



VersiWeld VersiFleece TPO Adhered Membrane with DASH Adhesive Extrusion Method

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This **GUIDE-SPEC** is a brief outline of Versico's VersiFleece TPO Adhered Roofing System with DASH Adhesive Extruded Method requirements and is intended for use as a submittal with a bid package. Specifiers and the Versico Authorized Roofing Contractor must comply with the "Design Criteria" and "Application" Sections of Versico's Technical Manual, prior to design or bid.

PART I GENERAL

1.01 DESCRIPTION

This method of adhering the VersiFleece TPO Membrane incorporates Versico VersiFleece TPO Membrane adhered to an acceptable insulation or substrate with DASH DC or Bag in a Box Adhesive through normal extrusion.

Adjoining sheets and end laps of VersiFleece TPO Membrane shall follow splicing procedures published in the VersiWeld VersiFleece TPO Specifications.

NOTE: DASH Adhesive and FAST Adhesive are equivalent products. These adhesives can be used interchangeably.

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. There must be no deviations made from Versico's specifications or the approved shop drawings without the **PRIOR WRITTEN APPROVAL** of Versico.
- B. Upon completion of the installation and notification, an inspection will be conducted by a Field Service Representative of Versico to ascertain that the roofing system has been installed according to Versico's specifications and details.
- C. For compliance with CRRC (California Roof Rating Council) requirements for reflectance and emittance, refer to VersiWeld VersiFleece TPO Design Specification or Technical Data Bulletin.
- D. VersiWeld VersiFleece TPO membranes exceed the SRI requirements set forth by the U. S. Green Building Council for LEED (Leadership in Energy and Environmental Design). Refer to the VersiWeld VersiFleece TPO Design Specification or Technical Data Bulletin.

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 where the total wall openings exceed 10% of the total wall area on which the openings are located (such as airport hangars, warehouses and large maintenance facilities).
- 2. Cold storage buildings and freezer facilities.
- 3. Projects where the VersiFleece TPO Membrane is expected to come in direct contact with petroleum based products or other chemicals.
- 4. Projects where a warranty length coverage is greater than a 15-year Total System Warranty is specified.
- 5. Projects where extended wind speed coverage greater than 72 mph is specified.
- 6. Projects where building heights are greater than 100 feet and/or projects located in a wind zone of 120 mph or greater based on ASCE 7 Basic Wind Speeds.

- B. When mechanical attachment of insulation is proposed over fibrous cement, gypsum, steel lighter than 22 gauge, or OSB decks less than 5/8" thick, withdrawal tests must be conducted with the appropriate Versico Fastener. If the pullout values do not meet the requirements outlined in this Specification, the values must be submitted to Versico to determine any additional enhancements.
- 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. Job site storage temperatures in excess of 90°F may affect shelf life of curable materials (i.e., DASH Adhesives, splicing cement, sealants, cleaners, primers, QA Seam Tape, Pourable Sealer, Pressure-Sensitive Flashing and uncured flashing).
- C. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60°F before use. Do not store containers with opened lids due to loss of solvent that will occur from flash off.
- D. VersiFleece TPO membrane should be stored in its original plastic wrap and 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 adhesion.

- E. 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. Do not apply DASH DC Adhesive when surface and/or ambient temperatures are below 25°F when using heated extrusion equipment.
- B. The addition of FAST Adhesive Catalyst to FAST Adhesive (Part B) is required when temperatures are below 50° F to speed up reaction time.
- C. There is no maximum slope restriction for the application of this roofing system. On White VersiFleece TPO membrane a slope greater than 1/8" per horizontal foot is recommended to serve long-term aesthetics.

On VersiWeld VersiFleece TPO Roofing Systems, when the slope exceeds 5" per horizontal foot, use of an automatic heat welding machine may be more difficult. A hand held heat welder should be specified.

- D. On retrofit-recover projects, existing roofing material must be investigated and wet material must be removed.
- E. When tear-off of existing asphaltic roofing materials is specified, any asphalt materials, including residue that is in a condition similar to fresh asphalt, must be completely removed.
- F. Existing Phenolic Insulation must be removed.
- G. 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) for specific information.

If a vapor retarder is specified and insulation is to be secured with DASH Adhesive, Versico recommends the use of the Versico 725TR Air and Vapor Barrier. If a vapor retarder manufactured by others is to be utilized, Versico must be contacted regarding a suitable material.

- H. Coordination between various trades is essential to avoid unnecessary rooftop traffic over sections of the roof and to prevent damage to the membrane.

1.06 WARRANTY

All Versico warranties are available only for commercial projects for a charge where all components manufactured or marketed by Versico are utilized.

- A. **For a 5, 10, or 15 year Total System Warranty** the membrane would be adhered with maximum extrusion spacing in the **field** of the roof at 12" on center. Refer to section 3.04.B.4 for perimeter requirements. Projects will receive peak gust warranty wind speed coverage up to 55 mph. Additional wind speed coverage up to 72 mph is available when extrusion spacing is no greater than 6"

across the entire roof area.

- B. **For a 20 year Total System Warranty** the membrane is adhered with maximum extrusion spacing of 6" on center across the **entire** roof area. Projects will receive peak gust warranty wind speed coverage up to 55 mph. Additional wind speed coverage up to 72 mph is available when extrusion spacing is no greater than 4" within the perimeter area as defined in section 3.04.B.4.
- C. Extended wind speed coverage is available when enhancements to assembly component and reduction of extrusion spacing are incorporated. Refer to appropriate VersiFleece TPO Membrane specification with full coverage adhesive attachment.

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 TPO 100 or 115 Membrane incorporates 45-mil or 60-mil VersiWeld (white, gray or tan) reinforced TPO membrane laminated to a 55-mil thick non-woven polyester fleece-backing resulting in a total finished sheet thickness of 100 or 115 mils.

For available membrane widths and lengths refer to applicable VersiFleece TPO Specification or Technical Data Bulletins.

2.03 RELATED MATERIALS

- A. VersiWeld VersiFleece TPO Systems:
DASH DC or Bag in a Box Adhesive, VersiWeld Reinforced and Non-Reinforced Flashing, Pressure Sensitive Cover Strips, Cut-Edge Sealant, Universal Sealant, TPO Membrane Cleaner, One-Part Pourable Sealer, Termination Bars, Versico Insulation, Insulation Fasteners and Water Cut-Off Mastic. Other Versico products, such as metal edgings components, are also required when a Total System Warranty is specified.

Other Products: Heat Weldable Walkway Pads, Pre-Molded Pipe Flashings, Split Pipe Seals, Corners, TPO Curb Wrap Corners, and Sealant Pockets.

PART III EXECUTION

3.01 GENERAL

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 Applicator shall not proceed unless the defects are corrected.
- C. When mechanically attaching the insulation with Versico Fasteners and Insulation Plates, refer to VersiFleece TPO Application – Attachment I or VersiWeld VersiFleece TPO Application – Attachment I for acceptable decks and the applicable Versico Fasteners.

3.03 SUBSTRATE REQUIREMENTS

- A. The membrane may be adhered with the extruded method directly over structural concrete or wood roof decks (new or tear-off). Direct application over certain types of cellular or perlite lightweight insulating concrete substrate may also be specified (contact Versico for acceptable lightweight insulating concretes).

Direct application of the membrane with the extruded method is also approved over existing, aged smooth surface BUR, modified bitumen, mineral surface cap sheets and certain properly prepared aged EPDM, Hypalon or sprayed polyurethane foam roofing systems (contact Versico for specific requirements).

- 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" (6 mm) must be filled with a suitable material.
- C. On retrofit-recover projects, cut and remove wet insulation as identified by the specifier and fill all voids with new insulation so that it is flush prior to installing an approved insulation.
- D. When VersiFleece TPO Membrane is specified to be adhered to a substrate board, acceptable Versico insulations include Polyisocyanurate or Expanded and Extruded Polystyrene overlaid with an acceptable cover board. Cover boards shall be Dens-Deck, Securock, or Oriented Strand Board (OSB). Recovery Board is not permitted with this membrane adhesion.

3.04 INSTALLATION

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

A. Insulation Attachment

- 1. DASH DC, FAST Adhesive, DASH Winter Grade or DASH Bag in a Box Adhesive may be specified for insulation securement.

Insulation board size shall not exceed 4' x 4' with extrusion spacing no greater than 12" on center in the field of the roof area. When 4' x 8' boards are specified extrusion spacing shall not be greater than 6" on center.

- 2. When insulation is specified to be adhered to a steel metal deck or cementitious wood fiber, extrusion spacing shall be each top flute or 6-inches on center.
- 3. When mechanical securement is specified for the substrate board, refer to Versico Design Criteria for fastening density related to the type of insulation or cover board and the type of structural deck.

B. Membrane Adhesion

- 1. **Sweep** all loose debris from the substrate.
- 2. **Verify** all sections are dry prior to proceeding with the application of DASH Adhesive extrusion and VersiFleece TPO membrane.
- 3. Coverage rate with extrusion spacing no greater than 12" on center for VersiFleece TPO Membrane attachment:

| Packaging | Square Feet | Surface & Ambient Temperature |
|--------------------------------|-------------|-------------------------------|
| 50 gallon "Drum Set" | 17,500 | 25°F* |
| 15 gallon "Drum Set" | 5,250 | 25°F* |
| DASH Dual Cartridge Per Carton | 600 | 50°F** |
| Bag in a Box Per gallon | 170 | 50°F** |

*When temperatures are below 50°F the addition of FAST Adhesive Catalyst to FAST Adhesive (Part B) is required to speed up reaction time.

**DASH Winter Grade Adhesive can be used from 25°F to 50°F

4. Perimeter Enhancements:

DASH Adhesive extrusion spacing in the perimeter shall be no greater than 6" on center. For width of perimeter, refer to chart below.

| Building Height | Width of Perimeter |
|-----------------------|--------------------|
| Max. 25 feet | 8 feet |
| 26 - 50 feet | 12 feet |
| 51 - 75 feet | 24 feet |
| 76 - 100 feet | 28 feet |
| Greater than 100 feet | Contact Versico |

- 5. DASH DC Adhesive is applied to the substrate only and the membrane is rolled into the Adhesive after it develops "string/body." Roll the membrane with a weighted steel roller (100 - 150 pounds) to set the membrane into the adhesive.
- 6. **Ensure** that water does not flow beneath any completed sections of the membrane system by completing all flashings, terminations and daily seals by the end of each work day.

C. Membrane Splicing of VersiFleece TPO Systems

Refer to appropriate splicing procedures published in the VersiWeld VersiFleece TPO Specifications.

D. Flashing

1. Flashing of standard penetrations and edge conditions shall conform to the details in Versico's VersiFleece TPO Adhered Roofing System specifications, Part II, Application as applicable.
2. Details not depicted in these publications shall be submitted to Versico for review prior to installation.
3. At angle changes along walls, curbs, skylights, etc., VersiFleece TPO membrane must be adhered in DASH DC Adhesive extrusion placed directly at the angle change and an additional extrusion spaced a maximum of 3" away from the angle change.

E. Metal Work

1. Terminate the flashing in accordance with the appropriate C-9 Termination Detail.

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.

2. Versico recommends a Versico VersiTrim Metal Edging/Coping, or Drip Edge for membrane termination. Installation instruction sheets are available from Versico.
3. Metal work by others, when specified, must be fastened to prevent the metal from pulling free or buckling, and sealed to prevent moisture from entering the roofing system or building. **Unless supplied by Versico, the performance and integrity of metal work by others is not included in this specification and is excluded from the Versico warranty.**
4. **On retrofit projects**, existing counterflashing, edging, expansion joint covers, copings, etc., shall not be reused unless investigated by the specifier to determine its compliance to Versico's current details.

Physical properties of EPDM and VersiFleece TPO Membranes are referenced in Part I, "Design Criteria" of the appropriate specification.

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

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