



SHORT FORM SPEC

FULLY ADHERED ROOFING SYSTEM

This GUIDE-SPEC is a brief outline of Versico's VersiFlex Adhered Roofing System requirements and is intended for use as a submittal with a bid package. Specifiers and Versico Authorized Roofing Contractors must comply with the VersiFlex Specification prior to design or bid.

PART 1 GENERAL

1.01 DESCRIPTION

The VersiFlex Adhered Roofing System incorporates maximum 10' wide white, gray or tan 50-mil, 60-mil or 80-mil thick reinforced VersiFlex Polyvinyl Chloride (PVC) membrane. Versico Insulation is mechanically fastened to the roof deck or secured with an approved adhesive and the membrane is fully adhered to the substrate with VersiFlex PVC Bonding Adhesive or Aqua Base 120 Bonding Adhesive. Adjoining sheets of membrane are overlapped and joined together with a minimum 1-1/2" wide heat weld.

Note: Projects utilizing 50-mil membrane are eligible for a maximum 15-year System Warranty. Projects using minimum 60-mil membrane are eligible for a maximum 20-year Total System Warranty.

1.02 QUALITY ASSURANCE

- A. This roofing system must be installed by a Versico Authorized Contractor in compliance with shop drawings as approved by Versico. There must be no deviations made without the **PRIOR WRITTEN APPROVAL** of Versico.
- B. Upon completion of the installation, an inspection will be conducted by a Field Service Representative of Versico to ascertain the membrane roofing system has been installed according to Versico's published specifications and details applicable at the time of bid.
- C. This roofing system meets Underwriters Laboratories (UL) and Factory Mutual (FM) requirements. For specific code approvals achieved with this roofing system, refer to the VersiFlex Code Approval Guide, Factory Mutual Approval Guide or Underwriters Fire Resistance and roofing Materials and Systems Directories.

1.03 SUBMITTALS

- A. To ensure compliance with Versico's warranty requirements, the following projects should be sent to Versico for review prior to installation, preferably prior to bid.
 - 1. Projects where the building height exceeds 250'.

2. Air pressurized buildings, canopies and buildings with large openings where the total wall opening exceeds 10% of the total wall area where openings are located.
 3. Cold storage buildings and freezer facilities.
 4. Projects where the membrane is expected to come in direct contact with petroleum based products or other chemicals.
- B. Along with the project submittals (shop drawings and Request for Warranty), the roofing contractor must include pullout tests when the pullout values are less than the VersiFlex Specification requirements:
- C. For all projects (prior to project inspection by Versico) a final shop drawing must be approved by Versico.

1.04 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. Store VersiFlex membrane on provided pallets in original undisturbed plastic wrap.
- C. Job site storage temperatures in excess of 90°F may affect shelf life of curable materials (i.e., adhesives and sealants).
- D. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60°F before use.
- E. Do not store adhesive containers with opened lids due to loss of solvent, which will occur from flash off.
- F. Insulation and underlayment must be stored so it is kept dry and is protected from the elements. Store insulation on a skid and completely cover with a breathable material such as tarp or canvas. If the insulation is lightweight, it should be weighted to prevent possible wind damage.

1.05 JOB CONDITIONS

- A. There are no maximum slope restrictions for application of this roofing system. When the roof slope exceeds 5" per horizontal foot, use of an automatic welding machine may be more difficult. A hand held welder should be specified.
- B. Existing roofing material must be investigated by the specifier and all wet material must be removed.
- C. Existing phenolic insulation and sprayed-in-place urethane roofs must be removed prior to installation of this system.

- D. The use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly should be investigated by the specifier. Consult the latest publications by ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) and NRCA (National Roofing Contractors Association).
- E. Coordination between trades is essential to avoid unnecessary rooftop traffic over sections of the roof and to prevent subsequent damage to the membrane system.

1.06 WARRANTY

All warranties are available for commercial projects only.

- A. Up to a 15-year Total System Warranty is available for a charge for projects that use a minimum 50-mil membrane.
- B. Up to 20-year Total System Warranty is available for a charge for projects utilizing minimum 60-mil thick VersiFlex membrane and incorporating additional design enhancements as outlined in this specification.

Note: Total System Warranty projects require that only materials from among those manufactured or marketed by Versico be specified and used to complete the roofing system. Some of the materials included are: insulation, membrane, flashing, adhesives, sealants, fasteners and plates and termination bars. Versico Edgings and Copings must also be specified when metal fascia systems are to be covered by the Versico Warranty.

- D. Standard peak gust wind speed coverage is 55 mph (measured 10 meters above ground). Greater wind speed coverage, up to 72 mph peak gusts, is available upon request.

PART 2 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 by Versico**, is not the responsibility of Versico and is **expressly disclaimed** by the Versico Warranty.

2.02 MEMBRANE

VersiFlex white, gray or tan 50-mil (100' long), 60-mil (80' long) or 80-mil (65' long) reinforced Polyvinyl Chloride (PVC) membrane is used for this system. Membrane sheets are 40.5", 81", 5' or 10' wide. For physical properties of the membrane please refer to Versico's VersiFlex PVC Technical Data Bulletin that is available online.

2.03 RELATED MATERIALS

VersiFlex Non-Reinforced or Reinforced Flashing, Bonding Adhesive, Cut Edge Sealant, Water Cut-Off Mastic, PVC Membrane Cleaner, One-Part Pourable Sealer, Heat Weldable Walkway Pads, Pre-Molded Inside and Outside Corners, Pipe Flashings and Sealant Pockets.

PART 3 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 to minimize construction traffic on completed sections. This will include completion of all flashings, terminations and daily seals.
- B. Follow criteria outlined in the VersiFlex Specification to prepare the roof deck or the existing substrate prior to application of the new roofing system.

3.02 ROOF DECK CRITERIA

- A. The 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 Contractor shall not proceed with installation unless the defects are corrected.
- C. Acceptable decks and applicable Versico Fasteners:
 - 1. **Steel, 22 gauge or heavier** - Versico HPVX Fasteners are required; minimum pullout of 360 pounds per fastener.
 - 2. **Steel less than 22 gauge** - Versico HPVX or HPV-XL Fasteners are required; minimum pullout of 300 pounds per fastener.
 - 3. **Lightweight Insulating Concrete over steel** - Versico HPVX Fasteners/Plates or HPV-XL Fasteners/Plates are required with a minimum pullout of 360 pounds per fastener (into steel deck below the lightweight concrete).
 - 4. **Structural Concrete, rated 3,000 psi or greater** - Versico CD-10 or MP 14-10 Fasteners are required; minimum pullout of 800 pounds per fastener.
 - 5. **Wood Plank or minimum 15/32" thick Plywood** - Versico MP 14-10 or HPVX Fasteners are required; minimum pullout of 360 pounds per fastener.
 - 6. **Oriented Strand Board (OSB), minimum 7/16" thick** - Versico HPVX or HPV-XL Fasteners are required; minimum pullout of 250 pounds.
 - 7. **Gypsum and Cementitious Wood Fiber** - Versico Gyptec Fasteners are required; minimum pullout of 300 pounds per fastener.

3.03 SUBSTRATE PREPARATION

- A. On retrofit-recover projects, cut and remove wet insulation, as identified by the specifier, and fill all voids with new insulation so it is relatively flush with the existing surface.
- B. For all projects, substrate must be even without noticeable high spots or depressions, and must be free of accumulated water, ice or snow.
- C. Clear the substrate of debris and foreign material. Fresh bitumen based roof cement must be removed or concealed.

3.04 INSTALLATION

Refer to the applicable Material Safety Data Sheets and Technical Data Bulletins for cautions and warnings.

A. Insulation Attachment

1. Versico Insulation shall be mechanically fastened to the roof deck at a minimum rate of 1 every 2 square feet except as follows.
 - a. When a single or top layer of **minimum 1-1/2" thick Versico Polyisocyanurate** Insulation is specified, Versico Insulation may be mechanically fastened at the minimum rate of 1 every **3.2 square feet** (10 fasteners per 4' x 8' board). Refer to Detail VFA-27D for requirements.
 - b. When a single or top layer of **minimum 2" thick Versico Polyisocyanurate** Insulation is specified, Versico Insulation may be mechanically fastened at the minimum rate of 1 every **4 square feet** (8 fasteners per 4' x 8' board). Refer to Detail VFA-27B for requirements.
 - c. **Dens-Deck Prime**, 1/4" or 1/2" thick, may be fastened at the rate of 12 fasteners/plates per 4' x 8' boards (1 per 2.67 square feet). **Dens-Deck Prime**, 5/8" thick, may be fastened at the rate of 8 fasteners/plates per 4' x 8' board (1 per 4 square feet). Refer to Detail VFA-27F.
 - d. On reroof/no tearoff projects with a maximum roof height of 40' any Versico insulation (i.e., Recovery Board, Polyisocyanurate Insulation less than 1-1/2" thick) may be secured at the minimum rate of 11 fasteners per 4' x 8' board (5 fasteners per 4' x 4' board). This option is not applicable for 15 or 20 year Total System Warranty projects or projects where extended wind speed coverage (greater than 55 mph) is desired. Refer to Detail VFA-27E.
3. When an approved oriented strand board (OSB) is specified as the membrane underlayment, it must be mechanically fastened to the roof deck with 17 fasteners per 4' x 8' board in accordance with VersiFlex Detail VFA-27C.
4. Versico Insulation Fastening Plates, nominal 3" diameter, must be used with the appropriate Versico Fastener for insulation attachment.

5. When insulation by others is specified, the fastening density and pattern must be recommended by the insulation manufacturer. If the fastening density is specified to be less than 1 fastener and plate every 2 square feet, the assembly must be FM approved and the respective manufacturer must verify in writing their requirements concerning the fastening density, fastening pattern and acceptable fasteners.
6. When mechanical attachment of the insulation is not desired, an alternate insulation attachment method may be specified which incorporates the use of Carlisle FAST Adhesive, OlyBond 500 BA or VersiGrip Insulation Adhesive or a solid mopping of hot asphalt.

B. Membrane Installation and Heat Welding

1. Sweep loose debris from the substrate.
2. Position VersiFlex Membrane over acceptable substrate and fold membrane back so half the underside is exposed.
3. Apply VersiFlex Bonding Adhesive or Aqua Base 120 Bonding Adhesive to the exposed underside of the membrane and the corresponding substrate area with a plastic core medium nap paint roller at the appropriate coverage rate.
4. Allow adhesive to dry and roll coated membrane into coated substrate. Avoid wrinkling.
5. Brush down the bonded section of membrane immediately with a soft bristle push broom.
6. Fold back the unbonded half of the sheet and repeat the bonding procedure.
7. Install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2 inches to provide for a minimum 1-1/2" hot air weld. It is recommended that all splices be shingled to avoid bucking of water.
8. Heat weld the membrane sheets a minimum of 1-1/2" with an Automatic Heat Welding Machine.

C. 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" per horizontal foot and at all other penetrations in accordance with Versico's published details.

D. Membrane Flashing

Flash all walls and curbs with VersiFlex reinforced membrane. Non-Reinforced 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. Terminate the flashing in accordance with an appropriate VersiFlex Termination Detail.

E. Other Related Work

1. **Walkways** are required for all traffic concentration points (i.e., roof hatches, access doors, rooftop ladders, etc.), regardless of traffic frequency. Walkways are also required if regular maintenance (once a month or more) is necessary to service rooftop equipment. Walkways are considered a maintenance item and are excluded from the Versico Warranty.
 - a. VersiFlex Heat Weldable Walkway Rolls are required when walkway pads are specified and are heat welded to the VersiFlex Membrane.
 - b. When concrete pavers are used, they shall be loose laid and installed in conjunction with a slip sheet of reinforced membrane.

Concrete pavers are not recommended when the roof slope is greater than 2" per horizontal foot.
 - c. Versico Interlocking Rubber Pavers, 24" x 24" x 2", weighing approximately 6 pounds per square foot, may be interlocked and loose laid directly over the membrane.
2. **Copings, counterflashing and other metal work**, not supplied by Versico, shall be fastened to prevent metal from pulling free or buckling and sealed to prevent moisture from entering the roofing system or building.

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

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