HUNTSMAN
BUILDING SOLUTIONS

ICYNENE® CLASSIC 45

Icynene® Classic 45 is a High Yield OC spray applied foam when installed following application guidelines, adheres tenaciously to framing members and substrates. Icynene Classic 45 is a low density, open celled, flexible, 100% water-blown polyurethane foam insulation. It is capable of being installed in unvented attics without an ignition barrier or coating.

Icynene Classic 45 forms a completely sealed air barrier in wall cavities and can be used to fill stud wall construction in a single application or any critical insulation areas. Its performance is superior to commonly used fiber-glass batt or blown-in insulation. It adheres well to most building materials and will provide a continuous barrier against air infiltration for the life of the building. As a component of a "systems" approach to proper building envelope construction in both residential and Type V commercial construction, Icynene Classic 45 provides exceptional performance in reducing heat transfer.

PHYSICAL PROPERTIES		
ASTM C 518	Aged Thermal Resistance	R-3.7 @ 1"
ASTM D 1622	Core Density	Nominal 0.45 lb/ft³
ASTM E 2178	Air Permeance	< 0.02 L/s.m² at 3 inches
ASTM D 2126	Dimensional Stability 28 days at 158°F, 97%RH	3%
ASTM E 96	Water Vapor Permeance	22 Perm at 1 inch
ASTM D 2842	Water Absorption	5%

FIRE TEST RESULTS		
ASTM E 84	Surface Burning Characteristics Flame Spread Index Smoke Developed	Class I ≤25 ≤450
AC 377 Appendix X*	Ignition Barrier - Compliant with IBC amd IRC, and ICC-ES AC-377 Appendix X, for use in attics and crawl spaces with an intumescent coatings thickness found in the corresponding table.	Pass
NFPA 285	Compliant IBC with brick, metal, or aluminum cladding for exterior walls of Type I, II, III and IV buildings of any height. See UES 565 Tables for specific assembly requirements. Contact the Huntsman Building Solutions Engineering Department for assistance with alternate assemblies.	Pass
NFPA 286	Thermal Barrier - Compliant with the IBC and IRC, as an interior finish with an intumescent coating thickness found at the corresponding table.	Pass

IGNITION BARRIER THICKNESS REQUIREMENTS		
Coating	Mils wet film thickness	Mils dry film thickness
DC 315	6	4
No Burn Plus XD	6	4

THERMAL BARRIER THICKNESS REQUIREMENTS		
Coating	Mils wet film thickness	Mils dry film thickness
DC 315	18	12
No Burn Plus ThB	18	12

RECOMMENDED PROCESSING PARAMETERS*	
Initial Primary Heater A-Side (ISO) Setpoint**	133 - 145°F
Initial Hose Heat Setpoint**	133 - 145°F
Initial Primary Heater B-Side (Resin) Setpoint**	133 - 145°F
Initial Recirculating Setpoint	90 - 100F°
Initial Processing Setpoint Pressure	1100 - 1500 psi
Drum Temperature During Processing	70 - 85°F
Drum Temperature During Storage	50 - 77°F
Substrate & Ambient Temperature	20 - 120°F
Moisture Content of Substrate	≤19%
Moisture Content of Concrete	Concrete must be cured, dry and free of dust and form release agents.

*Foam application temperatures and pressures can vary widely depending on temperature, humidity, elevation, substrate, equipment and other factors. While processing, the applicator must continuously observe the characteristics of the sprayed foam and adjust processing temperatures and pressures to maintain proper cell structure, adhesion, cohesion and general foam quality. It is the sole responsibility of the applicator to process and apply Icynene Classic 45 within specification

**It may be necessary to go outside of the recommended processing parameters or split temps due to ambient temps and material viscosity.

PROCESSING MIXING REQUIREMENTS	
Recommended Drum Agitator/Mixer	Expanding Blade Bung-Mounted High Viscosity Agitator Graco (part # 26C150)
Recommended Agitator Speed	500 rpm
Max Agitator Working Pressure	100 psi
Recommended Air Compressor	22 cfm or rated higher

PROCESSING APPLICATION METHOD	
Spray Gun	Fusion AP Spray Gun Equivalent
Mix Chamber	AR 42/42 or AR 52/52

LIQUID COMPONENT PROPERTIES		
PROPERTY	A-PMDI ISOCYANATE	ICYNENE CLASSIC 45 RESIN
Color	Brown	Blue
Viscosity @ 77ºF	180 - 220 cps	1301 cps
Shelf Life of unopened drum properly stored	12 months	6 months
Storage Temperature	50 - 100ºF	50 - 77ºF
Mixing Ratio (volume)	1:1	1:1

LIMITATIONS OF USE: Icynene Classic 45 is a combustible material with a maximum continuous service temperature of 180°F (82°C). Icynene Classic 45 should not be used in direct contact with chimneys, flues, steam pipes, recessed lighting or heat emitting devices. Consult the listing or label of such materials for clearance to combustibles. A minimum clearance of 3" should be maintained when applying around recessed lighting, and it's important to avoid spraying inside electric outlets or junction boxes. Properly prep and secure any material or surface that should not get insulated. If in doubt about the substrate temperature or surface conditions, a trial application should be conducted to check foam quality and spray performance. Water on the surface from rain, fog, condensation, etc. will react chemically with the isocyanate, adversely affecting the foam and physical properties, particularly adhesion. For further product and application knowledge reference this product's application guide and consult with a member of the Huntsman Building Solutions team.

GENERAL REQUIREMENTS: Equipment must be capable of delivering the proper ratio (1:1 by volume) of polymeric isocyanate (PMDI) and polyol blend at adequate temperatures and spray pressures. Substrate must be at least 5 degrees above dew point, with best processing results when ambient humidity is below 80%. Substrate must also be free of moisture (dew or frost), grease, oil, solvents and other materials that would adversely affect adhesion of the polyurethane foam. Icynene Classic 45 must be separated from the interior of the building by an approved thermal barrier or an approved finish material equivalent to a thermal barrier in accordance with applicable codes. Icynene Classic 45 must be sprayed at a minimum thickness of 1" per pass. This product must not be used when the continuous service temperature of the substrate or foam is below -60°F (-51°C) or above 180°F (82°C). Icynene Classic 45 should not be used to cover flexible ductwork.

DISCLAIMER: The information herein is to assist customers in determining whether our products are suitable for their applications. We request that customers inspect and test our products before use and satisfy themselves as to contents and suitability. Nothing herein shall constitute a warranty, expressed or implied, including any warranty of merchantability or fitness, nor is protection from any law or patent inferred. All patent rights are reserved. The foam product is combustible and must be protected in accordance with applicable codes. Protect from direct flame and spark contact, around hot work for example. The exclusive remedy for all proven claims is replacement of our materials.

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