / POSTAL CODE:  
SIGNATURE:  
DATE:  

Email completed form to hsagreements@icynene.com or fax 1-888-340-2552.
Icynene spray foam insulation products have an excellent health and safety record spanning more than 425,000 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 1 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 1 hour** after spraying is complete: You must ventilate at 40ACH and 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 1 hour** 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 2 hours** after spray is complete to allow for re-occupancy.

For installations of low VOC products Icynene Classic Max and Icynene ProSeal in the United States only, re-entry of the job site is permitted after 1 hour** and re-occupancy of the job site is permitted after 2 hours** provided that ventilation rates are followed as recommended on this page.

Independent studies and third party toxicologist verification indicates that when the prescribed ventilation rates and periods are followed, Icynene spray foam insulation is safely cured.

### RE-ENTRY AND RE-OCCUPANCY PERIODS

Times based upon ventilating during and after a spray application.

<table>
<thead>
<tr>
<th>Ventilation Rate (Air Changes per Hour)</th>
<th>Re-entry period for sprayers, helpers, informed trade workers and contractors</th>
<th>Re-occupancy period for all others</th>
</tr>
</thead>
<tbody>
<tr>
<td>At 0.3 ACH</td>
<td>24 hours</td>
<td>24 hours</td>
</tr>
<tr>
<td>At 1.0 ACH</td>
<td>12 hours*</td>
<td>24 hours</td>
</tr>
<tr>
<td>At 10.0 ACH</td>
<td>4 hours*</td>
<td>24 hours</td>
</tr>
<tr>
<td>At 40.0 ACH</td>
<td>1 hour**</td>
<td>2 hours**</td>
</tr>
</tbody>
</table>

* Twelve (12) and four (4) hour re-entry for trades applies to all Icynene products sold in the United States.

** One (1) hour re-entry and two (2) hour re-occupancy applies only to Low VOC products (Icynene Classic Max and Icynene ProSeal).