



# VERSIFLEECE PVC

## G U I D E - S P E C

### **VersiFleece® PVC / VersiFleece® KEE HP Mechanically Attached Roofing System**

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This **GUIDE-SPEC** is a brief outline of Versico's VersiFleece PVC / VersiFleece KEE HP Mechanically Attached Roofing System requirements and is intended for use as a submittal with a bid package. Specifiers and the Versico Authorized Roofing Contractor must comply with the applicable Sections of Versico's Technical Manual, prior to design or bid.

#### **PART I GENERAL**

##### **1.01 DESCRIPTION**

**The VersiFleece PVC / VersiFleece KEE HP Mechanically-Fastened Roofing System** incorporates 60- or 80-mil thick, polyester reinforced scrim, VersiFlex PVC membrane laminated to a 55-mil thick non-woven polyester fleece-backing resulting in a total finished sheet thickness of 115 or 135-mils or VersiFlex KEE HP 50-, 60- or 80-mil thick, 10' wide polyester reinforced scrim, KEE HP PVC membrane laminated to a 55-mil thick non-woven polyester fleece-backing in a total finished sheet thickness of 105-, 115- or 135-mils. Without an underlayment, the membrane can be installed directly over an existing modified bitumen or existing single-ply and mechanically fastened to an acceptable steel or wood deck with Versico HPVX Fasteners and HPVX Plates spaced a maximum of 12" on center. Adjoining sheets of membrane are joined together with a minimum 1-1/2" wide hot air weld. Membrane securement to other types of decks will require an approval from Versico depending upon pullout values achieved.

##### **1.02 QUALITY ASSURANCE**

- A. This roofing system must be installed by a Versico Authorized Roofing Contractor in compliance with shop drawings as approved by Versico SynTec.
- B. Upon request, an inspection shall be conducted by a Field Service Representative of Versico to ascertain that the membrane roofing system has been installed according to Versico's published specifications and details applicable at the time of bid. This inspection is to determine whether a warranty shall be issued. It is not intended as a final inspection for the benefit of the owner.
- C. For specific code approvals achieved with this system, refer to Versico's VersiFleece Code Approval Guide, DORA (Directory of Roof Assemblies), FM Approvals or UL Fire Resistance Directory for Roofing Materials and System.

##### **1.03 SUBMITTALS**

- A. To ensure compliance with Versico's warranty requirements, the following projects should be forwarded to Versico for review prior to installation, preferably prior to bid.
  - 1. Air pressurized buildings, canopies, and buildings with large openings, cold storage buildings or freezer facilities, adhered roofing system projects over 100' in height or projects where the VersiFleece membrane is expected to come in direct contact with petroleum-based products, waste products (i.e., grease, oil, animal fats, etc) and other chemicals.
- B. Shop drawings must be submitted to Versico by the Versico Authorized Roofing Contractor along with a completely executed Copy-A - Job Approval Request For Warranty from for approval. Approved shop drawings are required for inspection of the roof and on projects where on-site technical assistance is requested.

##### **1.04 GENERAL DESIGN CONSIDERATIONS**

- A. It is the responsibility of the building owner or his/her designated representative to verify structural load limitation. In addition, a core cut may be taken to verify weight of existing components when the roofing system is to be specified on an existing facility.
- B. On new construction projects, especially in cold climate regions, moisture generated due to the construction process could adversely impact various components within the roofing assembly if not addressed. [Refer to Design Reference DR-01-21 "Construction Generated Moisture" included in the Versico Technical Manual.]
- C. On structural concrete decks, when a vapor retarder is not used, gaps in the deck along the perimeter and around penetrations must be sealed along with vertical joints between tilt-up panels, if present, to prevent infiltration of hot humid air and



possible moisture contamination resulting from condensation. This is specifically important when adhesive is used to attach the roof insulation.

**CAUTION:** If left unaddressed, collected moisture could weaken insulation boards and facers resulting in a blow-off or increase the probability of mold growth.

D. Vapor Retarders

1. Versico does not require a vapor retarder for the protection of the membrane; however, it should be considered by the specifier for the protection of the roofing assembly (i.e. primarily insulation, underlayment and adhesives). The following criteria should be considered by the specifier:
  - a. Use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly, should be investigated by the specifier.
  - b. In the generally temperate climate of the United States, during the winter months, water vapor flows upward from a heated, more humid interior toward a colder, drier exterior. Vapor retarders are more commonly required in northern climates than in southern regions, where downward vapor pressure may be expected and the roofing membrane itself becomes the vapor retarder.

**1.05 WARRANTY**

**Table I VersiFleece PVC/ VersiFleece KEE HP Mechanically Fastened Systems  
Warranty Options**

Years	Minimum Membrane Thickness	Warranty Wind Speed			Additional Hail Coverage			
		55 or 72 mph	80 mph	90 or 100 mph	1" Dia. Hail	2" Dia. Hail	3" Dia. Hail	4" Dia. Hail
5,10, or 15 year	VersiFleece PVC 115-mil or VersiFleece KEE HP 105-mil	√	N/A	N/A	N/A	N/A	N/A	N/A

Notes: N/A = Not Acceptable      √= Acceptable  
 General: Mechanical Fastening refer to Attachment II, of the VersiFleece Specification for number of fastening sheets and fasteners.  
 Contact Versico for extended wind speed coverage or a 20-year System Warranty.

**1.06 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials to the job site in the original, unopened containers labeled with the manufacturer's name, brand name and installation instructions.
- B. Job site storage temperatures in excess of 90°F may affect shelf life of curable materials (i.e., adhesive, sealants and cleaners).
- C. VersiFleece PVC Membrane should be stored in its original plastic wrap or be covered to protect from moisture. Any moisture absorbed by the fleece-backing must be removed by using a wet-vac system prior to membrane securement.

**1.07 JOB CONDITIONS**

- A. Refer to Versico Technical Manual for applicable project specific Job Conditions.

**PART II PRODUCTS**

**2.01 GENERAL**

The components of this roofing system are to be products of Versico or accepted by Versico as compatible. The installation, performance or integrity of products by others, **when selected by the specifier and accepted as compatible by Versico**, is not the responsibility of Versico and is expressly disclaimed by the Versico Warranty.

**2.02 MEMBRANE**

VersiFleece PVC 115 or 135 membrane incorporates a 60- or 80-mil thick polyester Reinforced PVC membrane laminated to a 55-mil non-woven fleece backing resulting in a total finished sheet thickness of 115 or 135- mils or VersiFleece KEE HP 50-, 60- or 80-mil thick, 10' wide

polyester reinforced scrim, VersiFlex KEE HP PVC membrane laminated to a 55-mil thick non-woven polyester fleece-backing in a total finished sheet thickness of 105-, 115- or 135-mils. For available membrane widths and lengths refer to applicable Technical Data Bulletins.

## 2.03 RELATED MATERIALS

- A. VersiFlex Non-Reinforced Flashing, Reinforced Cover Strips, Cut-Edge Sealant, PVC and KEE HP Membrane Cleaner, Termination Bars, Insulation Fasteners and Water Cut-Off Mastic. Other Versico products such as insulation and edgings are also required when a System Warranty is specified.
- B. **Other Products:** Heat Weldable Walkway Rolls, Pre-Molded Pipe Flashings, Split Pipe Seals, Inside and Outside Corners, Tubing Wraps and Molded or Pourable Sealant Pockets and LIQUISEAL Liquid Flashing.

## PART III EXECUTION

### 3.01 GENERAL

- A. When feasible, begin the application at the highest point of the highest roof level and work to the lowest point to prevent moisture infiltration and minimize construction traffic on completed sections. This will include completion of all flashings and terminations.

### 3.02 ROOF DECK CRITERIA

- A. A proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.
- B. Defects in the roof deck must be reported and documented to the specifier, general contractor and building owner for assessment. The Versico Authorized Roofing Contractor shall not proceed unless the defects are corrected.
- C. Refer to Versico Technical Manual for acceptable decks and the applicable Versico Fasteners (when mechanical attachment of insulation is specified).

### 3.03 SUBSTRATE REQUIREMENTS

- A. The membrane may be installed over an existing single-ply or modified bitumen and mechanically fastened to the roof deck with Versico Fasteners. Direct application over certain types of lightweight insulating concrete substrates may also be specified (contact Versico for acceptable lightweight insulating concretes).
- B. The substrate must be dry, relatively smooth, free of protrusions, debris, sharp edges or foreign materials and must be free of accumulated water, ice and snow. Cracks or voids in the substrate greater than 1/4" must be filled with a suitable material.
- C. Cut and remove wet insulation as identified by the specifier and fill all voids with new insulation, so that it is relatively flush.

### 3.04 INSTALLATION

Refer to the applicable Safety Data Sheets and Product Data Sheets for cautions and warnings.

#### A. Membrane Installation

1. VersiFleece PVC Membrane shall be positioned over the existing roof surface and mechanically fastened to the roof deck with Versico HPVX Fasteners and HPVX Plates spaced a maximum of 12" on center.

2. **Perimeter Securement Requirements**

The membrane shall be secured around the building perimeter using additional rows of HPVX Fasteners and HPVX Plates positioned along the centerline of the 12' wide sheets as follows.

VersiFlex Non-Reinforced Overlayment Strips (hot air welded) shall be used to overlay the fasteners and plates.

3. Adjoining sheets of VersiFleece PVC Membrane are overlapped approximately 5-1/2" along the length of the membrane (at the selvage edge) where fastening plates will be located. At end laps (along the width of the sheet), membranes shall be butted together which will be overlaid with a minimum 6" wide VersiFlex reinforced membrane hot air welded on all edges.

4. **Membrane Splicing – Heat Welding**

- a. Along the length of the membrane (at selvage edges), heat weld membrane sheets a minimum of 1-1/2" with an Automatic Heat Welder or Hot Air Hand Welder and silicone roller. Refer to the Versico Technical Manual for specific heat welding procedures.

- b. Membrane that has been exposed to the elements for approximately 7 days must be prepared by scrubbing the splice area with a Scotch Brite Pad and Versico PVC and KEE HP Membrane Cleaner. Clean all residue from the prepared splice area with a Splice Wipe or clean natural fiber (cotton) rag prior to welding.

## **B. Additional Membrane Securement**

The membrane must be secured at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any angle change which exceeds 2" in one horizontal foot and at all other penetrations in accordance with Versico's Details published in the Versico Technical Manual.

## **C. Membrane Flashing**

1. Use continuous deck membrane where feasible as outlined in appropriate Versico Detail.
2. Non-Fleece membrane shall be limited to inside and outside corners, field fabricated pipe seals, scuppers and Sealant Pockets where the use of pre-molded accessories are not practical.
3. On vertical surfaces, such as walls, curbs and pipes, Bonding Adhesive is not required when the flashing height is 12" or less and the membrane is terminated under a metal counterflashing (nailed). When a coping or termination bar is used for vertical terminations, Bonding Adhesive may be eliminated for flashing heights 18" or less.
4. When using the Overlayment Strip to overlay metal edging flanges or fasteners/plates, Versico PVC and KEE HP Membrane Cleaner is used to clean surfaces as needed.
5. Terminate the flashing in accordance with the appropriate Versico Details above anticipated slush line.

**Note:** Fleece backing must be removed from the back of the membrane prior to completing compression seal terminations so Water Cut-Off Mastic is applied directly to the membrane surface. Apply heat to the fleece material and scrape to fully remove.

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**Physical properties of VersiFleece PVC Membrane can be referenced in Part II, "Products" of the VersiFleece Specification.**

**Attach copies of the applicable Versico Details that pertain to the individual project to complete a bid package submittal.**