

Issue: Approval of Roof Insulation using the State Product Approval Program (PA program)

Background:

At the last POC meeting, the Committee discussed criteria for approving roof insulation and requested that staff review roof insulation products currently approved under the PA program and advice regarding the criteria for approving roof insulation.

9B-72.005 Scope

(2) This rule applies to approval of products and systems, which comprise the building envelope and structural frame, for compliance with the structural requirements of the Florida Building Code.

9B-72.010 Definitions

(d) For roofing products: built up roofing, modified bitumen roof system, single ply roof systems, spray applied polyurethane roof system, roofing fasteners, **roofing insulation**, asphalt shingles, wood shingles and shakes, roofing slate, roof tile adhesives, cements-adhesives-coatings, liquid applied roof systems, underlayments, metal roofing, roofing tiles, waterproofing, roofing accessories that are an integral part of the roofing system and products introduced as a result of new technology;

Staff recommendation:

Criteria for approving roof insulation:

- (1) The approval is limited to roof insulation.
- (2) Fire classification and thermo performance of the insulation is not part of the approval
- (3) Not a structural component.
- (4) Scope of approval is limited to an approved roof covering which list specific insulation as a component part of an approved roof assembly.

Product Number	Description	Type of Product
FL491-R2	<p>Type of Certification: NOA Miami-Dade</p> <p>COMMENTS AND LIMITATIONS:</p> <ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. CertainTeed Corporation products may be used with any approved roof covering listing a specific CertainTeed product as a component part of a roof assembly Notice of Acceptance. If a CertainTeed product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance. 	<p><u>Category:</u> Roofing</p> <p><u>Sub-Category:</u> Insulation</p> <p><u>Type:</u> Insulation and Sheathing Foam Panels</p> <p><u>Sub-Type:</u> Polyisocyanurate, Perlite.</p>

<p>FL1322-R4</p>	<p>Type of Certification: NOA Miami-Dade GENERAL LIMITATIONS:</p> <ol style="list-style-type: none"> Any excess water on the lightweight concrete shall be removed prior to roof installation. Applicator shall maintain a job log and make it available to the Building Official upon request. The job log shall contain cast densities recordings taken at a minimum interval of one-hour. <ol style="list-style-type: none"> Cast densities shall be measured with calibrated scale accurate from 1 to 50 lbs. The scale shall display weight in increments of ¼ lb. and be accurately calibrated to 1/16 lb. The measuring bucket shall be of 5 quarts or larger Lightweight insulating concrete installation shall demonstrate its suitability to perform as a satisfactory substrate during "walkability inspection". If the deck or a portion of the deck is determined to be out of compliance, the Building Official may call for further testing (if applicable for the roof system) to confirm fastener spacing or provide data for the roof system manufacturer to calculate a new fastener pattern. Fastener testing (if applicable for the roof system) shall be required. Any areas where fasteners will not hold a minimum 40 lbf. after 5 days of cure shall be removed and recast. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value as calculated in conjunction with the maximum design value listed within specific roof membrane manufacturer's NOA. 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 Professional Engineer, Registered 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. If continued noncompliance is observed and the roof deck and associated roof system cannot be corrected based on additional testing and attachment calculations, the Building Official may call for the removal of all or portions of the deck. Roofing contractor shall consult with roofing system manufacturer for compatibility with all surface coatings or treatments listed in this NOA. Direct-adhered single ply systems shall be installed in strict compliance with membrane manufacturer's specifications and roof assembly manufacturer NOA. Maximum Design Pressures noted in this NOA shall be used in conjunction with the maximum design pressures published in the Roof Assembly Product Control Notice of Acceptance for Approved Systems over lightweight concrete decks. All coatings or surface preparation materials applied to the lightweight insulating concrete shall be listed as an approved interface material with the roof assembly manufacturer. Slurry coat and insulation boards shall be left undisturbed to cure for a minimum of 24 hours before the application of the topcoat. 	<p>Category: Roofing Sub-Category: Lightweight Insulating Concrete Materials: Aggregate, Cellular, Hybrid Maximum Design Pressure -345 psf.</p>
<p>FL2037-R1</p>	<p>Type of Certification: NOA Miami-Dade GENERAL LIMITATIONS:</p> <ol style="list-style-type: none"> Any excess water on the lightweight concrete shall be removed prior to roof installation. Applicator shall maintain a job log and make it available to the Building Official upon request. The job log shall contain cast densities recordings taken at a minimum interval of one-hour. <ol style="list-style-type: none"> Cast densities shall be measured with calibrated scale accurate from 1 to 50 lbs. The scale shall display weight in increments of ¼ lb. and be accurately calibrated to 1/16 lb. The measuring bucket shall be of 5 quarts or larger Lightweight insulating concrete installation shall demonstrate its suitability to perform as a satisfactory substrate during "walkability inspection". If the deck or a portion of the deck is determined to be out of compliance, the Building Official may call for further testing (if applicable for the roof system) to confirm fastener spacing or provide data for the roof system manufacturer to calculate a new fastener pattern. Fastener testing (if applicable for the roof system) shall be required. Any areas where fasteners will not hold a minimum 40 lbf. after 5 days of cure shall be removed and recast. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value as calculated in conjunction with the maximum design value listed within specific roof membrane manufacturer's NOA. 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 Professional Engineer, Registered 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. If continued noncompliance is observed and the roof deck and associated roof system cannot be corrected based on additional testing and attachment calculations, the Building Official may call for the removal of all or portions of the deck. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased 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 shall be provided to the Building Official for his/her review. Roofing contractor shall consult with roofing assembly manufacturer for compatibility with all surface coatings or treatments listed in this NOA. Direct-adhered single ply systems shall be installed in strict compliance with membrane manufacturer's specifications and roof assembly manufacturer NOA. All coatings or surface preparation materials applied to the lightweight insulating concrete shall be listed as an approved interface material with the roof assembly manufacturer. Maximum Design Pressures noted in this NOA shall be used in conjunction with the maximum design pressures listed in the roof assembly manufacturer's NOA. A minimum 1/8 inch slurry coat shall be applied over substrate with insulation boards immediately adhered to the slurry coat. Slurry coat and insulation boards shall be left undisturbed to cure overnight before the application of the topcoat. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9B-72 of the Florida Administrative Code. 	<p>Category: Roofing Sub-Category: Lightweight Insulating Concrete Materials: Aggregate Maximum Design Pressure -262.5 psf.</p>

<p>FL3832-R1</p>	<p>Type of Certification: Evaluation Report from Testing Lab. The Dow Chemical Company has gained Underwriters Laboratory, BOCA ES, SBCCI ES & PST and ICBO ES acceptance for the use of STYROFOAM* DECKMATE* and STYROFOAM DECKMATE Plus brand extruded polystyrene insulation for placement directly on steel roof decks eliminating the need for expensive and labor-intensive thermal barriers. In addition the new International Building Code (IBC) directly references the test procedure used to gain UL Approval. The specific details of each acceptance vary between the above mentioned groups and this application information data sheet describes each.</p>	<p>Extruded polystyrene insulation for placement directly on steel roof decks Note: There are 8 products on this application</p>
<p>FL4205-R3</p>	<p>Type of Certification: Evaluation Report PRODUCT DESCRIPTION: The following insulations are mechanically attached or adhered to Approved substrates using fasteners, stress plates and adhesives, as outlined in the Roof System Product Approval.</p> <ul style="list-style-type: none"> □ ENERGY 3® or ISO 3™ is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded between two fiber glass reinforced facers meeting ASTM C1289, Type II, Class 1, Grade 2. Available in flat stock or tapered boards. □ ENERGY 3® 25 PSI is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded between two fiber glass reinforced facers meeting ASTM C1289, Type II, Class 1, Grade 3. Available in flat stock or tapered boards. □ ENERGY 3® Plus is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to ½" thick high-density wood fiberboard on one side and a fiberreinforced facer on the other meeting ASTM C1289, Type IV. Available in flat stock or tapered boards. □ Fesco Foam® is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to Fesco Laminator Board on one side and a fiber-reinforced facer on the other meeting ASTM C1289, Type III. Available in flat stock or tapered boards. □ DuraFoam® is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to DuraBoard® on one side and a fiber-reinforced facer on the other. Available in flat stock or tapered boards. □ Nailboard® is a rigid roof insulation composed of a closed cell polyisocyanurate foam core bonded in the foaming process to 7/16" or 5/8" oriented strand board (OSB) one side and a universal glassreinforced facer on the other meeting ASTM C1289, Type V. □ Vented Nailboard® is a rigid roof insulation composed of a closed cell polyisocyanurate foam core attached with spacers to 7/16" or 5/8" oriented strand 	<p>Product Category: Roofing Sub-Category: Insulation</p>

	<p>board (OSB) one side and a universal glassreinforced facer on the other meeting ASTM C1289, Type V. Exterior Research and Design, LLC. Evaluation Report J9340.07.08-1 Certificate of Authorization #9503 FL4205-R3 Date of Issuance: 07/16/2008 Page 3 of 3</p> <p>□ Fesco® Board, Fesco® Board HD are homogenous insulation boards, composed of expanded perlite, blended with selected binders and fibers meeting ASTM C728. The top surface is sealed with TopLoc® coating to prevent excessive absorption of asphalt during the installation process. Available in flat stock or tapered boards.</p> <p>□ DuraBoard® Roof Insulation is a high-density, low-thermal rigid insulation board, composed primarily of expanded perlite with reinforcing cellulosic fibers and selected binders meeting ASTM C728.</p> <p>□ ½" Retro-Fit™ Board is high-density board composed of expanded perlite and cellulosic fibers meeting ASTM C728. The top surface is sealed with TopLoc® coating to ensure good attachment in bituminous applications.</p> <p>□ Invinsa™ Roof Board is high-density polyisocyanurate bonded to mineral-surfaced, fiber glass reinforced facers meeting ASTM C1289, Type II, Class 2.</p>	
FL4264-R2	<p>Type of Certification: Evaluation Report</p> <p>Securock® Brand Roof Board is for low slope commercial roofing that uses an advanced fiber-reinforced technology to provide superior performance. It provides superior protection from moisture and mold. Unlike other boards, produced with irritating fiberglass or face layers that can delaminate, Securock roof board enhances the bond strength of the membrane system to the board while providing superior wind uplift performance.</p>	<p>Securock roof board is designed to act with a properly designed roof system. The use of Securock roof board as a roofing component is the responsibility of the roof assembly designer. USG does not offer roof system design services.</p>
FL5584-R1	<p>Type of Certification: NOA</p>	<p>ROOFING ASSEMBLY APPROVAL</p> <p>Category: Roofing Sub-Category: Lightweight Insulating Concrete Materials: Cellular Maximum Design Pressure -465 psf.</p>

	<p>GENERAL LIMITATIONS:</p> <ol style="list-style-type: none"> Any excess water on the lightweight concrete shall be removed prior to roof installation. Applicator shall maintain a job log and make it available to the Building Official upon request. The job log shall contain cast densities recordings taken at a minimum interval of one-hour. <ol style="list-style-type: none"> Cast densities shall be measured with calibrated scale accurate from 1 to 50 lbs. The scale shall display weight in increments of ¼ lb. and be accurately calibrated to 1/16 lb. The measuring bucket shall be of 5 quarts or larger Lightweight insulating concrete installation shall demonstrate its suitability to perform as a satisfactory substrate during "walkability inspection". If the deck or a portion of the deck is determined to be out of compliance, the Building Official may call for further testing (if applicable for the roof system) to confirm fastener spacing or provide data for the roof system manufacturer to calculate a new fastener pattern. Fastener testing (if applicable for the roof system) shall be required. Any areas where fasteners will not hold a minimum 40 lbf. after 5 days of cure shall be removed and recast. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value as calculated in conjunction with the maximum design value listed within specific roof membrane manufacturers NOA. 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 Professional Engineer, Registered 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. If continued noncompliance is observed and the roof deck and associated roof system cannot be corrected based on additional testing and attachment calculations, the Building Official may call for the removal of all or portions of the deck.. Roofing contractor shall consult with roofing system manufacturer for compatibility with all surface coatings or treatments listed in this NOA. Direct-adhered single ply systems shall be installed in strict compliance with membrane manufacturer's specifications and the Miami-Dade County Notice of Acceptance. Maximum Design Pressures noted in this NOA shall be used in conjunction with those maximum design pressures published in the Roof Assembly Product Control Notice of Acceptance for Approved Systems over lightweight concrete decks. All coatings or surface preparation materials applied to the lightweight concrete shall be listed as an approved interface material with the roof membrane manufacturer. A slurry coat Concrecel shall be applied with insulation boards immediately adhered in the minimum ¼" slurry coat. Slurry coat and insulation boards shall be left undisturbed to cure overnight before the application of the topcoat. 	
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<p>FL5968-R1</p>	<p>Type of Certification: NOA</p> <ol style="list-style-type: none"> Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. Hunter Panels, LLC. products may be used with any approved roof covering listing a specific Hunter Panels product as a component part of a roof assembly Notice of Acceptance. If a Hunter Panels product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. Fire classification is not a part of this Notice of Acceptance 	<p>ROOFING ASSEMBLY APPROVAL</p> <p>Category: Roofing Sub-Category: Lightweight Insulating Concrete Materials: Cellular Maximum Design Pressure: -465 psf.</p>
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<p>FL6796-R1</p>	<p>Type of Certification: Testing</p> <p>II DESCRIPTION</p> <ol style="list-style-type: none"> ACFoam-II roof insulation board utilizes an isocyanurate foam core with a black uncoated fiber reinforced organic felt top and bottom facer. It is available in thicknesses from 1 to 4.6 in. (25 to 115 mm) and board sizes 48 in. (1220 mm) wide by 48 in. (1220 mm) or 96 in. (2440 mm) long. ACFoam Composite roof insulation board utilizes an isocyanurate foam core with a black uncoated fiber reinforced organic felt facer one side and a ½ in. (13 mm) thick perlite face on the other side. 	<p>Standards:</p> <table border="1"> <thead> <tr> <th>Title</th> <th>Class Number</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td>Class 1 Insulated Steel Deck Roofs</td> <td>4450</td> <td>February, 1989</td> </tr> </tbody> </table>	Title	Class Number	Date	Class 1 Insulated Steel Deck Roofs	4450	February, 1989
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Class 1 Insulated Steel Deck Roofs	4450	February, 1989						

<p>FL10119-R1</p>	<p>Type of Certification: Evaluation Report</p> <p>See Seaman Corporation Guide Specification (GS 04/08) and Addendums as well as Seaman Corporation/FiberTite Material Safety Data Sheets (MSDS) for additional and specific application, design parameters and material precautions. Use proper handling and storage methods for FTR-Value insulation, keeping it dry at all times. Tightly butt all roof insulation board edges and stager adjacent joints. Install no more insulation than can be effectively covered/completed during the same day. Except for loose laid/ballast applications, FTR-Value roof insulation must be secured to the roof deck. Approved securement methods include mechanical attachment using FTR fasteners and insulation stress plates appropriate for the deck type. Alternatively, FTR-Value roof insulation may be attached with FTR-601 adhesive, hot asphalt or other approved adhesives</p>	<p>FTR-Value polyisocyanurate roof insulation consists of polyiso foam core with superior fire performance characteristics and the ability to retain its high R-values over time.</p>
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	appropriate to the deck type. For adhered insulation attachment, insulation boards shall not exceed 4ft x 4ft.	
FL10500-R1	<p>Type of Certification: Evaluation Report Lightweight Insulating Concrete (LWIC) on Non-Vented Steel Deck. Insulating Concrete formulated by mixing a hydrated cementitious matrix around non-interconnecting air cells created by the addition of preformed foam formed from hydrolyzed proteins or synthetic surfactants. Deck Type: Steel, Non-Vented (Design of support system is not included in this evaluation)</p>	<p>Category: Roofing Sub - Category: Roofing Insulation Product: Concrecel Lightweight Insulating Concrete Support Type: Steel Deck, Non-Vented</p>
FL10585	<p>Type of Certification: NOA COMMENTS AND LIMITATIONS:</p> <ol style="list-style-type: none"> 1. Fire classification is not a part of this Notice of Acceptance 2. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 3. Insulfoam EPS products may be used with any approved roof covering listing a specific Insulfoam EPS product as a component part of a roof assembly Notice of Acceptance. If a Insulfoam EPS product is not listed, a request may be made to the local building inspector or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 4. Only Type IX EPS rigid roof insulation may be used in High Velocity Hurricane Zones. 5. Refer to FBC-FL9316 for specific details on applications outside of High Velocity Hurricane Zones. 	<p>Category: Roofing Sub-Category: Insulation Type: Insulation and Sheathing Foam Panels Sub-Type: EPS (Expanded Polystyrene)</p>
FL11320	<p>Type of Certification: NOA COMMENTS AND LIMITATIONS:</p> <ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. Firestone Building Products, Inc products may be used with any approved roof covering listing a specific Firestone Building Products, Inc as a component part of a roof assembly Notice of Acceptance. If a Firestone Building Products product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance 4. Single layer thickness as listed above. Multiply layer thickness shall not exceed 12 inches. See specific roof assembly notice of acceptance for approved assemblies. 5. All approved products listed herein shall be labeled and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below. 	<p>Category: Roofing Sub-Category: Insulation Type: Insulation and Sheathing Foam Panels Sub-Type: Polyisocyanurate</p>
FL12331	<p>Type of Certification: Evaluation Report COMMENTS AND LIMITATIONS:</p> <ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. Firestone Building Products, Inc products may be used with any approved roof covering listing a specific Firestone Building Products, Inc as a component part of a roof assembly Notice of Acceptance. If a Firestone Building Products product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance 4. Single layer thickness as listed above. Multiply layer thickness shall not exceed 12 inches. See specific roof assembly notice of acceptance for approved assemblies. 5. All approved products listed herein shall be labeled and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below. 	<p>COMMENTS AND LIMITATIONS:</p> <ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. Firestone Building Products, Inc products may be used with any approved roof covering listing a specific Firestone Building Products, Inc as a component part of a roof assembly Notice of Acceptance. If a Firestone Building Products product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance 4. Single layer thickness as listed above. Multiply layer thickness shall not exceed 12 inches. See specific roof assembly notice of acceptance for approved assemblies. 5. All approved products listed herein shall be labeled and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below.

<p>FL12684</p>	<p>Type of Certification: NOA</p> <ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. Carlisle Residential products may be used with any approved roof covering listing a specific Carlisle Residential product as a component part of a roof assembly Notice of Acceptance. If a Carlisle Residential product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance 4. All approved products listed herein shall be labeled and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the <u>Miami-Dade County Product Control Seal</u> as shown below. 	<p><u>Category:</u> Roofing <u>Sub-Category:</u> Insulation <u>Type:</u> Insulation <u>Sub-Type:</u> Polyisocyanurate</p>
<p>FL12918</p>	<p>Type of Certification: Evaluation Report</p> <ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. Carlisle Residential products may be used with any approved roof covering listing a specific Carlisle Residential product as a component part of a roof assembly Notice of Acceptance. If a Carlisle Residential product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance 4. All approved products listed herein shall be labeled and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the <u>Miami-Dade County Product Control Seal</u> as shown below. 	<ol style="list-style-type: none"> 1. Roof assemblies are approved under specific roof cover's Product Control Notice of Acceptance. 2. Carlisle Residential products may be used with any approved roof covering listing a specific Carlisle Residential product as a component part of a roof assembly Notice of Acceptance. If a Carlisle Residential product is not listed, a request may be made to the authority having jurisdiction or the Miami Dade Building Code Compliance Office for approval provided that appropriate documentation is provided. 3. Fire classification is not a part of this Notice of Acceptance 4. All approved products listed herein shall be labeled and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the <u>Miami-Dade County Product Control Seal</u> as shown below.