VPC-Hi-R OC

Open-Cell | Finished Foam | Code Compliance Research Report: ER-675

Technical Data Sheet

Physical Properties

Properties	Test Method Requirements	Value
Aged R-Value	ASTM C 518	4.4 per inch
Core Density	ASTM D 1622	0.75 LB / ft^3
Air Impermeable	ASTM E 283	< 0.02 (L/s-m^2) @ 3.5"
Dimensional Stability	ASTM D 2126	< 4%
Water Vapor Permeance	ASTM E 96	15 Perms at 1"
Water Absorption	ASTM D2842	5%
Open Cell Content	ASTM D 6226	> 97%
Tensile Strength (PSI)	ASTM D 1623	4.7
Sound Transmission Coefficient	ASTM E 413	30
Noise Reduction Coefficient	ASTM C 423	0.10

Building Code Certifications/Fire Test Data

Evaluation Service Report	ER-675	IAPMO
Building Types	V-B: Nonstructural Insulation material	Approved
Flame Spread	Class I < 20	ASTM E84
Smoke Development	Class I < 400	ASTM E84
NFPA 286 AC377 Appendix X	Pass: Complies with the applicable requirements of ICC-ES AC377 Appendix X for use in attics and crawlspaces when covered with one of the approved intumescent coatings as shown on page 2.	
UL Listing	Exterior Wall System Component	FWFX.R38039
UL Listing	Exterior Wall System	FWFO.EWS0013 & EWS0029

Application Parameters

Storage Temperature	50°F - 80°F
In Use Temperature	90°F - 95°F
Ambient Air Temperature	50°F - 120°F
Substrate Temperature	50°F - 120°F
Moisture Content of Substrate	Less than 19%
Maximum Lift Per Pass	Not to Exceed 6"

Equipment Settings

Pre-Heaters: (A) Component – Iso	115°F - 130°F	These are recommended "Initial" Settings. Settings may vary based on the type of equipment used and the substrate temperatures at the time of the application.
Pre-Heaters: (B) Component – Resin	115°F - 130°F	
Hose Heat	115°F - 130°F	
Fluid Pressure	1,000-1,500 PSI – Dynamic	
Mixing Ratio	1:1 By Volume	
Recommended Mix Chamber/ Module Size:	10-15 Lbs./Minute (i.e. 01-GRACO AR4242)	

Product Use and Design

VPC-Hi-R OC is an advanced insulation system specifically engineered for virtually all residential applications. The system is a two-component, light density, polyurethane foam part "A" (ISO) and a blended part "B" (RESIN) formulated to mix one-to-one by volume, and designed for spray application. It replaces and gives superior performance over traditional insulation materials including fiberglass and loose-fill products like cellulose, while offering ease of application for trained spray foam insulation technicians. A single pass of the product at 5" in a typical 2x6 wall cavity yields an R-21 insulation value without the need to trim cured excess foam. It contains ZERO ozone-depleting blowing agents.

Recommended Product Applications

VPC-Hi-R OC is extremely versatile, and can be applied to interior and exterior walls, vented and un-vented attics, un-vented attic assemblies, and between floors and ceilings.

Mixing Requirements

Resin (B Side)	Mix thoroughly for 30 minutes prior to use. Continuously mix with a 3 blade mixer during use for best results and highest yields.

Processing Requirement

All material must be a minimum of 90°F before dispensing.

Start-Up Procedure

VPC-Hi-R OC material drum temperature should be no less than 50°F. Recommended temperature between 80°F to 100°F for optimum processing to occur. Avoid storage of drums on cold surfaces. Cold chemical can cause issues with processing. Always keep drums tightly closed when not in use.

Flushing Procedure

Before VPC-Hi-R OC is introduced to any equipment, purge any previous material from your system. Turn off and disconnect air to all transfer pumps. Remove the drum pumps from the ISO and Resin drums and wipe pumps and dip tubes clean. Ensure Resin drum pump housing is emptied. Place the drum pumps and dip tubes in Victory Polymers' VPC-ISO and VPC-Hi-R OC drums. Reconnect or turn on the air to the drum pumps. Use the drum pumps to purge the ISO and Resin supply and recirculation hoses back to their respective drums or into containers for reuse. One to two gallons of material are normally purged, depending on hose length. When finished and changing into another system, flush the "B" Side (resin side) with 3-4 gallons of water.

Thermal Barrier

IRC and IBC codes require that SPF be separated from the interior of a building by an approved fifteen (15) minute thermal barrier, such as 1/2" gypsum wall board or equivalent, installed per manufacturer's instructions and corresponding code requirements. There are exceptions to the thermal barrier requirement: (1) Code authorities may approve coverings based on fire tests specific to the SPF application. For example, covering systems that successfully pass large scale tests may be approved by code authorities in lieu of a thermal barrier; (2) SPF protected by 1" thick masonry does not need a thermal barrier. Certain materials that offer protection from ignition, called "ignition barriers," may not be considered as thermal barrier alternatives unless they comply with NFPA 286 or other similar full scale tests. Applicators should request test data and code body approvals or other written indications of acceptability under the code to be sure that the product selected offers code-compliant protections.

Safety and Handling

Respiratory protection is **MANDATORY!** Victory Polymers requires that supplied air and a full face mask be used during the application of any spray applied foam system. Contact Victory Polymers Corp. for a copy of the Model Respiratory Protection Program developed by CPI or visit their web site at www.polyurethane.org. Persons with known respiratory allergies should avoid exposure to the "A" component. The "A" component contains reactive isocyanate groups. The materials must be handled and used with adequate ventilation. The vapors must not exceed the TLV (0.02 parts per million) for isocyanates. Avoid breathing vapors. Wear a NIOSH approved respirator. If inhalation of vapors occur, remove victim from contaminated area and administer oxygen if breathing is difficult. Call a physician immediately. Avoid contact with skin, eyes, and clothing. Open containers carefully, allowing any pressure to be relieved slowly and safely.

Wear chemical safety goggles and rubber gloves when handling or working with these materials. In case of eye contact, immediately flush with large amounts of water for at least fifteen minutes. Consult a physician immediately. In case of skin contact, wash area with soap and water. Wash clothes before reuse. Applicators should ensure the safety of the jobsite and construction person-nel by posting appropriate signs warning that all "hot work" such as welding, soldering, and cutting with torches should take place no less than 35 feet from any exposed foam. If "hot work" must be performed all spray poly-urethane foam should be covered with an appropriate fire or welder's blanket, and a fire watch should be provided.

In Case of Spills or Leaks

- Utilize appropriate personal protective equipment
- Ventilate area to remove vapors
- Contain and cover spilled material with a loose, absorbent material such as oil-dry, vermiculite, sawdust or Fuller's earth
- Shovel absorbent waste material into proper waste containers
- Wash the contaminated areas thoroughly with hot, soapy water
- Report sizeable spills to proper environmental agencies

In Case of Fire

Extinguishing Media: Dry chemical extinguishers such as mono ammonium phosphate, potassium sulfate, and potassium chloride. Additionally, carbon dioxide, high expansion (proteinic) chemical foam, or water spray for large fires.

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. This includes excessive thickness, off ratio material, and spraying into rising foam. The potential results of improperly applied materials may include but is not limited to excessive heat build-up, and may result in a fire or offensive odors which may not dissipate with time and/or poor product performance due to improper density of the applied material. Large masses of sprayed materials should be avoided. When large masses are generated they should be removed from the area, cut into small pieces 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 an easily accessible portion of the work area.

Disclaimer

The data presented herein are not intended for use by non-professional applicators, or those persons who do not purchase or utilize this product in the normal course of their business. The potential user must perform any pertinent tests in order to determine the product's performance and suitability in the intended application, since final determination of fitness of the product for any particular use is the responsibility of the buyer.

It is the responsibility of the applicator to thoroughly understand all equipment technical information and safe operating procedures that pertain to spray polyurethane foam application.

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