



**BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION**

**MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING
140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908**

NOTICE OF ACCEPTANCE (NOA)

**Republic Powdered Metals
2628 Pearl Road
Medina, OH 44256**

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Republic Powdered Metals Modified Bitumen over Steel Decks

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA 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 NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA consists of pages 1 through 9.

The submitted documentation was reviewed by Jorge L. Acebo



**NOA No.: 06-0215.02
Expiration Date: 07/12/11
Approval Date: 08/03/06
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ROOFING ASSEMBLY APPROVAL

Category:	Roofing
Sub-Category:	SBS Modified Bitumen
Deck Type:	Steel
Maximum Design Pressure	-82.5 psf
Fire Classification:	See General Limitation #1

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Republic Glass Ply 28#	3' x 72'	ASTM D 4601 Type II	Asphalt coated, fiberglass reinforced base/ply sheet.
Republic Insulation Adhesive	5 gallons	Proprietary	One part, solvent free insulation adhesive.
Solargard Ultra	5 and 55 gallons	Proprietary	High solids, water-based, elastomeric coating.
Alumanation 301	5 and 55 gallons	ASTM D 2824 Type III	Asphalt based, fibered aluminum roof coating.
Permaroof MB Mineral	39 1/2" x 34.5'	ASTM D 6163	Fiberglass reinforced modified-bitumen membrane.
Permaroof MB Smooth	39 1/2" x 34.5'	ASTM D 6163	Fiberglass reinforced modified-bitumen membrane.
Permaroof MB High Tensile Base	39 1/2" x 34.5'	Proprietary	High-tensile trilaminate reinforced Base/Ply sheet.
Permaroof MB Cold Adhesive	5 and 55 gallon containers	Proprietary	Cold applied ply sheet and membrane adhesive.
Permaroof Type IV	5 sq./roll	ASTM D 2178 Type IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built up roofing.
Permaroof Type VI	5 sq./roll	ASTM D 2178 Type VI	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built up roofing.
Permaflox	5 or 55gallon	Proprietary	Non-Fibered Polymer modified asphalt emulsion.
Republic WB Primer	5 gallon container	Proprietary	Water based roofing primer.



APPROVED INSULATIONS:

TABLE 2

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>	<u>Manufacturer</u> (With current NOA)
ACFoam I, ACFoam II	Various	TAS 110	Polyisocyanurate foam insulation	Atlas Energy Products
High Density Wood Fiberboard	Various	TAS 110	Wood fiber insulation board	Generic
Perlite Insulation	Various	TAS 110	Perlite insulation board	Generic
Ultra/M-II ISO/glas	Various	TAS 110	Polyisocyanurate foam insulation	Homasote Co.
E'NRG'Y-2, PSI-25	Various	TAS 110	Polyisocyanurate foam insulation	Johns Manville Corp.
Fiber Glass	Various	TAS 110	Glass fiber board	Johns Manville Corp.
Multi-Max	Various	TAS 110	Polyisocyanurate foam insulation	R-Max

APPROVED FASTENERS:

Table 3

<u>Fastener Number</u>	<u>Product Name</u>	<u>Product Description</u>	<u>Dimensions</u>	<u>Manufacturer</u> (With Current NOA)
1.	#12 Roofgrip Fasteners	Insulation fastener for wood and steel.		ITW Buildex Corp.
2.	Hextra Plus	Pre-assembled Insulation fastener and plate		ITW Buildex Corp.
3.	Metal Plate	Galvalume stress plate.	3" round 3" square	ITW Buildex Corp.
4.	Gearlok Plastic Plate	Polypropylene round plate	3.2"	ITW Buildex Corp.
5.	Olympic Fastener #12 & #14	Insulation fastener		Olympic Manufacturing Group, Inc.
6.	Olympic Polypropylene	Polypropylene plastic plate	3.25" round	Olympic Manufacturing Group, Inc.
7.	Olympic Standard	3" round galvalume AZ50 steel plate	3" round	Olympic Manufacturing Group, Inc.
8.	Insul-Fixx Fastener	Insulation fastener for steel and wood decks		SFS Stadler, Inc.
9.	Insul-Fixx S Plate	3" round galvalume AZ50 steel plate	3" round	SFS Stadler, Inc.
10.	Insul-Fixx P Plate	3" round polyethylene stress plate	3" round	SFS Stadler, Inc.



EVIDENCE SUBMITTED:

<u>Test agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Factory Mutual Research Corporation	1994 FMRC	Current Insulation Fastening Requirements	01/01/94
Factory Mutual Research Corporation	J.I. #2Y9A5.AM	Class 4470	11/13/95
Factory Mutual Research Corporation	J.I. #2D1A8.AM	Class 4470	07/27/00
Factory Mutual Research Corporation	J.I. #0D0A9.AM	Class 4470	08/01/00
PRI Asphalt Technologies, Inc.	TRE-15-02-01	Physical Properties	05/25/99
Underwriters Laboratories, Inc.	R6692	Fire Classification Compliance	01/01/94



APPROVED ASSEMBLIES:

- Membrane Type:** SBS
- Deck Type 2I:** Steel, Insulated
- Deck Description:** 18-22 ga. steel
- System Type B (1):** Base layer of insulation mechanically fastened, top layer adhered with approved asphalt.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer

	Insulation Fasteners (Table 3)	Fastener Density/ft ²
ACFoam-I, Ultra/M-II Iso-Glas, Permalite Isolite, ACFoam-II, White Line, UltraGard Gold, Multi-Max		
Minimum 1.5" thick	1, 5 or 8	1:2 ft ²
Fiberglas		
Minimum 1 ⁵ / ₁₆ " thick	1, 5 or 8	1:2 ft ²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer

	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Fiberglas		
Minimum 1 ⁵ / ₁₆ " thick	N/A	N/A
Perlite		
Minimum 1" thick	N/A	N/A

Note: Top layer of insulation shall be bonded with 1/2" ribbons of Republic Insulation Adhesive applied at 1.5 gal./sq. for perlite and polyisocyanurate and 2 gal./sq. for Fiberglas insulation.

- Base Sheet:** (Optional) One or more plies of Republic Glass Ply 28# or Permarmor MB High Tensile Base adhered type III or type IV asphalt.
- Ply Sheet:** (Optional) Two or more plies of Permarmor Type IV, Permarmor Type VI or approved Type IV or Type VI ply sheet adhered with type III or type IV asphalt.
- Membrane:** Permarmor MB Mineral or Permarmor MB Smooth adhered with type III or type IV asphalt.
- Surfacing:** (Optional: Required over Smooth applications) Install one of the following:
 1. Gravel (400 lbs/sq.) or slag (300 lbs/sq.) in a flood coat type III or type IV asphalt or Permarmor MB Cold Adhesive at a rate of 5-6 gal/sq..
 2. Permaflex at a rate of 4-5 gal./sq. followed by:
 - A. Alumanation 301 at rate of 2-2.5 gal./sq.
 - B. Minimum 60 lbs #11 granules into wet Permaflex.
 3. Solargard Ultra at a rate of 4 gal./sq.
 4. Alumanation 301 at a rate of 2-2.5 gal./sq.

Maximum Design Pressure:

-45 psf (See General Limitation #9.)



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type B (2): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt or adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer

Any approved polyisocyanurate

Minimum 2" thick

**Insulation Fasteners
(Table 3)**

**Fastener
Density/ft²**

11

1:2 ft²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer

**Insulation Fasteners
(Table 3)**

**Fastener
Density/ft²**

High Density Wood Fiber

Minimum 1/2" thick

N/A

N/A

Note: Apply top layer of insulation in a full mopping of approved hot asphalt applied within the EVT range and at a rate of 20-40 lbs/100 ft² or in Republic Insulation Adhesive applied in 1/2" to 3/4" wide ribbons at a coverage rate of 1.5 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side face down.

Base Sheet: (Optional) One or more plies of Republic Glass Ply 28# or Permaroof MB High Tensile Base adhered type III or type IV asphalt.

Ply Sheet: (Optional) One or more plies of Permaroof Type IV, Permaroof Type VI or approved Type IV or Type VI ply sheet adhered with type III or type IV asphalt.

Membrane: Permaroof MB Mineral or Permaroof MB Smooth adhered with type III or type IV asphalt.

Surfacing: (Optional: Required over Smooth applications) Install one of the following:

1. Gravel (400 lbs/sq.) or slag (300 lbs/sq.) in a flood coat type III or type IV asphalt or Permaroof MB Cold Adhesive at a rate of 5-6 gal./sq..
2. Permaflex at a rate of 4-5 gal./sq. followed by:
 - A. Alumanation 301 at rate of 2-2.5 gal./sq.
 - B. Minimum 60 lbs #11 granules into wet Permaflex.
3. Solargard Ultra at a rate of 4 gal./sq.
4. Alumanation 301 at a rate of 2-2.5 gal./sq.

Maximum Design

Pressure: -82.5 psf; (See General Limitation #7)



Membrane Type: SBS

Deck Type 2I: Steel, Insulated

Deck Description: 18-22 ga. steel

System Type B (3): Base layer of insulation mechanically fastened, top layer adhered with approved asphalt or adhesive.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
Any approved polyisocyanurate Minimum 2" thick	11	1:2 ft²

Note: Base layer shall be mechanically attached with fasteners and density described. Insulation panels listed are minimum sizes and dimensions; if larger panels are used the number of fasteners per board shall be increased maintaining the same fastener density (See Roofing Application Standard RAS 117 for fastening details).

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft²
High Density Wood Fiber Minimum ½" thick	N/A	N/A

Note: Apply top layer of insulation in a full mopping of approved hot asphalt applied within the EVT range and at a rate of 20-40 lbs/100 ft² or in Republic Insulation Adhesive applied in ½" to ¾" wide ribbons at a coverage rate of 1.5 gal./sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulations listed as the base layer shall only be used as the base layer with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side face down.

Base Sheet: (Optional) One or more plies of Republic Glass Ply 28# or Permaroof MB High Tensile Base adhered type III or type IV asphalt.

Ply Sheet: (Optional) One or more plies of Permaroof Type IV, Permaroof Type VI or approved Type IV or Type VI ply sheet adhered with type III or type IV asphalt.

Membrane: Permaroof MB Mineral or Permaroof MB Smooth adhered with type III or type IV asphalt.

Surfacing: (Optional: Required over Smooth applications) Install one of the following:

1. Gravel (400 lbs/sq.) or slag (300 lbs/sq.) in a flood coat type III or type IV asphalt or Permaroof MB Cold Adhesive at a rate of 5-6 gal/sq..
2. Permaflex at a rate of 4-5 gal./sq. followed by:
 - A. Alumanation 301 at rate of 2-2.5 gal./sq.
 - B. Minimum 60 lbs #11 granules into wet Permaflex.
3. Solargard Ultra at a rate of 4 gal./sq.
4. Alumanation 301 at a rate of 2-2.5 gal./sq.

Maximum Design Pressure: -82.5 psf; (See General Limitation #7)



Membrane Type: SBS
Deck Type 2I: Steel, Insulated
Deck Description: 18-22 ga. steel
System Type C: All layers of insulation simultaneously attached.

All General and System Limitations apply.

One or more layers of any of the following insulations.

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Fiberglas Minimum 1 ⁵ / ₁₆ " thick	N/A	N/A
Perlite, Wood Fiber Minimum 1" thick	N/A	N/A

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

Top Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft ²
Fiberglas Minimum 1 ⁵ / ₁₆ " thick	1, 5 or 8	1:2 ft ²
Perlite, Wood Fiber Minimum 1/2" thick	1, 5 or 8	1:2 ft ²

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 or more plies of Republic Glass Ply 28# or Permaroof MB High Tensile Base adhered type III or type IV asphalt.
- Ply Sheet:** (Optional) Two or more plies of Permaroof Type IV, Permaroof Type VI or approved Type IV or Type VI ply sheet adhered with type III or type IV asphalt.
- Membrane:** Permaroof MB Mineral or Permaroof MB Smooth adhered with type III or type IV asphalt.
- Surfacing:** (Optional: Required over Smooth applications) Install one of the following:
1. Gravel (400 lbs/sq.) or slag (300 lbs/sq.) in a flood coat type III or type IV asphalt or Permaroof MB Cold Adhesive at a rate of 5-6 gal/sq..
 2. Permaflex at a rate of 4-5 gal./sq. followed by:
 - A. Alumanation 301 at rate of 2-2.5 gal./sq.
 - B. Minimum 60 lbs #11 granules into wet Permaflex.
 3. Solargard Ultra at a rate of 4 gal./sq.
 4. Alumanation 301 at a rate of 2-2.5 gal./sq.

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



STEEL 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 equivalent or enhanced 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 Professional Engineer, Registered Architect, or Registered Roof Consultant.
2. For steel deck application where specific deck construction is not referenced: The deck shall be a minimum 22 gage attached with 5/8" puddle welds with weld washers at every flute with maximum deck spans of 5 ft. o.c.

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 side lap 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. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(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 to 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.)**

END OF THIS ACCEPTANCE

