



**BUILDING CODE COMPLIANCE OFFICE**  
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**PRODUCT CONTROL DIVISION**  
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**PRODUCT CONTROL NOTICE OF ACCEPTANCE**

**MB Technology**  
**188 S. Teilman Avenue**  
**Fresno ,CA 93706**

Your application for Notice of Acceptance (NOA) of:

**SBS Modified Roofing Membrane for Concrete Deck applications**

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

**ACCEPTANCE NO.: 01-0606.12**  
**EXPIRES: 07/26/2006**

Raul Rodriguez  
Chief Product Control Division

**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL**  
**CONDITIONS**  
**BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director  
Miami-Dade County  
Building Code Compliance Office

**APPROVED: 07/26/2001**

**ROOFING ASSEMBLY APPROVAL**

Category: Roofing  
Sub-Category: SBS Modified Bitumen  
Deck Type: Concrete  
Maximum Design Pressure -45 psf  
Fire Classification: See General Limitation #1

Approval Date: **July 26, 2001**

Expiration Date: **July 26, 2006**

**TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:**

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Layflat SBS LF 25	3 squares; roll weight: 85 lbs.	ASTM D 5147	Lightweight SBS modified base sheet for use as a base or interply in modified bitumen roof systems.
Layflat SBS LF 40	2 squares; roll weight: 90 lbs.	ASTM D 5147	Heavyweight SBS modified base sheet for use as a base or interply in modified bitumen roof systems.
Layflat SBS LF 60	1.5 squares; roll weight: 106 lbs.	ASTM D 5147	SBS modified interply sheet for use in the metalflex and hot asphalt/cold adhesive modified bitumen built-up roof systems.
Fastorch SBS FT160CWH	1 square; roll weight: 120 lbs.	ASTM D 5147	Dual reinforced, SBS modified granulated torch applied membrane.
Fastorch SBS FT160CSA	1 square; roll weight: 110 lbs.	ASTM D 5147	Dual reinforced, SBS modified smooth torch applied membrane. Use permitted only with additional surfacing.
Superflex SBS SF160PWH	1 square; roll weight: 100 lbs.	ASTM D 5147	Polyester reinforced SBS modified granulated membrane. Applied in hot asphalt.
Superflex SBS SF160PSA	1 square; roll weight: 90 lbs.	ASTM D 5147	Polyester reinforced SBS smooth surface membrane. May be used as an interply, or as a membrane with additional surfacing. Applied in hot asphalt or cold adhesive.
Fireguard SBS Cap Membrane 90G	1 square; roll weight: 90 lbs.	ASTM D 5147	Lightweight glass reinforced cap membrane. Applied in hot asphalt or cold adhesive.
Fireguard SBS FG160CWH	1 square; roll weight: 110 lbs.	ASTM D 5147	Polyester and glass reinforced SBS membrane for use in modified bitumen roof systems. Applied in hot asphalt or cold adhesive.



Frank Zuloaga, RRC  
 Roofing Product Control Examiner

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Fireguard SBS FG160GWH	1 square; roll weight: 110 lbs.	ASTM D 5147	Fiberglass reinforced SBS membrane with granule surface for use in modified bitumen roof systems. Applied in hot asphalt or cold adhesive.
Fireguard SBS FT160CWH	1 square; roll weight: 120 lbs.	ASTM D 5147	Polyester and glass reinforced SBS membrane for use in modified bitumen roof systems. Torch applied.
MetalFlex SBS	1 square; roll weight: 101 lbs.	ASTM D 5147	Aluminum or copper embossed SBS modified cap membrane for use on modified bitumen roof systems. May be applied in hot asphalt or by torch.
Layflat SBS LF60P	9½ square; roll weight: 106 lbs.	ASTM D 5147	Polyester reinforced SBS modified interply sheet used in hot or cold modified bitumen built-up roof systems.
Fireguard Fasttorch SBS FGFT 160 CWH	1 square; roll weight: 120 lbs.	ASTM D 5147	Dual reinforced, fire rated SBS modified granulated torch membrane. Torch applied.

**EVIDENCE SUBMITTED:**

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corporation	Wind Uplift Classification and Fire Rating	J.I. 2X4A8.AM	09/07/94
Warnock Hersey International, Inc.	Fire Classification	See current Warnock Hersey Directory	01/01/94
Underwriters Laboratories, Inc..	Fire Classification	See current Underwriters Laboratories Guide	01/01/94
Factory Mutual Research Corporation	Current insulation fastening requirements	See current FMRC Approval Guide	01/01/94



**APPROVED ASSEMBLIES**

- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type A:** One or more layers of insulation adhered with approved asphalt; base sheet adhered.

**All General and System Limitations apply.**

<u>Insulation Base or Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
One or more layers of any of the following insulations:				
Approved Type(s): <b>E"NRG"Y-1, E"NRG"Y-2, PSI-25, Iso 95 + GW, GL</b>				
Minimum: 3' x 4' x 1.4"	N/A	N/A	N/A	N/A
Approved Type(s): <b>WHITE LINE</b>				
Minimum: 3' x 4' x 1.3"	N/A	N/A	N/A	N/A
Approved Type(s): <b>Multi-Max, Multi-Max FA, Permalite ISO-Lite R</b>				
Minimum: 4' x 8' x 1.5"	N/A	N/A	N/A	N/A
Approved Type(s): <b>ACFoam Composite, Fesco Foam SP, USIso/Perlite, Kop-R (WC),</b>				
Minimum: 4' x 8' x 2"	N/A	N/A	N/A	N/A
Approved Type(s): <b>Regular Density Wood Fiber</b>				
Minimum: 4' x 4' x 1"	N/A	N/A	N/A	N/A
Approved Type(s): <b>Perlite</b>				
Minimum: 2' x 4' x 3/4"	N/A	N/A	N/A	N/A

**Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.**

- Base Sheet:** (Optional) One ply of Layflat SBS LF25, LF40, LF60 or Celotex Vaporbar GB adhered to the insulated substrate with a spot mopping of approved mopping asphalt in 16" dia. spots 18" o.c. at an application rate of 20 lb./sq. ± 15%, or a full mopping to an approved perlite at an application rate of 25 lb./sq. ± 15%.
- Ply Sheet:** None.
- Membrane:** One ply of Fastorch SBS 160, Fireguard SBS or Fastorch SBS 160 torch applied to base sheet, or one ply of Superflex SBS 160 or Fireguard SBS 160 adhered with approved mopping asphalt or adhesive at an application rate of 25 lbs./sq. ± 15%.
- Surfacing:** (Optional) one of the following as required:
  1. APOC Sunbrite 400 at 2 gal.sq.
- Maximum Design Pressure:** -45 psf. See General Limitation #9.



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Roofing Product Control Examiner

- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type B:** Base insulation layer mechanically attached; top layer adhered; base sheet adhered.

**All General and System Limitations apply.**

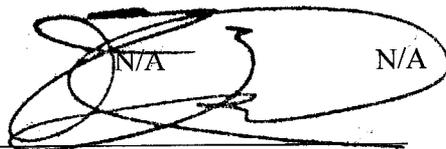
<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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(Optional) One or more layers of any of the following insulations:

Approved Type(s): <b>E"NRG"Y-1, E"NRG"Y-2, PSI-25</b> Minimum: 3' x 4' x 1.4"	Dekfast # 14 S	[2]	6	1:2 ft. <sup>2</sup>
Approved Type(s): <b>WHITE LINE</b> Minimum: 3' x 4' x 1.3"	Dekfast # 14 S	[2]	6	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Multi-Max, Multi-Max FA, Permalite ISO-Lite R</b> Minimum: 4' x 8' x 1.5"	Dekfast # 14 S	[4]	16	1:2 ft. <sup>2</sup>
Approved Type(s): <b>ACFoam Composite, Fesco Foam SP, USIso/Perlite, Kop-R (WC)</b> Minimum: 4' x 8' x 2"	Dekfast # 14 S	[4]	16	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Perlite</b> Minimum: 2' x 4' x ¾"	Dekfast # 14 S	[1]	6	1:1.33 ft. <sup>2</sup>
Approved Type(s): <b>Regular Density Wood Fiber</b> Minimum: 4' x 4' x 1"	Dekfast #14 S	[3]	4	1:4 ft. <sup>2</sup>

**Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): <b>ACFoam Composite</b> Minimum: 4' x 8' x 2"	N/A	N/A	N/A	N/A
Approved Type(s): <b>Kop-R (WC)</b> Minimum: 4' x 8' x 2"	N/A	N/A	N/A	N/A
Approved Type(s): <b>Fesco Foam SP</b> Minimum: 4' x 8' x 2"	N/A	N/A	N/A	N/A
Approved Type(s): <b>USIso/Perlite</b> Minimum: 4' x 8' x 2"	N/A	N/A	N/A	N/A
Approved Type(s): <b>Regular Density Wood Fiber</b> Minimum: 1" x 4' x 4'	N/A	N/A	N/A	N/A
Approved Type(s): <b>Perlite</b> Minimum: 2' x 4' x ¾"	N/A	N/A	N/A	N/A

  
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 Roofing Product Control Examiner

**Note: Optional top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs/100 ft<sup>2</sup>. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.**

- Base Sheet: (Optional) One ply of layflatSBS LF25, LF40, LF60, LF60P, superflexSBS SF160PSA or Celotex Vaporbar GB adhered to the insulated substrate in a full mopping of approved asphalt at an application rate of 25 lb./sq. ± 15%.
- Ply Sheet: (Optional) One ply of layflatSBS LF25 adhered to layflatSBS LF25 base ply in a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.
- Membrane: One ply of metalflexSBS MF160WAL or fireguardSBS FG160CWH or fireguard SBS FG90GWH, FG90WWH adhered with approved mopping asphalt or adhesive at an application rate of 25 lbs./sq. ± 15%, or fireguard fastorchSBS FGFT160CWH torch applied.
- Surfacing: (Optional) one of the following as required:  
1. APOC Sunbrite 400 at 2 gal./sq.
- Maximum Design Pressure: -45 psf. See General Limitation #9.



- Membrane Type:** SBS
- Deck Type 3I:** Concrete Decks, Insulated, New Construction
- Deck Description:** 2500 psi structural concrete or concrete plank
- System Type C:** All layers of insulation simultaneously attached; base sheet adhered.

**All General and System Limitations apply.**

<u>Insulation Base Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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(Optional) One or more layers of any of the following insulations:

Approved Type(s): **E"NRG"Y-1, E"NRG"Y-2, PSI-25, Iso 95 + GW, GL**  
 Minimum: 3' x 4' x 1.4"      N/A      N/A      N/A      N/A

Approved Type(s): **WHITE LINE**  
 Minimum: 3' x 4' x 1.3"      N/A      N/A      N/A      N/A

Approved Type(s): **Multi-Max, Multi-Max FA, Permalite ISO-Lite R**  
 Minimum: 4' x 8' x 1.5"      N/A      N/A      N/A      N/A

Approved Type(s): **ACFoam-II, Armor R Plus, Kop-R (WII), UltraGard Gold SP, USiso, Trocal ISO II**  
 Minimum: 4' x 4' x 1.5"      N/A      N/A      N/A      N/A

Approved Type(s): **Perlite**  
 Minimum: 2' x 4' x 3/4"      N/A      N/A      N/A      N/A

**Note: All layers shall be simultaneously attached; see top layer below for fasteners and density.**

<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
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Approved Type(s): **E"NRG"Y-1, E"NRG"Y-2, PSI-25**  
 Minimum: 3' x 4' x 1.4"      Dekfast # 14 S      [2]      6      1:2 ft.<sup>2</sup>

Approved Type(s): **Hy-Tec**  
 Minimum: 3' x 4' x 1.2"      Dekfast # 14 S      [2]      6      1:2 ft.<sup>2</sup>

Approved Type(s): **Hy-Therm AP, WHITE LINE**  
 Minimum: 3' x 4' x 1.3"      Dekfast # 14 S      [2]      6      1:2 ft.<sup>2</sup>

Approved Type(s): **Multi-Max, Multi-Max FA**  
 Minimum: 4' x 8' x 1.5"      Dekfast # 14 S      [4]      16      1:2 ft.<sup>2</sup>

Approved Type(s): **Permalite ISO-Lite R**  
 Minimum: 4' x 8' x 1.5"      Dekfast # 14 S      [4]      16      1:2 ft.<sup>2</sup>

Approved Type(s): **ACFoam Composite**  
 Minimum: 4' x 8' x 2"      Dekfast # 14 S      [4]      16      1:2 ft.<sup>2</sup>



<u>Insulation Top Layer</u>	<u>Fastener Type</u>	<u>Fastening Detail No.</u>	<u>Fasteners Per Board</u>	<u>Fastener Density</u>
Approved Type(s): <b>Kop-R (WC)</b> Minimum: 4' x 8' x 2"	Dekfast #14 S	[4]	16	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Fesco Foam SP</b> Minimum: 4' x 8' x 2"	Dekfast #14 S	[4]	16	1:2 ft. <sup>2</sup>
Approved Type(s): <b>USIso/Perlite</b> Minimum: 4' x 8' x 2"	Dekfast #14 S	[4]	16	1:2 ft. <sup>2</sup>
Approved Type(s): <b>Perlite</b> Minimum: 2' x 4' x ¾"	Dekfast # 14 S	[1]	6	1:1.33 ft. <sup>2</sup>
Approved Type(s): <b>Regular Density Wood Fiber</b> Minimum: 1" x 4' x 4'	Dekfast #14 S	[3]	4	1:4 ft. <sup>2</sup>

**Note: Insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

Base Sheet: (Optional) One ply of layflat SBS LF25, LF40, LF60, LF60P, superflex SBS SF160PSA or Celotex Vaporbar GB adhered to the insulated substrate with a spot mopping of approved mopping asphalt in 16" dia. spots 18" o.c. at an application rate of 20 lb./sq. ± 15%, or in a full mopping of approved asphalt to perlite insulation at an application rate of 25 lb./sq. ± 15%.

Ply Sheet: (Optional) One ply of layflat SBS LF25 adhered to layflat SBS LF25 base ply in a full mopping of approved asphalt at an application rate of 25 lbs./sq. ± 15%.

Membrane: One ply of metalflex SBS MF160WAL, fireguard SBS FG160CWH, superflex SBS 160PWH, 160PSA, fastorch SBS 160CWH, 160CSA or fireguard SBS FG90GWH, FG90WWH adhered with approved mopping asphalt or adhesive at an application rate of 25 lbs./sq. ± 15%, or fireguard fastorch SBS FGFT160CWH or fastorch SBS FT160CWH, FT160CSA torch applied.

Surfacing: (Optional) one of the following as required:

1. APOC Sunbrite 400 at 2 gal.sq..

Maximum Design Pressure: -45 psf. See General Limitation #9.



**CONCRETE DECK SYSTEM LIMITATIONS:**

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 117, calculations shall be signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant.

**GENERAL LIMITATIONS:**

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each sidelap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform with Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**



Frank Zuloaga, RRC  
Roofing Product Control Examiner

**NOTICE OF ACCEPTANCE STANDARD CONDITIONS**

- 1 Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
- 2 Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
- 3 Renewals of Acceptance will not be considered if:
  - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
  - b) The product is no longer the same product (identical) as the one originally approved;
  - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
  - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted, is no longer practicing the engineering profession.
- 4 Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
- 5 Any of the following shall also be grounds for removal of this Acceptance:
  - a) Unsatisfactory performance of this product or process;
  - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purposes.
- 6 The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
- 7 A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all times. The copies need not be resealed by the engineer.
- 8 Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
- 9 This Acceptance contains pages 1 through 10.

**END OF THIS ACCEPTANCE**

Frank Zuloaga, RRC  
Roofing Product Control Examiner