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| <p style="text-align: center;"><b>DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT</b><br/>Housing - Federal Housing Commissioner</p> <p><b>TO: DIRECTORS, SINGLE FAMILY HOCs</b><br/><b>DIRECTORS, MULTIFAMILY HUBs</b></p>          | <p><b>Series and Series Number:</b><br/><b>MATERIALS RELEASE NO: 1229h</b><br/>(Supersedes issue dated<br/>October 9, 2015)</p> |
|  | <p><b>ISSUE DATE</b></p> <p>September 5, 2018</p>   |
|  | <p><b>REVIEW DATE</b></p> <p>September 5, 2021</p>  |
| <p><b>SUBJECT:</b> 1. <b>Product</b> Bitec Modified Bitumen Roofing Membrane Systems</p> <p>2. <b>Name and address of Manufacturer</b> Bitec, Inc.<br/>P. O. Box 497<br/>No. 2 Industrial Park Drive<br/>Morrilton, AR 72110</p> |   |

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE: Roof covering for nominally flat and pitched roofs.

DESCRIPTION REQUIREMENTS:

Bitec roofing membranes shall be in accordance with Tables I. SBS Waterproofing Membranes and Table II. App Waterproofing Membrane.

1. Bitec roofing membranes, APS-4T, APM-4.5T, and APM-4T are composed of atactic polypropylene blended with bitumen and reinforced with polyester fabric. The roofing membranes, APM-4T and 4.5T are surfaced with roofing granules and installed by heat welding.

2. Bitec SPM-4.5T, SPM-3.5H, and SPS-3H are styrene-butadiene-styrene modified bitumen roofing membranes and reinforced with polyester fabric. Membrane SPS-3H is smooth surfaced. SPM-4.5T is installed by heat welding. SPM-3.5H and SPS-3H are installed in hot roofing asphalt.

Bitec SFM-3.5H is a styrene-butadiene-styrene modified bitumen roofing membrane reinforced with a high strength fiberglass mat. SFM-3.5H is installed in hot roofing asphalt or with a Bitec elastomeric cold process adhesive.

Bitec SFM-3.5H-FR is a styrene-butadiene-styrene modified bitumen roofing membrane reinforced with a high strength fiberglass mat. The membrane is surfaced with roofing granules. The membrane requires no additional surfacing to achieve UL Class "A" fire rating over non-combustible roof assemblies. SFM-3.5H-FR is installed in hot roofing asphalt.

3. Bitec Compabase FS-2H, PS-2H and modified bitumen base sheets are used with hot asphalt applications or are mechanically attached. All of the Compabase sheets are modified bitumens reinforced with fiberglass, except PS-2H which is reinforced with polyester fabric. Bitec Compabase FA-2T base sheet is for heat fused application or a mechanically attached membrane.
4. Bitec Beta Base I and Beta II are oxidized bitumen base sheets reinforced with fiberglass mats. They are designed for use where UL listed Type G2 base sheet is required.

**TABLE I**

**SBS WATERPROOFING MEMBRANES**  
 Styrene-Butadiene-Styrene modified bitumen  
 Composed of SBS polymer blended with distilled asphalt.

|             | Poly Fabric Reinforced | High Strength Fiberglass Mat, Reinforced | Smooth Surface | Roofing Granule Surfaced | Install by Heat Welding | Install with Hot Roofing Asphalt | Used as Base Sheet Plies in Roofing Systems | Used as Based Sheet | Used as Base Sheet in BUR Ply Systems | UL Class A Fire Rating over Noncombustible Roof Assemblies |
|-------------|------------------------|--|----------------|--------------------------|-------------------------|----------------------------------|---|---------------------|---------------------------------------|--|
| SPM-4.5T    | X                      |  |                | X                        | X                       |                                  |   |                     |                                       | X  |
| SPM-3.5H    | X                      |  |                | X                        |                         | X                                |   |                     |                                       | X  |
| SPS-3H      | X                      |  | X              |                          |                         | X                                |   |                     |                                       | X  |
| SFM-3.5     |                        | X  |                | X                        |                         | X                                |   |                     |                                       | X  |
| SFM-3.5H-FR |                        | X  |                | X                        |                         | X                                |   |                     |                                       | X  |
| FS-2H       |                        | X  | X              |                          |                         | X                                | X   | X                   |                                       | X  |
| PS-2H       | Xx                     |  | X              |                          |                         | X                                | X   | X                   |                                       | X  |

**TABLE II**

**APP WATERPROOFING MEMBRANES**

Atactic Polypropylene modified bitumen

Composed of amorphous polypropylene blended with distilled asphalt.

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|          | Polyester<br>Fabric<br>Reinforced | Install by Heat<br>Welding | Roofing Granule<br>Surfaced | High Strength<br>Fiberglass Mat<br>Reinforcing | Use as Base Sheet<br>Plied in Roof<br>Systems | Smooth<br>Surfaced |
|----------|-----------------------------------|----------------------------|-----------------------------|--|---|--------------------|
| APS-4T   | X                                 | X                          |                             |  |   | X                  |
| APM-4.5T | X                                 | X                          | X                           |  |   |                    |
| APM-4T   | X                                 | X                          | X                           |  |   |                    |
| FA-2T    |                                   | X                          |                             | X  | X   | X                  |

INSTALLATION:

1. General

The Bitec roofing systems shall be installed by roofing contractors approved or licensed by Bitec, Inc., and installation shall be in accordance with Bitec Roofing Materials Specifications.

2. Roofing System

Mechanically fastened roofing systems shall be designed to resist wind uplift forces as determined in the Wind Design Guide for Mechanically Fastened Single-Ply Roofing Systems published by the Single Ply Roofing Institute (SPRI).

Ballasted roofing systems shall be designed in accordance with the Wind Design Guide for Ballasted Single-Ply Roofing Systems published by SPRI.

3. Substrate Preparation

Preparation of the substrate shall comply with Bitec installation instructions. Design of the roof deck is the responsibility of the owner or his architect/engineer.

4. Insulation

Insulation or underlayment shall be approved in writing by Bitec, Inc., as to thickness and type. Insulation is to be installed in accordance with insulation manufacturer's recommendations and Bitec Roofing Materials Specification and Details.

5. Membrane Installation

Membrane installation, including placing, bond lap splicing, perimeters attachment, flashing, construction closure, walkways and other work to provide watertight roofing systems shall comply with appropriate Bitec Roofing Material Specifications.

MANUFACTURING LOCATION:

The product covered under this MR will be produced at the following plant:

Bitec, Inc.  
P. O. Box 497  
No, 2 Industrial Park Drive  
Morrilton, AR 72110  
Contacts: David Allen, President  
Myles Adams, Technical Representative  
PH: 1-800-535-8597 or 501-354-8585

INSPECTION:

A designated representative of Bitec, Inc., shall make inspections of the installation at the following intervals: (1) prior to delivery of materials—to accept or reject the roof deck to which the roofing system is to be applied; (2) during the installation—to inspect and approve the installation techniques and methods; and (3) upon completion—to give final approval to the installation.

WARRANTY:

A ten-year warranty shall be given to the owner by Bitec, Inc., to read as follows:

Bitec, Inc., hereby warrants to the owner of its roofing system, installed by an applicator approved by Bitec, that the system will remain in a watertight condition and will retain at least 80% of its specified aged thermal resistance value, if applicable, for a period of ten years from the date of installation.

In the event of failure of the aforesaid system to function as warranted above, whether on account of defective materials, faulty installation, or on account of normal processes of wear and aging, Bitec will make or cause to be made such repairs and maintenance necessary to enable the system to perform as warranted above.

Bitec's obligations to repair or maintain the system under this warranty shall not be in force or effect unless: (1) Bitec is notified of any failure of the system covered by the warranty within thirty (30) days following such failures; (2) the system installed by an applicator approved by Bitec; and (3) no alterations or repairs to the system are made without the prior written approval of Bitec as to the extent, methods and materials used.

Bitec assumes no liability for any failure of the systems resulting from winds, which exceed the design wind, Acts of God, including without limitation, lightning or earthquake; nor for any failure of the systems resulting from fire of any origin or cause; nor for any failure of the product caused by structural defects of the buildings on which the system is applied; nor from deliberate misuse of the product; nor for any failure of the systems caused by leakage or any other cause from an adjacent structure.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill, as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the Office of Manufactured Housing Programs, HUD Headquarters, with a representative list of properties, in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD in advance of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for a renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing and Urban Development  
Office of Manufactured Housing Programs  
451 7<sup>th</sup> Street, SW, Room 9170  
Washington, DC 20410-8000

Appropriate User Fee(s) for the TSP program can be submitted through the Pay.gov website at <https://pay.gov/public/form/start/73881741>

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to this MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will need to be submitted in accordance with the Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. Conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system;
2. The manufacturer has changed its organizational form, ownership, name, address, or production facilities, without notifying HUD; or,
3. The manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice of the specific reasons for cancellation and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

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This Materials Release is issued solely for the captioned firm and is not transferable to any person or successor entity.  
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