



AIR & VAPOR BARRIER

Fire Resist Barritech™ VP-LT

Description

Fire Resist Barritech VP-LT is a fluid-applied membrane formulated for installation in sub-freezing jobsite conditions. The formulation is also fire-retardant, which allows its use in many NFPA 285 wall assemblies. Fire Resist Barritech VP-LT is applied to exterior wall assemblies where it functions as an air barrier and a water-resistive barrier. Fire Resist Barritech VP-LT is vapor-permeable - moisture vapor can diffuse directly through the membrane. Fire Resist Barritech VP-LT can be applied over concrete block, concrete, exterior gypsum sheathing, plywood, OSB and many other common building materials. The product is fully adhered to the substrate, flexible and rubber-like. Fire Resist Barritech VP-LT is a single-component, air-drying product applied by spray or roller at nominal 0.040" (40 mils) dry film thickness. The high film thickness and flexible, elastic properties enable Fire Resist Barritech VP-LT to bridge cracks and seal around penetrations, which creates a truly continuous, monolithic air and water barrier.



Features and Benefits

- Installation permitted in sub-freezing conditions, as low as 15°F
- Simple, 1-part, ready-to-use product. No requirements for pre-mixing in container or mixing of multiple components
- Fire-resistant composition permits use in many wall assemblies requiring NFPA 285
- Dries to a distinctive blue color for easy identification (lighter blue color when wet)
- 180-day UV resistance allows flexibility in schedule
- Vapor-permeable feature permits use in wall assemblies where a vapor barrier is not needed
- Non-flammable & low odor composition contributes to safety during installation
- Easy, water clean-up of tools & equipment reduces harmful chemicals on the jobsite
- Spray-through standard, one-part equipment provides a simple and quick installation
- Monolithic coverage and self-sealing properties around fasteners enable an air and watertight installation
- Non-asphalt composition permits contact with many window and joint sealants
- Fire Resist Barritech VP-LT is a warranted air/vapor barrier system from Carlisle Coatings & Waterproofing

Project Conditions

Building codes and project specifications require continuity of the air barrier installation. It is the installer's responsibility to understand the extent and sequencing of air barrier installation on the project. Do not proceed with installation until substrate and project conditions conform to requirements specified in this document. Identify any membranes, coatings, sealants, tapes and joint compounds by others which will come into contact with Barritech VP-LT and CCW accessories, and verify compatibility through CCW. All surfaces accepting Barritech VP-LT and CCW accessories shall be clean, dry, frost free and of sound condition.

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Verify that wall assemblies are dried in, such that water intrusion will not occur from above, behind or around the membrane installation. Gaps and cracks exceeding ¼ inch across shall be filled with materials and technique approved by CCW. As Barritech VP-LT and CCW Accessories cannot span any gap in excess of ¼ inch (exception - 1 inch gap for P/S Elastoform), electrical/mechanical penetrations, structural steel penetrations, columns/beams, expansion/seismic joints, shelf angles, tie-ins to fenestration and transitions to other building assemblies may require extra work and materials to provide suitable surfaces for continuous installation of the air barrier. For installation details of Fire Resist Barritech VP LT, use those published for standard Fire Resist Barritech VP.

Substrate Inspection

Concrete

Shall be cured in place 7 days minimum. It shall be smooth, with sharp protrusions such as cold joints ground flush. Honeycomb and holes/cracks exceeding ¼" across shall be filled with grout or mortar.

Concrete Masonry Unit (CMU)

Mortar joints shall be struck flush and shall be free of voids exceeding ¼" across. Mortar droppings shall be removed from brick ties and all other surfaces accepting Barritech VP-LT and CCW accessories. Mortar joints shall be allowed to cure 3 days minimum before installation of Barritech VP-LT.

Gypsum Sheathing

Sheathing boards shall be flush at joints, with gap between boards according to building code and sheathing manufacturer's requirements. Sheathing boards shall also be securely fastened to the structure with proper fastener type, technique and spacing according to building code and sheathing manufacturer's requirements. Sheathing boards shall be repaired or replaced if inspection reveals moisture damage, mechanical damage or if sheathing boards have exceeded the exposure duration or exposure conditions as required by the sheathing manufacturer.

OSB, Plywood, Lumber, Pressure-Treated Wood

Wood sheathing inspection carries the same protocol given for gypsum sheathing. Also, moisture content, measured with a wood moisture meter in the core of the substrate, shall be below 20%. Do not cover any wooden materials with Barritech VP-LT or CCW accessories if moisture content is 20% or above. Do not encapsulate wood (such as nailers) with membrane, as this will cause premature rot. In most cases fire- and pressure-treated wood must be kiln dried to accommodate the less than 20% moisture content requirement.

Surface Preparation

Apply CCW contact adhesive to ALL surfaces accepting 705FR-A. CCW-702, CCW-702LV, CCW-702 WB, CCW-715, CAV-GRIP and Travel-Tack are all acceptable for this application. Apply SURE-SEAL primers to all surfaces accepting P/S Elastoform. SURE-SEAL EP-95, HP-250 and Low-VOC EPDM Primer are all acceptable for this application. Follow the application instructions on the respective contact adhesive/ primer product data sheet.

Installation

In sheathing over stud construction, sheathing joints shall be detailed with either of the following methods: 1) Embed 4" DCH Reinforcing Fabric, centered over joint; 2) Fill joint with approved sealant and tool as shown in CCW details. Window openings, inside-outside corners, base of wall, roofline, control joints and other transitions shall be flashed with 705FR-A. P/S Elastoform may be used to detail expansion joints and window wall transitions. Please consult CCW details for guidance.

Apply Fire Resist Barritech VP-LT over surfaces at minimum 0.070" (70 mils) wet in a single or multiple coats through approved spray equipment. Avoid application thickness exceeding 80 wet mils due to slump and extended dry time. For best application, use hoses at least ½" in size, and no more than 100' length. Recommended spray tip sizes are GHD 535 for high coverage and GHD 427 for detail coat. To avoid product skinning, keep lid on during application. Theoretical application rate is 22 ft²/gal in one coat. Fire Resist Barritech VP-LT may also be applied with a paint roller. For roller application, apply a minimum of two 0.035" (35 mils) wet thickness coats. Theoretical application rate is 45 ft²/gal for each coat. For roller application, allow Fire Resist Barritech VP-LT to dry firm between coats.

For installation of LiquiFiber in Fire Resist Barritech VP-LT details, fill all gaps with approved sealant. Apply a bead of Fire Resist Barritech VP-LT at 35 wet mils thickness. Lay LiquiFiber into Fire Resist Barritech VP-LT and press in place with chip brush or drywall knife. Set the LiquiFiber tight into corners (no bridging), and then smooth over surface. Overlap neighboring pieces of LiquiFiber at least 2" and apply 35 wet mils of Fire Resist Barritech VP-LT into the laps. Immediately encapsulate the LiquiFiber with a second coat of Fire Resist Barritech VP-LT. Cover all LiquiFiber with Fire Resist Barritech VP-LT the same day of installation. Liquifiber can be used on inverted surfaces, and it will conform to complex multi-plane details without precise cutting and fitting.

Installation of DCH Reinforcing Fabric is performed like Liquifiber with the following differences: fill all gaps exceeding ¼" with approved sealant. DCH Reinforcing Fabric is not suitable for use over complex, multi-plane details or on inverted surfaces.

705FR-A details can be applied to the substrate or over cured Fire Resist Barritech VP-LT. All surfaces shall be prepped with CCW Contact Adhesive before installation of 705FR-A. Follow application instructions on the CCW Contact Adhesive product data sheet. Installer shall apply CCW Contact Adhesive in a sufficient footprint to extend a minimum of 1" beyond the edges of 705FR-A. Neighboring pieces of 705FR-A shall lap 2" minimum. If 705FR-A is installed over Fire Resist Barritech VP-LT, seal terminating edges of 705FR-A with more Fire Resist Barritech VP-LT, an approved UV-resistant sealant or approved sealant by others. If 705FR-A is installed to the substrate, seal terminating edges of 705FR-A with LM 800XL or other approved sealant, then lap Fire Resist Barritech VP-LT at least 2" over edges of 705FR-A.

Fire Resist Barritech VP-LT may be left exposed up to 6 months (180 days). If the membrane is damaged during exposure, repair damaged membrane by removing loosely adhered material, cleaning the surface and coating the damaged area with a minimum 70 mils wet thickness coating of Fire Resist Barritech VP-LT.

Clean Up

Promptly clean uncured Barritech VP-LT from hands, tools, surfaces and spray equipment with tap water. Cured product must be removed mechanically or by soaking in solvent, such as xylene.

Limitations

- Do not apply in wet weather.
- In warmer conditions, product will skin quickly. Cover container during spray to prevent skin formation over product.
- Do not apply over wet or frosty surfaces.
- Condition product to warmer temperature to facilitate spray.
- Do not apply product in rain or snow. Do not install if rain or accumulating snow is expected during drying time of product.
- Do not use in areas where temperatures exceeding 180°F are anticipated.
- Product is designed to be used as a positive side water barrier and will not function as negative side water barrier.

Packaging

Barritech VP-LT

Fluid-applied, fire-resistant air/vapor barrier packaged in 50-gallon drums and 5-gallon pails

Other CCW Products:

CCW Contact Adhesives (select any):

CAV-GRIP™

Aerosol spray contact adhesive packaged in pressurized cylinders containing 30 lb. fill weight of adhesive. Reusable spray gun and 6', 12' or 18' hose are sold separately and are attached to cylinder for dispense.

CCW-702

Solvent-based contact adhesive packaged in 1-gal cans and 5-gal pails

CCW-702 LV

OTC-compliant, solvent-based contact adhesive packaged in 5-gal pails

CCW-702 WB

Water-based contact adhesive packaged in 5-gal pails

CCW-715

Solvent-based contact adhesive for green concrete, packaged in 5-gal pails

TRAVEL-TACK™

Aerosol contact adhesive packaged in 12-oz. cans

Approved Sealants:

LM-800XL (under Fire Resist Barritech VP-LT)

Trowel-grade synthetic rubber sealant packaged in 29 fl-oz cartridges, 12/case and in 5-gal pails (Note: maximum UV exposure of 10 days)

CCW-201 (over or under Fire Resist Barritech VP-LT)

2-part, non-sag polyurethane sealant packaged in 1½-gal kits

Sure-Seal Lap Sealant (over or under Fire Resist Barritech VP-LT)

1-part, solvent-based synthetic rubber packaged in 10.3 fl-oz cartridges, 25/case

Sealants by Others: (over or under Fire Resist Barritech VP-LT)

Polyurethane, polyether or MS polymer sealant meeting ASTM C920 Type S or M, Grade NS, Class 25, 35, 50 or 50/100, Use NT Outdoor Grade Acrylic Latex Caulk meeting ASTM C834 Type OP Grade minus 18°C

Sealants by Others: (over Fire Resist Barritech VP-LT only)

Silicone sealants meeting ASTM C920 Type S, Grade NS, Class 25, 35, 50 or 50/100, Use NT

Storage

Store Fire Resist Barritech VP-LT and accessory products in a location protected from temperature extremes, precipitation and direct sunlight. Shelf life of Fire Resist Barritech VP-LT in original, unopened packaging, stored under these conditions, is 6 months from the date of manufacture.

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Typical Properties

Property	Method	Results
Color	--	Un-Cured: Light Blue Cured: Medium Blue
Application Temperature	--	Minimum 15°F
Volume % Solids	--	62%
Drying time of 65 mil wet film at 73°F/50% RH*	--	15°F/50% RH fully dry in 48 h for 20°F 45°F/50% RH fully dry in 24 h for 40°F
Coverage (Theoretical)**	Percent solids calculation	22 ft ² /gal (70 wet mils, 43 dry mils)
Volatile Organic Content (VOC)	--	<160 g/L
Water Resistance of In-place membrane	AATCC 127, modified 22 inch (55 cm) column of water	No water leakage through membrane
Air leakage resistance of In-place membrane	ASTM E1186 Bubble Gun – CMU with imbedded ties	No visible bubbling
Nail Sealability	ASTM D1970	Pass
Water Vapor Permeance	ASTM E96 B (Water Method) ASTM E 96 A (Desiccant Method)	14 Perms 0.7 Perm
Pull-Off Adhesion	ASTM D4541, modified 4" wood puck	> 30 PSI on CMU and OSB (maximum reading on gauge) > 12 PSI on DensGlass (de-lamination of facer from gypsum core)
Elongation at Break	ASTM D412	500%
Low-Temp Flexibility	ASTM D1970, 180° bend over 1" mandrel	No cracking at -20°F
Aging/ Long-Term Flexibility	CGSB 71-GP-24M Aging 70°C [140°F] for 500 h then 180° bend	No cracking
Low-Temp Crack Bridging	ASTM C1305	No cracking after 10 cycles at -15° F
Mold Resistance	ASTM D5590	No Growth
Peel Adhesion	ASTM D903	13 lb/in on CMU and DensGlass Gold (facer failure)
Air Permeance	ASTM E2178 - Mod Single, coating spray-applied to CMU	</= 0.001 L/s*m ² @ 75 Pa [0.0002 CFM/ft ² @ 1.57 PSF]

Property	Method	Results
Wall Assembly Burn Test	NFPA 285	Pass - Various wall assemblies with R2+ polyiso insulation and insulation products by others. Consult CCW Wall Assembly Design Guide.
Air Barrier Assembly Test	ASTM E2357	Air Leakage: Maximum 0.012 L/s*m ² @ 75 Pa [0.0024 CFM / ft ² @ 1.57 PSF]
Water Resistance of In-Place Membrane	ASTM E331, Single, coating spray-applied to CMU	No visible leakage to interior after 15 minutes water spray rack @ 6.24 PSF
Surface Burning	ASTM E84. Product applied full coverage, to cement board substrate.	Flame Spread Index 15, Smoke Generation Index 135
Measurement of Heat Release by Cone Calorimeter	ASTM E1354. 50 kW/m ² Heat Flux	Peak Heat Release Rate: 167 kW/m ² [14.7 BTU/s*ft ²] Total Heat Release: 14.7 MJ/m ² Effective Heat of Combustion: 12.3 MJ/kg

* Drying time varies with ambient temperature, ambient humidity, substrate temperature, substrate dampness, coating thickness, sun and wind. Cool, moist, shady conditions and high coating thickness present the worst case scenario, causing the product to take days to dry.

** Actual coverage varies by substrate and is typically less than theoretical coverage due to substrate roughness and porosity, wind, scrap and installer skill. Measurable dry mil thickness may also be lower than theoretical, due to substrate roughness, porosity and measurement technique. On all substrates, coating shall be visibly continuous, with no pinholes. Dry thickness, measurable with a pin gauge, comb gauge or micrometer shall be a minimum of 30 mils.

Limited Warranty

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price. This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever. The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.