

## Technical Data Sheet

### Physical Properties

Properties	VPC-50 OC High Yield	Test
R-Value	4.1 @ 1" 13 @ 3.5"	ASTM C 518
Core Density	0.45 / Cubic Foot	ASTM D 1622
Open Cell Content	> 97%	ASTM D 6226
Sound Transmission Coefficient	38	ASTM E 413
Water Vapor Transmission - Permeance	21 Perms at 1"	ASTM E 96
Air Impermeable	< 0.02 (L/s-m <sup>2</sup> ) @ 3.5"	ASTM E 283
Noise Reduction Coefficient	0.10	ASTM C 423
Tensile Strength (PSI)	3.3	ASTM D 1623
Dimensional Stability	< 5%	ASTM D 2126
Water Absorption	17.4%	ASTM D 2842

### Building Code Certifications/Fire Test Data

Evaluation Service Report	ICC	ESR-4502
Building Types	Approved	V-B: Nonstructural Insulation material
Flame Spread	ASTM E84	Class I < 20
Smoke Development	ASTM E84	Class I < 215
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 approved intumescent coatings.	

### Thermal Barrier

Current International Building Code (IBC) and International Residential Code (IRC) require that spray polyurethane foam be separated from the building interior by a 15-minute thermal barrier or other code-approved alternative. Gypsum board at a minimum thickness of 1/2" is one such barrier that meets this requirement. The following intumescent coatings when installed per manufacturer specifications are approved as thermal barrier alternatives for VPC-50 OC High Yield:

### Approved Intumescent Coatings

DC315™ manufactured by	International Fireproof Technology, Inc
Application Rates	20 Wet Mills - 13 Dry Mills

### Product Type

Victory Polymers VPC-50 OC High Yield is a two component, 1:1 by volume spray applied polyurethane foam. VPC-50 OC High Yield is a high yield, 100% water blown open cell foam. See mixing guidelines on the next page. VPC-50 OC High Yield is designed to provide significant control of air infiltration along with a high R-value per inch.

### Recommended Uses

VPC-50 OC High Yield is an insulation system designed for use in residential, commercial and industrial applications. Typical areas where spray polyurethane foam is applied are: exterior walls, vented and un-vented attic assemblies, between floors, etc. Suitable for application to most common construction materials including wood, masonry, concrete and metal. Multiple layers can be applied to reach the desired thickness and R-Value.

### Ignition Barrier

VPC-50 OC High Yield meets the requirements of ICC-ES AC377 Appendix X for use in attics and crawlspaces without a prescriptive ignition barrier when covered with one of the following approved intumescent coatings and the following conditions are met:

- Entry is only to service utilities in the attic or crawl space and no storage is permitted.
- Attic or crawl space areas cannot be connected.
- Air from the attic or crawl space cannot be circulated to other parts of the building.
- In accordance with IBC Section 1203.3 or IRC Section R408.1, underfloor (crawl space) ventilation is provided as applicable.
- In accordance with IBC Section 1203.2 or IRC Section R806, attic ventilation is provided as applicable.
- In accordance with 2012 and 2009 IMC (International Mechanical Code®) Section 701, or 2006 IMC Sections 701 and 703, combustion air is provided.
- The foam plastic insulation is limited to the maximum thickness and density tested.
- The installed coverage rate of coatings, if part of the insulation system shall be equal or greater than that tested.

### Approved Intumescent Coatings

DC315™ manufactured by	International Fireproof Technology, Inc
Application Rates	4 Wet Mills - 3 Dry Mills

### Recommended Application Parameters

Mix	20 - 25 minutes minimum.
Temperature (A&B)	120 - 125
Hose Heat	120 - 125
Pressure	1,000 - 1,100 PSI

### Start-Up Procedure

VPC-50 OC High Yield material drum temperature should be no less than 70°F. Recommended temperature of at least 80°F for optimum processing to occur.

### Flushing Procedure

Before VPC-50 OC High Yield 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' ISO and VPC-50 OC High Yield 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 Industries for a copy of the Model Respiratory Protection Program developed by CPI or visit their web site at [www.polyurethane.org](http://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 occurs, 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 personnel 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 polyurethane 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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