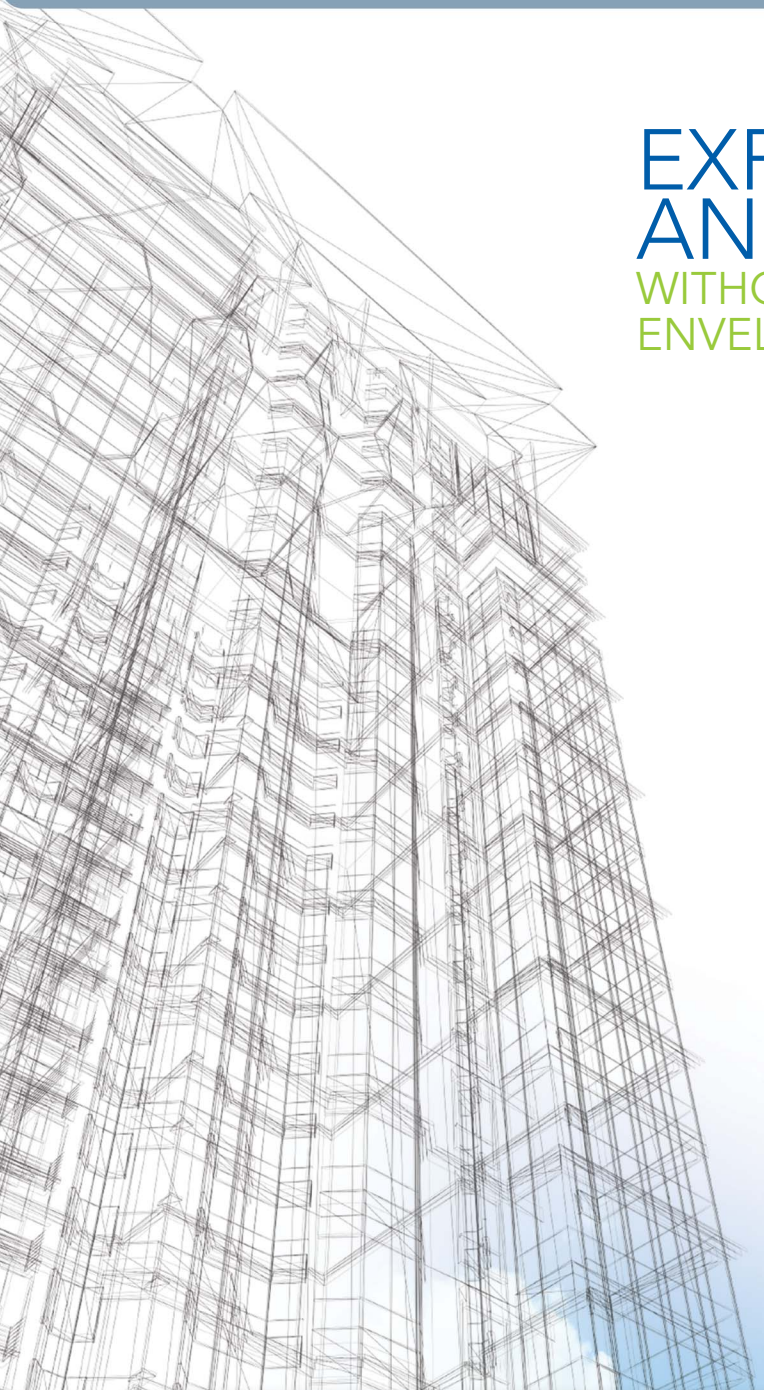

THE FIRST NAME IN
SPRAY FOAM
INSULATION
COMMERCIAL PRODUCTS
ICYNENE®



EXPLORE GEOMETRY AND SPACE

WITHOUT COMPROMISING BUILDING ENVELOPE PERFORMANCE

Commercial design considerations come with very specific challenges that can't be addressed with just any type of insulation. Intensive use, acoustic considerations, HVAC, and aesthetic qualities barely scratch the surface. What about concealed condensation, corrosion, moisture build-up, and inefficient heating and cooling systems?

Icynene® insulation products let you design without compromise. Ideal for both wood or steel-framed construction, Icynene delivers a perfect fit for any shaped cavity. Unlike batts, Icynene conforms to unusual geometry and provides a continuous, protective barrier that significantly reduces air leakage, minimizes airborne moisture transfer, and optimizes energy efficiency.

Icynene spray foam is sprayed into walls, ceilings, and floors, then expands 100 times its initial volume and cures within seconds. Icynene's Light Density products remain soft and flexible enough to move with the building substrate, leaving no gaps or seams that can compromise air-tightness.

An insulation material that fails to control air leakage will be inadequate in resolving the associated health and economic concerns. Thermal performance, air quality, energy consumption, sound attenuation, and building durability are all negatively affected by uncontrolled air leakage. Integrating Icynene as part of a sustainable design strategy has proven to be an effective tool that allows design professionals to provide their clients with the advantage that comes from a controlled environment.

ICYNENE is sprayed into walls, ceilings, and floors, then expands 100 times its initial volume and cures within seconds.

OPEN CELL OR **CLOSED** CELL
SPRAY FOAM INSULATION?

Architect and building owners selecting energy efficient spray foam insulation for their projects have a choice between specifying a 0.5 lb per cubic foot light density open cell product, or a 2.0 lb per cubic foot medium density closed cell product. Both product types are suitable for commercial construction. The decision to specify either one will make a difference in the finished cost, product performance, and application requirements.

Light Density Open Cell:

- Spray in place insulation and air barrier
- Vapor permeable
- Breathes
- Will accommodate long term creep and seasonal movements
- Does not sustain mold
- Rejects bulk water
- Drains water through
- Typical R-Value of 3.6 per inch
- Water commonly used for blowing agent
- Suitable for interior applications only

Key Advantages of Open Cell:

- Soft, flexible and highly adhesive texture allows the product to retain a tight air seal during the normal structural movement/shifting over the life time of the building
- Vapor permeable permits bi-directional drying of assemblies
- When applied to the underside of a roof deck, will allow for bulk water to pass through and visibly expose the location of an exterior roof leak
- Soft open cell structure allows for greater sound absorption versus closed cell structure
- Using a water based blowing agent instead of a synthetic blowing agent reduces the environmental impact
- Lower cost

Medium Density Closed Cell:

- Spray in place insulation and air barrier
- Low vapor permeance
- Vapor barrier (class II VDR)
- Rigid design adds structural reinforcement
- Does not sustain mold
- Rejects bulk water (even submerged)
- Deflects water path
- Typical R-Value of 6.0 per inch
- Blowing agent increases R value
- Suitable for both interior and exterior applications

Key Advantages of Closed Cell:

- Higher R-value per inch, easier to accommodate higher R requirement in narrow spaces or thinner wall capacity
- Hard, rigid texture provides increased wall racking strength (if necessary)
- Also suitable for exterior and below grade applications as it rejects bulk water
- Lower vapor permeance, can be a class II VDR
- Impact resistance

OPEN CELL **ICYNENE**

HIGH PERFORMANCE 100% WATER BLOWN PRODUCT

ICYNENE LD-C-50® CLASSIC

- Approved for commercial building types I, II, III, IV, and V construction
- Light density, open-cell structure
- R-Value = 3.7 per inch
- Original Icynene formulation of 25+ years
- Vapor permeable, support bi-directional drying of assemblies
- Soft, flexible composition maintains an air seal even after seasonal expansion/contraction of building assembly
- Suitable for interior cavity fill applications
- Lower cost compared to closed-cell products
- Lowest global warming potential (GWP of 1)
- Superior cold temperature adhesion to multiple substrates

PROVEN PERFORMANCE – THE LIGHT DENSITY LEADER

Icynene LD-C-50® is the product that made the Icynene name synonymous with superior quality, open-celled, 0.5 lb., light density spray foam insulation. Icynene LD-C-50® has been used in thousands of residential and commercial projects for over 25 years and is the industry benchmark for quality and innovation by which all other light density insulation products should be judged.

100% WATER BLOWN TECHNOLOGY

ICYNENE LD-C-50® foam insulation products are 100% water-blown meaning they use no synthetic blowing agents or ozone depleting substances. The reaction used to create these products generates Carbon Dioxide to expand the foam. Carbon Dioxide has the lowest Global Warming Potential (GWP of 1) [1]

[1]All measure of GWP are given to carbon dioxide, the most well-known gas with global warming potential, which has a GWP of 1.

CLOSED CELL **ICYNENE**

HIGH PERFORMANCE CHEMICAL, NON-OZONE DEPLETING BLOWING AGENT PRODUCT

ICYNENE MD-C-200™

- Approved for commercial building types I, II, III, IV, and V construction
- Medium density closed cell structure
- R-Value = 6.0 per inch
- Rigid composition contributes to added wall racking strength
- Air impermeable material resists convective heat and moisture flow
- Class II vapor retarder at 1.5"
- Rejects bulk water
- 96% closed cell content
- Suitable for both interior and exterior applications
- Summer and winter formulations for all Climate Zones and Altitudes
- Low odor

ICYNENE'S COST-EFFECTIVE THERMAL BARRIER SOLUTION

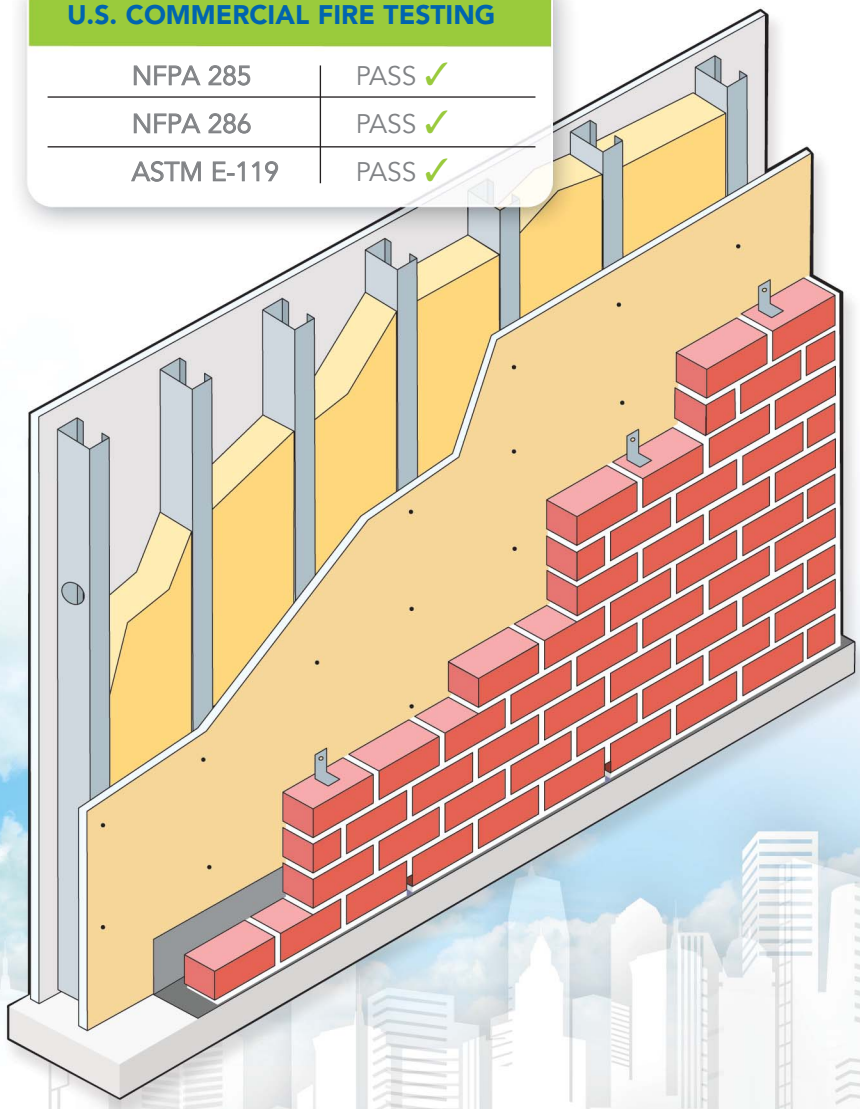
The International Building Code (2006 IBC) requires the installation of an approved thermal barrier over all foam plastics (including spray foam insulation) separating the foam insulation from the interior space of the building. The IBC specifically lists 1/2" gypsum wallboard as an acceptable thermal barrier material. However, most recently new technology has emerged for more cost effective thermal barrier solutions such as a spray applied intumescent coating. Icynene has tested and qualified an intumescent coating, **DC-315** as an approved spray applied thermal barrier over our open-cell **LD-C-50®** and closed-cell **MD-C-200™**. This provides architects, designers, and commercial building owners with a cost effective option for exposed applications such as acoustical ceiling plenums, exposed roof assemblies, and attics connected to habitable space. For immediate assistance on technical inquiries, contact Icynene at: **1-800-758-7325**

ADDITIONAL EXTERIOR VENEER CLADDING OPTIONS:

- Icynene LD-C-50® and MD-C-200™ pass NFPA 285 Fire Test
- Complies with 2006 IBC Chapter 2603.5 for installation in exterior walls of many types I, II, III, IV, and V multi-storey buildings

U.S. COMMERCIAL FIRE TESTING

NFPA 285	PASS ✓
NFPA 286	PASS ✓
ASTM E-119	PASS ✓



In addition to the brick veneer featured in Icynene's Type I and II code compliant exterior wall assembly pictured on the lower-left, **ICYNENE LD-C-50®** and **MD-C-200™** products may also be installed with many other claddings compliant with ASTM E-136 as detailed below:

- Minimum 4" thick block masonry
- Stucco over fiber cement board or 5/8" DensGlass®[1] sheathing
- Glass reinforced concrete panels
- James Hardie®[2] board siding panels

Details of the exterior wall covering must be provided to the code official by the report holder, designer, or specifier with an engineering analysis demonstrating that:

1) The wall covering conforms to ASTM E-136
2) The addition of the wall covering to the assembly described in Icynene's current **ICC-ES** Evaluation report for **LD-C-50®** and **MD-C-200™** does not negatively affect conformance of the assembly with the requirements of IBC section 2603.5

[1]DensGlass is a trademark owned by Georgia-Pacific Gypsum LLC.
[2]James Hardie is a trademark owned by James Hardie Building Products, Inc.

ICYNENE® ARCHITECTURAL RESOURCES

NEW AIA CONTINUING EDUCATION PRESENTATION INTRODUCED

For many years Icynene has worked closely with the AIA as an approved provider within their Continuing Education System (CES). Over the past decade, Icynene has completed over 2,700 live presentations to more than 32,000 architects throughout North America. Just recently we added a new addition to our AIA approved list of courses. The new course is titled:

DESIGNING FOR THE FUTURE
Understanding Light Density and Medium Density Open Cell and Closed Cell Spray Foam Insulation

SOME KEY LEARNING OBJECTIVES FEATURED IN THE PRESENTATION INCLUDE:

- Why SPF Products are growing in popularity and replacing traditional insulation materials
- The differences between open and closed cell spray foam insulation products
- The fundamentals of heat transfer
- Structures for effective air sealing
- The importance of having the materials installed by a properly trained technician certified by the SPF manufacturer
- Learning Units: 1 HSW/SD credit

NEW ARCHITECTURAL SAMPLE KITS NOW AVAILABLE FOR KEY CLIENT PRESENTATIONS

Recognizing that architects often require attractive, professional collateral materials for critical product evaluation and various client meetings, Icynene recently introduced a new commercial sample presentation kit. For more information on this exciting new package, contact your local ICYNENE sales representative.

RESPONSIBILITY

ICYNENE'S CORPORATE SUSTAINABILITY PHILOSOPHY

Icynene believes that being a good corporate neighbor and a responsible steward of the world's resources means providing innovate solutions that helps address issues such as energy consumption and global warming. As one of the foremost manufacturers of spray foam insulation for the North American construction market, Icynene is leading the insulation industry to a new level of sustainability through its commitment to environmentally-preferable, spray foam technology that provides superior energy efficiency. Visit **ICYNENE**.com for more information on point carrier opportunities with the U.S. Green Building Council® (USGBC) LEED®[1] program.

Icynene is also dedicated to reducing its own environmental footprint and educating our employees on conservation issues, teaching them how to be greener, and directing them to additional environmental resources. The Icynene Go Green initiative is an all-inclusive environmentally friendly green program that allows all staff the opportunity to actively participate.

We are proud to have our Company and products associated with sustainable groups and non-government organizations such as USGBC, Earth Craft House®[2], Energy Star®[3], Collaborative for High Performance Schools (CHPS)[4], ICC-SAVE[5] and more.

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[1]LEED is a trademark owned by the U.S. Green Building Council
[2]Earth Craft House is trademark owned by the Greater Atlanta Home Builders Association, Inc
[3]ENERGY STAR is a U.S. registered mark of the United States Environmental Protection Agency
[4]Collaborative for High Performance Schools is a trademark owned by Collaborative for High Performance Schools, Inc.
[5]ICC Save is a registered trademark owned by the International Code Council

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