

PC 2000 HFO Closed Cell Spray Foam Insulation

Technical Data Sheet



IAPMO UES ER-964

Product Design

PolyCon 2000 HFO Closed Cell Spray Foam is a Class A rated spray foam that provides applicators with a high yield, medium density insulation with reliable and consistent performance and a broad temperature application tolerance.

Product Use

PolyCon 2000 HFO Closed Cell Spray Foam Insulation forms an air barrier in wall cavities and can be used to fill a 2" x 4" wall cavity stud thickness in a single pass application. **PC 2000 HFO** adheres tenaciously to most building materials and will provide a seamless barrier against air infiltration for the life of the building.

Recommended Product Applications

- Exterior Walls
- Attic Floors
- Crawl Spaces
- Basement Walls
- Band Joists
- HVAC Ducts
- Under Roof Deck
- Cathedral Ceilings
- Vaulted Ceilings
- Hybrid Flash & Batt Applications
- Below Foundations
- Tanks
- Coolers
- Piping
- Wine Storage
- Behind brick veneer

Other Applications

PolyCon 2000 HFO Closed Cell Spray Foam Insulation can be applied over Spray-applied Fire-resistive Materials (SFRM) assemblies without affecting their performance or rating. See *Jensen Hughes Project Number 1AJP00272.000 Engineering Evaluation*.

Recommended Processing Parameters

Ambient / Substrate Temp	PC 2000 HFO - S	PC 2000 HFO - R	PC 2000 HFO - W
	+80°F / +26°C	40 - 85°F (4 - 29°C)	20 - 50°F (-7 - 10°C)
Equipment Dynamic Pressure	1,000 - 1,500 psi		
Preheat Temperature	110-135°F / 43 - 57°C		
Drum and Storage Temperature	65 - 85°F / 18 - 29°C		

Optimum hose pressure and temperature may vary as a function of the type of equipment, ambient and substrate conditions, and the specific application. It is the responsibility of the applicator to properly interpret equipment technical literature, particularly information that relates to acceptable combinations of gun chamber size, proportioner output, and material pressures.

- CAUTION: Extreme care must be taken when removing and reinstalling drum transfer pumps so as NOT to reverse the "A" and "B" components
- Do not recirculate or mix other suppliers' "A" or "B" component into PC 2000 HFO containers
- The plural component proportioner must be capable of supplying a 1:1 ratio by volume

R-Value Chart ASTM C518

Thickness (in.)	R-Value Total (ft ² h°F/Btu)
1	7.3
2	14.2
3	20.9
3.5	24.2
5.5	38

Physical Properties

Properties	Test Method / Requirements	Value
Compressive Strength	ASTM D1621	32 psi
Core Density	ASTM D1622	2.0 pcf
Air Leakage	ASTM E2178 / ASTM E283	<0.02L/s/M ² @ 1.0"
Tensile Strength	ASTM D1623	32 psi
Standard Specification for Rigid SPF	ASTM C1029	Type II Compliant
Closed-Cell Content	ASTM D6226	95%
Water Absorption	ASTM D2842	0.56%
Water Vapor Transmission @ 74°F, perm inch	ASTM E96	1.19 perm at 1" Class II VB at 1.2"
Dimensional Stability: 14 days at 160°F, 100% RH	ASTM D2126 15% max by volume change	1.2%

Classification

ASTM Method E84	Class A (Class I)
Flame Spread (FSI)	<25
Smoke Development (SDI)	<450

NFPA 285 - Exterior Wall Assembly Compliance

Successfully evaluated under NFPA 285 for fire propagation performance in exterior wall assemblies with combustible components.

NFPA 286 - 15 minute Thermal Barriers

Product	Max on Walls	Max on Ceiling	Mils
Paint to Protect DC 315	7"	10"	14 Wet / 8 DFT
No Burn® Plus ThB	7"	10"	14 Wet / 9 DFT
Flame Control® 60-60A	7"	10"	14 Wet / 9 DFT

Attics and Crawlspace - Bare Exposed Foam

Credential	Max Foam Thickness	
Appendix X (Unvented Attic and Crawlspace)	Walls - 7"	Ceilings - 10"

Material Shelf Life

Six (6) months when stored properly

Thermal Barrier

IBC code requires that spray foam be separated from the interior of the building by an approved fifteen (15) minute thermal barrier, such as ½" gypsum wall board or equivalent, installed per manufacturers specifications, meeting local code requirements, or other protective layers tested as a composite configuration and system, that have passed third party audited testing by an approved laboratory. With the exception of applications to Band Joists / Rim Joists / Mudsills, up to 3.25" without the application of the code prescribed thermal barrier.

In case of Fire Extinguishing Media

Use dry chemical extinguishers such as mono Ammonium phosphate, potassium sulphate and potassium chloride. Additionally, use carbon dioxide, high expansion chemical foam or water spray for large fires.

In Case of Spills or Leaks

- Utilize appropriate personal protective equipment (PPE)
- Contain and cover spilled materials with loose, absorbent material such as Oil-Dry, Vermiculite, sawdust or Fuller's Earth
- Shovel absorbent waste material into proper waste containers
- Wash the contaminated area thoroughly with hot and soapy water
- Ventilate area to remove vapor
- Report sizable spills to proper environmental agencies

Jobsite Hazards

The potential results of improperly applied materials may include but not limited to excessive heat build-up which could result in a fire or offensive odors which may not dissipate over time and / or poor product performance due to improper density of the applied material.

This includes excessive thickness beyond recommended application passes, off ratio material, and spraying into rising foam. Large masses of sprayed materials should be avoided. If large masses are generated they should be removed from the area, cut into small pieces, wetted down and allowed to cool before disposal. Failure to follow this recommendation may result in a fire. It is recommended that a fire extinguisher be located in the work area to ensure easy access.

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Maximum Pass Thickness	Additional Pass Wait Time
3.5"	10 minutes per inch

Foam applied in excess of 3.5 inches or without allowing for cooling may result in, but is not limited to excess heat build-up and result in fire or the generation of offensive odors that may not dissipate with time. Core temps cool down at different rates depending upon the foam systems, type of substrate, pass thicknesses, and ambient temps. A probe thermometer should be used to verify once the core temperature reaches 100°F prior to applying additional passes. Foam should be allowed to cool for 20 to 30 minutes or until the surface has returned to ambient temp before additional applications of foam are attempted.

Handling and Safety

Respiratory protection is Mandatory!

All precautions should be taken to avoid occupational exposure as well as protecting the working area to avoid unintended exposure by others. Supplied air and a NIOSH approved full face mask respirator must be used during the application as well as chemical safety goggles, protective, non-absorbent gloves and Tyvek suit properly secured around wrists to avoid any and all skin exposure.

Positive pressure ventilation of the work area is recommended to minimize the accumulation of vapors in the work area during the application. Improper application techniques of this foam system must be avoided. Any interior area, even with proper ventilation, should be considered a Confined Space and be treated with utmost precaution. Atomized vapors should not exceed TLV .02 parts per million of isocyanates. Avoid breathing vapors. Persons with known sensitivities or allergies should avoid exposure completely. If inhalation occurs, remove person from contaminated area and administer oxygen if having difficulty breathing. Call a physician immediately. Avoid contact with skin, eyes and clothing.

Open containers carefully, allowing any pressure in the container to be relieved safely. Any contact with material should be washed thoroughly with soap and water. Wash clothes before reuse.

Applicators should ensure the safety of the jobsite and construction personnel by posting appropriate signs warning all adjacent workers and trades to avoid the area. Ensure warning signs are visibly posted at job site that welding, soldering and torch cutting should take place no less than 45 feet from exposed in situ cured foam. If work must be performed, the polyurethane foam should be properly covered with an appropriate fire or welders blanket and fire watch should be provided.

A protection program developed by the Center for Polyurethanes Industry (CPI) is available for download at www.polyurethane.org. Spray Polyurethane Foam Alliance (SPFA) also provides significant safety resources at www.sprayfoam.org, or can be reached directly at 571-748-5003.

