MIAMI-DADE

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 Lightweight Concrete 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

## ROOFING ASSEMBLY APPROVAL

| | |
|---|---|
| **Category:** | Roofing |
| **Sub-Category:** | SBS Modified Bitumen |
| **Deck Type:** | Lightweight Concrete |
| **Maximum Design Pressure** | **-75 psf** |
| **Fire Classification:** | See General Limitation #1 |

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

### TABLE 1

| Product | Dimensions | Test Specifications | Product Description |
|---|---|---|---|
| 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 ½" x 34.5' | ASTM D 6163 | Fiberglass reinforced modified-bitumen membrane. |
| Permaroof MB Smooth | 39 ½" x 34.5' | ASTM D 6163 | Fiberglass reinforced modified-bitumen membrane. |
| Permaroof MB High Tensile Base | 39 ½" 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. |
| Permaflex | 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**

| Product | Dimensions | Test Specification | Product Description | Manufacturer |
|---|---|---|---|---|
| ACFoam I, ACFoam II | Various | TAS 110 | Polyisocyanurate foam insulation | Atlas Energy Products (with current NOA) |
| High Density Wood Fiberboard | Various | TAS 110 | Wood fiber insulation board | Generic (with current NOA) |
| Perlite Insulation | Various | TAS 110 | Perlite insulation board | Generic (with current NOA) |
| Ultra/M-II ISO/glas | Various | TAS 110 | Polyisocyanurate foam insulation | Homasote Co. (with current NOA) |
| Fiber Glass | Various | TAS 110 | Glass fiber board | Johns Manville Corp. (with current NOA) |
| Multi-Max, Multi-Max FA | Various | TAS 110 | Polyisocyanurate foam insulation | R-Max (with current NOA) |

## APPROVED FASTENERS:

**Table 3**

| Fastener Number | Product Name | Product Description | Dimensions | Manufacturer (With Current NOA) |
|---|---|---|---|---|
| 1. | N/A | N/A | N/A | N/A |

## EVIDENCE SUBMITTED:

| Test agency | Test Identifier | Test Name/Report | Date |
|---|---|---|---|
| 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 | 07/27/2000 |
| Factory Mutual Research Corporation | J.I. #0D0A9.AM | Class 4470 | 08/01/2000 |
| 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 4I:** Lightweight Concrete, Insulated

**Deck Description:** Cellular or Aggregate Lightweight Concrete

**System Type A (1):** Anchor sheet mechanically fastened; one or more layers of insulation 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$^2$** |
|---|---|---|
| **Perlite Minimum 1" thick** | **N/A** | **N/A** |
| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
| **Fiberglas Minimum $^{15}/_{16}$" thick** | **N/A** | **N/A** |
| **Perlite Minimum 1" thick** | **N/A** | **N/A** |

**Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs/100 ft$^2$. Please refer to Roofing Application Standard RAS 117 for insulation attachment.**

**Anchor Sheet:** One ply of Republic Glass Ply 28# or Ventsulation mechanically fastened to the deck as detailed below.

**Fastening:** Fasten anchor sheet with ES FM 60 Base Ply fasteners and FM 30 Discs or FM 90 Base Ply fasteners at a 4" side lap 8" o.c. and two rows staggered in the center of the sheet 18" o.c.

**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.)

**Membrane Type:** SBS

**Deck Type 4I:** Lightweight Concrete, Insulated

**Deck Description:** Cellular or Aggregate Lightweight Concrete

**System Type A (2):** Anchor sheet mechanically fastened; one or more layers of insulation 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** | **N/A** | **N/A** |
| **Fiberglas** | | |
| **Minimum $^{15}/_{16}$" thick** | **N/A** | **N/A** |

**Note: Base layers of insulation shall be bonded to anchor sheet with ½" ribbons of Republic Insulation Adhesive applied at 1.5 gal./sq. for perlite and polyisocyanurate and 2 gal./sq. for Fiberglas insulation.**

| **Top Insulation Layer** | **Insulation Fasteners (Table 3)** | **Fastener Density/ft$^2$** |
|---|---|---|
| **Fiberglas** | | |
| **Minimum $^{15}/_{16}$" thick** | **N/A** | **N/A** |
| **Perlite** | | |
| **Minimum 1" thick** | **N/A** | **N/A** |

**Note: Top layer of insulation shall be bonded with ½" ribbons of Republic Insulation Adhesive applied at 1.5 gal./sq. for perlite and polyisocyanurate and 2 gal./sq. for Fiberglas insulation.**

**Anchor Sheet:** One ply of Republic Glass Ply 28# or Ventsulation mechanically fastened to the deck as detailed below.

**Fastening:** Fasten anchor sheet with ES FM 60 Base Ply fasteners and FM 30 Discs or FM 90 Base Ply fasteners at a 4" side lap 8" o.c. and two rows staggered in the center of the sheet 18" o.c..

**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.)

**Membrane Type:** SBS

**Deck Type 4:** Lightweight Concrete, Non-insulated

**System Type E (1):** Base sheet mechanically fastened.

**Deck Description:** Cellular or Aggregate Lightweight Concrete

**All General and System Limitations apply.**

**Anchor Sheet:** One ply of Republic Glass Ply 28# mechanically fastened to the deck as detailed below.

**Fastening:** Fasten anchor sheet with ES FM 60 Base Ply fasteners and FM 30 Discs or FM 90 Base Ply fasteners at a 4" side lap 8" o.c. and two rows staggered in the center of the sheet 18" o.c.

**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:** **-45 psf.** (See General Limitation #9).

**Membrane Type:** SBS

**Deck Type 4:** Lightweight Concrete, Non-insulated

**Deck Description:** Elastizell Lightweight Insulating Concrete

**System Type E (2):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Deck :** Min. 22 ga., Type B steel decking over ¼" thick steel supports spaced max. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners. Steel deck is covered with a Elastizell cellular lightweight concrete pour consisting of a 1/8" slurry coat, min. 1" thick Holey Board and a min. 2" thick top coat.

**Anchor Sheet:** One ply of Republic Glass Ply 28# or Ventsulation mechanically fastened to the deck as detailed below.

**Fasteners:** Olympic 1.75" Base Sheet Fasteners at 7" o.c. at the side lap which shall be 4" and two staggered rows 7" o.c. in the field.

**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:** **-75 psf** (See General Limitation #7).

**Membrane Type:** SBS

**Deck Type 4:** Lightweight Concrete, Non-insulated

**Deck Description:** Elastizell Lightweight Insulating Concrete

**System Type E (3):** Base sheet mechanically fastened.

**All General and System Limitations apply.**

**Deck :** Min. 22 ga., Type B steel decking over ¼" thick steel supports spaced max. 5 ft. o.c. attached 6" o.c. using min. 5/8" diameter puddle welds or Traxx/5 fasteners. Deck side laps are attached 24" o.c. using Traxx/1 fasteners. Steel deck is covered with a Elastizell cellular lightweight concrete pour consisting of a 1/8" slurry coat, min. 1" thick Holey Board and a min. 2" thick top coat.

**Anchor Sheet:** One ply of Republic Glass Ply 28# or Ventsulation mechanically fastened to the deck as detailed below.

**Fasteners:** Olympic 1.75" Base Sheet Fasteners at 7" o.c. at the side lap which shall be 4" and two staggered rows 7" o.c. in the field.

**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:** **-75 psf** (See General Limitation #7).

## LIGHTWEIGHT 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 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.
3. For systems where specific lightweight insulating concrete is not referenced, the minimum design mix shall be a minimum of 250 psi.

## 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