

### VAPOR RETARDER AND WEATHERPROOFING COATING FOR INTERIOR AND EXTERIOR APPLICATIONS

#### DESCRIPTION

ENCACEL® V CP-45 is an elastomeric, polymer-based, vapor retarder and weatherproofing coating designed for the protection of sprayed, board and block-type insulation. ENCACEL® V has outstanding adhesive properties and excellent flexibility, in addition to its superior vapor retarder characteristics.

#### USES

Finish for all cold insulation systems. It is also recommended for hot, exterior, sprayed polyurethane applications. In both cases, ENCACEL® V is used as the finish coat after flashing and sealing all metal protrusions throughout the surface of the insulation.

ENCACEL® V can be used as a decorative finish over closed-cell, flexible, cellular plastics. Care must be taken that the adhesive-bonded joint is not adversely affected by the solvent in the vapor retarder. **It is not to be used in direct contact with polystyrene foam insulation.**

#### APPLICATION

ENCACEL® V can be applied by spray or brush (for applying by glove or trowel, ENCACEL® X CP-40 vapor retarder coating is recommended). With its excellent bridging properties, ENCACEL® V will provide a smooth finish, even over relatively rough substrates. On large exterior surfaces, such as sprayed polyurethane foam, airless spray provides the most economical and efficient method of application. Over sprayed polyurethane foam, a two-coat, two-color system is suggested to eliminate voids and holidays. It is suggested that ENCACEL® V be stored at a minimum of 50°F (10°C) just prior to application to achieve optimum results. Outdoor horizontal surfaces must always drain completely. A pitch of at least 1/2" per foot (4 cm/m) is recommended.

#### ADVANTAGES

- ENCACEL® V vapor retarder coating will not check or crack in exterior applications.
- The cured film of ENCACEL® V is fire-resistive and tough, yet flexible.
- It is resistive to many acids and alkalis.
- The excellent spray characteristics of the product minimizes the possibility of "pin-holing", resulting in a uniform, monolithic film.

#### CERTIFIED

- Meets NFPA Standard 90A and 90B 25/50 requirements.
- This product has been tested according to ASTM E84 (Surface Burning Characteristics of Building Materials).

#### COLOR

CP-45: White  
CP-45-1: Gray

#### APPLICATION CONSISTENCY

Spray or brush

#### WET WEIGHT (ASTM D1475)

9.7 lbs./U.S. gal. (1.16 kg/liter)

#### AVERAGE NON-VOLATILE (ASTM D2369)

31% to 35% by volume (46% by weight)

#### SERVICE TEMPERATURE RANGE

Temperature to which dry film is subjected.  
-50°F to 220°F (-46°C to 104°C)

#### APPLICATION TEMPERATURE RANGE

40°F to 100°F (4°C to 38°C)

#### DRYING TIME

Drying time will vary depending upon film thickness, temperature and humidity.

To Touch: 3 – 4 Hours  
Through: 24 hours

#### COVERAGE

Varies with substrate and membrane.  
6 gal./100 sq. ft. (2.4 l/m<sup>2</sup>)

#### CLEAN UP

Xylene or chlorinated solvent  
(Dried ENCACEL® V is extremely difficult to remove)

#### WATER VAPOR PERMEANCE (TYPICAL AVERAGE)

ASTM E96, METHOD E: 0.025 perms (0.016 metric perms) at 51 mils dry (1.3 mm)  
ASTM E96, PROCEDURE A: 0.018 perms (0.012 metric perms) at 26 mils (0.66 mm) dry  
ASTM F1249: 0.05 perms (0.033 metric perms) at 30 mils dry (0.8 mm).  
Tested at 100°F (38°C) and 90% RH

ENCACEL® V CP-45 meets the permeance requirements of ASTM C755-19 for below ambient vapor retarder coatings.

#### SURFACE BURNING CHARACTERISTICS (ASTM E84)



#### GENERAL PURPOSE COATING SURFACE BURNING CHARACTERISTICS

Applied to 1/4" Inorganic Reinforced Cement Board	
Flame Spread:	10
Smoke Developed:	15
Rate per Coat (sq. ft./gal.):	25
Number of Coats:	1
Flash Point of Liquid Coating (Closed Cup):	125°F (51.7°C)

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## NOTES TO SPECIFYING ENGINEER

### 1. Flashing

Prior to the application of the vapor retarder coating system, a complete flashing shall be provided at all metal-to-insulation joints and/or protrusions through the insulation. Uniformity of surface shall be made by cutting or shaving the insulation on these protrusions as necessary.

- A. By trowel, apply a 1/16" (0.15 cm) wet coat of CHIL-BYL® CP-76 Joint Sealant a minimum of 3" (7.62 cm) over insulation and metal protrusions.
- B. Embed CHIL-GLAS® #10 Glass Fiber Reinforcing Mesh into wet CHIL-BYL® CP-76 a minimum of 3" (7.62 cm) over insulation and metal protrusions.
- C. By trowel, apply a 1/8" (0.30 cm) coat of CHIL-BYL® CP-76 over the entire glass fiber reinforcing mesh.
- D. Allow a minimum of 24 hours drying time for the applied flashing system.
- E. Apply ENCACEL® V CP-45 Vapor Retarder Coating a minimum of 3" (7.62 cm) out over the insulation.

2. When using a solvent vapor retarder such as ENCACEL® V CP-45, the joint sealant to be used shall be CHIL-BYL® CP-76. CHIL-JOINT® CP-70 Joint Sealant should not be used for this application.
3. In applications where insulation has been fabricated with asphalt adhesive or where asphalt has been used as a joint sealant, there may be discoloration of the ENCACEL® V CP-45. This discoloration will not affect the overall physical properties of the dry film.
4. **Recommended Spraying Equipment**  
Normal surface irregularities of sprayed polyurethane foam require correct atomization of sprayed coatings in order to achieve uniformity of dry film thickness. ENCACEL® V CP-45 Coating can be sprayed with a variety of airless pump models. For spray equipment information, please consult Airless Spray Recommendations or contact your airless spray equipment supplier.

## INSPECTION

Where available, it is suggested to use a National Insulation Association (NIA) certified (or other similarly certified) mechanical insulation inspector throughout the project to inspect and verify the materials and total insulation system have been installed correctly in accordance with the specifications.

## Application Guide and Suggested Procedures

### GENERAL SPECIFICATIONS

The insulation should be installed in accordance with manufacturer's recommendations and allowed to cure where necessary. The insulation shall be free of moisture, excessive rough texture, deteriorated surface, dirt and debris. The coating shall be applied on the same day that the insulation is applied whenever possible. DO NOT THIN.

Certain "hot" polyisocyanurate foams require a minimum four to six hours to complete their cure cycles. These foams should be coated within 24 hours after the cure cycle is completed. Consult your foam manufacturer for name and system number of "hot" foams.

1. **Specification for Vapor Retarder Finish for Low Temperature Tanks and Equipment (-40°F to 50°F; -40°C to 10°C):** Mastic finish over the insulation shall be ENCACEL® V CP-45. It shall be applied in two coats, the first coat being a tack coat applied at a coverage rate of 2 U.S. gallons per 100 sq. ft. (0.81 l/m<sup>2</sup>). While still wet, a layer of CHIL-GLAS® #10 Glass Fiber Reinforcing Mesh shall be applied with all fabric seams overlapped a minimum of 2" (5.08 cm). A finish coat at a coverage rate of 4 U.S. gallons per 100 sq. ft. (1.62 l/m<sup>2</sup>) shall then be applied. This total coverage rate will result in a uniform, pinhole-free coat at a minimum dry film thickness of 32 mils (0.032", 0.08 cm) on a smooth surface. There shall be no voids or holidays. This represents 6 U.S. gallons per 100 sq. ft. (2.43 l/m<sup>2</sup>). Rough surfaces such as cellular glass will require 3 to 6 additional gallons of material to achieve recommended dry film thickness.
2. **Specification for Cryogenic Design (-40°F to -300°F; -40°C to -184°C):** After the first two coats have set 24 hours minimum or until dry, apply an additional coat at a thickness of 3/64 inch (1.2 mm). This is equivalent to 3 gal./100 sq. ft. (1.2 l/m<sup>2</sup>). This additional application shall provide a minimum dry film thickness of 48 mils (1.2 mm).
3. **Specification for Vapor Retarder Finish for Low Temperature Tanks, Piping and Equipment (-50°F to 50°F; -46°C to 10°C) for Sprayed Polyurethane Foam:** Over monolithic sprayed-on insulation, glass fiber reinforcing mesh shall not be used. Mastic finish over insulation shall be ENCACEL® V CP-45. Apply a uniform pinhole-free coat to a minimum dry film thickness of 32 mils (0.032", 0.08 cm). It shall be applied in two coats (two contrasting colors preferred) using the cross hatch method at a coverage rate of 16 dry mils (0.016", 0.04 cm) per coat. This represents 6 U.S. gallons per 100 sq. ft. (2.43 l/m<sup>2</sup>) coverage on a smooth surface. Rough surfaces will require 1 1/2 to 3 additional gallons of material to achieve recommended dry film thickness. Sprayed polyurethane foam may need to be primed prior to the application of ENCACEL® V CP-45 to improve adhesion. Many sprayed polyurethane systems are different; end user should always perform an adhesion test to ensure that the adhesion of the coating and primer system with the foam insulation is sufficient.
4. **Specification for Weather Barrier Finish for Sprayed Polyurethane Insulations on Tanks, Piping & Equipment:** Over monolithic sprayed-on insulation, glass fiber reinforcing mesh should not be used. Mastic finish over insulation shall be ENCACEL® V CP-45. It shall be applied in a uniform pinhole-free coat to a minimum dry film thickness of 32 mils (0.032", 0.08 cm). This represents 6 U.S. gallons per 100 sq. ft. (2.43 l/m<sup>2</sup>) coverage on a smooth surface. Rough surfaces will require 1 1/2 to 3 additional gallons of material to achieve recommended dry film thickness. Use contrasting colors for each coat. Sprayed polyurethane foam may need to be primed prior to the application of the coating to improve adhesion. Many sprayed polyurethane systems are different; end user should always perform an adhesion test to ensure that the adhesion of the coating and primer system with the foam insulation is sufficient.

### CUSTOMER SERVICE: (800) 832-9002

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