



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

## VersiWeld® QA TPO with Pre-Applied Adhesive Adhered Roofing System

January 2012

This **GUIDE-SPEC** is a brief outline of Versico's VersiWeld QA (Self Adhering Technology) Fully Adhered Roofing System requirements and is intended for use as a submittal document to compliment a contractors bid package. Specifiers and Versico Authorized Roofing Contractors must reference and comply with applicable information contained within the current Versico Thermoplastic Roofing System Specification prior to design or bid of a project.

### **PART I GENERAL**

#### **1.01 DESCRIPTION**

The **VersiWeld QA TPO Adhered Roofing System** incorporates a membrane which is a heat-weldable single-ply thermoplastic polyolefin (TPO) sheet available in 10' wide, white 60-mil reinforced TPO membrane laminated to an elastomeric pressure-sensitive adhesive. (Limited to 20 Year Maximum Warranty). The membrane is fully adhered to the insulation with the factory applied adhesive. Adjoining sheets of membrane are overlapped approximately 2" and joined together with a minimum 1-1/2" wide heat weld.

#### **1.02 QUALITY ASSURANCE**

- A. The specified roofing system must be installed by a Versico Authorized Roofing Contractor in compliance with drawings and specifications as approved by Versico.
- 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 VersiWeld Code Approval Guide, FM Approvals or UL Fire Resistance Directory for Roofing Materials and Systems.

#### **1.03 SUBMITTALS**

- A. To ensure compliance with Versico's minimum 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, projects over 250' in height or projects where the 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 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 Spec Supplement G-01-11 "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.

B. 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 towards 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 Adhered Membrane Systems Warranty Options**

| Years            | Thermoplastic Membranes (VersiWeld QA TPO) |         |                |                            |                                  |
|------------------|--|---------|----------------|----------------------------|----------------------------------|
|                  | 55, 72, 80 or 90 mph                       | 100 mph | 110 to 120 mph | Minimum Membrane Thickness | Additional Puncture Coverage (1) |
|                  | Adhered                                    | Adhered | Adhered        |                            |                                  |
| 5,10, or 15 year | √  | √       | √              | VersiWeld QA 60-mil        | Not Available                    |
| 20 year          | √  | √       | √              | VersiWeld QA 60-mil        | Not Available                    |

Notes: N/A = Not Acceptable √= Acceptable

(1) Limits of Hail/Puncture Coverage to be defined by other Tables.

**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. Store VersiWeld membrane 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.

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

### **2.02 MEMBRANE**

VersiWeld, white, reinforced 60-mil thick Thermoplastic Polyolefin (TPO) membrane laminated to an elastomeric pressure-sensitive adhesive is used for this roofing system. Membrane is available in 10' width and 100' length.

### **2.03 RELATED MATERIALS**

VersiWeld Non-Reinforced or Reinforced Flashing, Standard and Low VOC Bonding Adhesive, Pressure Sensitive Cover Strip, TPO Pressure Sensitive RUSS, TPO T-Joint Covers, Cut Edge Sealant, Water Cut-Off Mastic, Universal Single Ply Sealant, Weathered Membrane Cleaner, Standard and Low VOC Primers, One Part Pourable Sealer, Pre Molded Accessories, Heat Weldable Walkway Rolls.

## **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. Acceptable Versico insulations include all types currently approved with Design "A" Adhered Roofing Systems.
- 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 DASH or FAST Adhesive or other 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 relatively flush.

### **3.04 INSTALLATION**

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

#### **A. Insulation Attachment**

1. Versico DASH or FAST Adhesive may be specified for insulation securement as outlined in the Versico Technical Manual.
2. Versico Fasteners may be used, when specified, to secure Versico Insulation at the specified density outlined in the Versico Technical Manual.

## B. Membrane Installation and Hot Air Welding

10' wide VersiWeld QA is fully adhered to an approved insulation or substrate with Factory Applied Pressure-Sensitive Adhesive.

1. Position VersiWeld QA membrane over the acceptable substrate.
2. Fold membrane sheet back so half the underside is exposed.
3. Remove the release liner on one half of the sheet starting from the split in the liner at the middle of the sheet. The liner should be removed at an angle to reduce risk of splitting or tearing.
4. Roll the membrane onto the substrate while avoiding wrinkles. To achieve the best adhesion, the membrane should be rolled onto the substrate at an angle with 150 lb weighted roller. When applying the Versico VersiWeld QA TPO membrane it is recommended to maintain a large curve on the leading edge of the membrane. This will help eliminate creases and bubbles that cannot be removed after the sheet is in place.
5. Fold back the remaining half of the sheet and repeat the above process.
6. Install adjoining membrane sheets in the same manner, overlapping edges a minimum of 2" to provide for a minimum 1-1/2" hot air weld. It is recommended that all splices be shingled to avoid bucking of water.
7. Hot air weld the membrane sheets a minimum of 1-1/2" with an Automatic Hot Air Welding Machine.
8. Membrane that has been exposed to the elements for approximately 7 days must be prepared with Weathered Membrane Cleaner. Wipe the surface where Weathered Membrane Cleaner has been applied with a clean, dry Splice Wipe or other white rag to remove cleaner residue prior to hot air welding.

## 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

1. Flash all walls and curbs with VersiWeld 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 Versico Termination Detail.
2. On vertical surfaces, such as walls, curbs and pipes, Bonding Adhesive is not required when flashing height is 12" or less and 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.

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**Physical properties of VersiWeld QA TPO Membrane can be referenced in Part II, "Products" of the Thermoplastic Specification.**

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