

APPROVAL REPORT

Project No: PR472853
Class: 4484
Product Name: AllShield Blue
Name of Listing Company: AllShield Coatings BV
Address of Listing Company: Hoogenveenweg 29
Nieuwerkerk aan den IJssel 2913 LV
Netherlands
Customer ID: 279759-1
Customer website: www.allshieldcoatings.com

Prepared by



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VP, Manager of Materials

30 September 2025

Date of Approval

1 INTRODUCTION

1.1 AllShield Coatings BV submitted samples of their AllShield Blue coating to determine if it meets the requirements of the Standard listed in Section 1.3, when installed as a retrofit coating for roof-mounted rigid photovoltaic module systems.

1.2 This report may be freely reproduced only in its entirety and without modification.

1.3 Standard

Title	Number	Issue Date
Examination Standard for Retrofit Coatings for Roof-Mounted Rigid Photovoltaic Module Systems	4484	07/2025

1.4 Listing

AllShield Blue will be listed in RoofNav, an on-line resource of FM Approvals as a retrofit coating for roof-mounted rigid photovoltaic module systems.

2 DESCRIPTIONS

All products are as described in RoofNav. Formulations, drawings and specifications are on file at FM Approvals.

3 EXAMINATIONS AND TESTS

3.1 All components were produced under the FM Approvals Surveillance Audit program as indicated by FM Approvals labels. All samples were considered to be representative of standard production and were examined and tested as indicated below. Components incorporated into test samples were selected by FM Approvals personnel. Test samples were prepared by, or under the supervision of, FM Approvals personnel. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.

3.2 Several performance requirements and tests required by the Standard have been waived due to previous successful testing. See Table 1 below for details.

TABLE 1	
FM Standard 4484 Performance Requirement	Original Project ID
External Fire Test of Retrofit Coatings for Roof-Mounted Rigid Photovoltaic Module Systems	Included
Infrared Spectra for Qualitative Analysis, ASTM E1252	Waived - Test is not required, performed at the sole discretion of FM Approvals
Thermal Desorption Gas Chromatography Mass Spectrometry (TD/GC/MS)	Waived - Test is not required, performed at the sole discretion of FM Approvals

3.3 **External Fire Test of Retrofit Coatings for Roof-Mounted Rigid Photovoltaic Module Systems**

Two (2) sets of test samples were prepared. The components, sequence of installation, and test results were as follows:

EPDM Roof System Test Configuration:

Sample Nos. 1 & 2:

Plastic-Backed PV Panels:	Two (2) PhonoSolar TwinPlus 535-555W PV Panels (<i>each panel measuring 89.7 in. long x 44.7 in. wide [2.3 m long x 1.1 m wide]</i>), installed above the coated roof covering system.
Retrofit Roof Coating:	AllShield Blue coating applied to the top surface of the EPDM Roof System as follows: AllShield Blue (Part A and Part B mixed in a 1:1 ratio) applied at a total rate of 6.0 kg/m ² (1.2 lb/ft ²): <u>Top Coat:</u> AllShield Blue applied at a rate of 3.0 kg/m ² (0.6 lb/ft ²). <u>Reinforcement:</u> 225 g/m ² (0.05 lb/ft ²) fiberglass reinforcement embedded into wet base coat. <u>Base Coat:</u> AllShield Blue applied at a rate of 3.0 kg/m ² (0.6 lb/ft ²).
Simulated Existing Roof Cover:	45 mil (0.045 in. [1.2 mm]) thick EPDM roof cover placed over the insulation and mechanically fastened through to the deck with fasteners and fastening bars.
Insulation:	2 in. (51 mm) thick, extruded polystyrene roof insulation, pre-secured to the deck with fasteners and insulation plates.
Deck:	Plywood
Slope Tested:	2.4° (1/2 in12)

Asphaltic Built-Up-Roof (BUR) System Test Configuration:

Sample Nos. 3 & 4:

Plastic-Backed PV Panels:	Two (2) PhonoSolar TwinPlus 535-555W PV Panels (<i>each panel measuring 89.7 in. long x 44.7 in. wide [2.3 m long x 1.1 m wide]</i>), installed above the coated roof covering system.
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Retrofit Roof Coating:	AllShield Blue coating applied to the top surface of the four ply asphaltic built-up roof (BUR) as follows: AllShield Blue (Part A and Part B mixed in a 1:1 ratio) applied at a total rate of 6.0 kg/m² (1.2 lb/ft²): <u>Top Coat</u>: AllShield Blue applied at a rate of 3.0 kg/m² (0.6 lb/ft²). <u>Reinforcement</u>: 225 g/m² (0.05 lb/ft²) fiberglass reinforcement embedded into wet base coat. <u>Base Coat</u>: AllShield Blue applied at a rate of 3.0 kg/m² (0.6 lb/ft²).
Simulated Existing BUR Roof Cover:	Four (4) ply asphaltic BUR – consisting of four (4) plies of Type VI organic ply felts, each ply fully adhered to the substrate with Type III hot asphalt at a rate of 25 lb/square (1.2 kg/m ²). A flood coat of Type III hot asphalt applied at a rate of 60 lb/square (5.4 kg/m ²) over the top surface of the top ply of the BUR.
Insulation:	1/4 in. (6 mm) thick, gypsum based roof board, mechanically fastened to the plywood deck with fasteners and insulation plates
Deck:	Plywood
Slope Tested:	2.4° (1/2 in 12)

3.3.1 All test samples described in Section 3.3 above, with AllShield Blue installed as a retrofit coating for PV panel assemblies having a roof-mounted rigid photovoltaic module system that has been installed over an existing roof covering system, met the requirements of the FM Approvals Standard listed in Section 1.3 above.

3.3.1.1 At no time during testing, did the flame spread to within 6 in. (152 mm) of the end of the last PV panel.

3.3.1.2 At no time during testing, was fire damage observed to the underlying roof system within 6 in. (152 mm) of the end of the last PV panel.

3.3.1.2.1 In addition, at no time during testing, was fire damage observed to the underlying roof system, within 6 in. (152 mm) of the two lateral edges of the roof system or retrofit coating (*NOTE: as measured from beyond 12 in. [305 mm] from the ignition source*).

4 MARKING

4.1 Marking on the product or, if not possible due to size, on its packaging or label accompanying the product, shall include the following information:

- name and address of the manufacturer or marking traceable to the manufacturer;

- date of manufacture or code traceable to date of manufacture or lot identification;
- model number, model type and/or product trade name as appropriate.

When hazard warnings are needed, the markings shall be universally recognizable.

- 4.2** The product trade name, model number or model type identification shall correspond with RoofNav, the manufacturer's catalog designation and shall uniquely identify the product as FM Approved. The manufacturer shall not place this trade name or model number identification on any other product unless covered by a separate agreement with FM Approvals.
- 4.3** The Approval Mark shall be displayed visibly and permanently on the product and/or packaging as appropriate. The manufacturer shall not use this Mark on any other product unless such product is covered by a separate FM Approvals Approval Report.
- 4.4** Markings denoting Approval by FM Approvals shall be applied by the manufacturer only within and on the premises of manufacturing locations that are under the FM Approvals Surveillance Audit program.
- 4.5** The manufacturer agrees that use of the FM Approvals name or Approval Mark is subject to the conditions and limitations of the Approval by FM Approvals. Such conditions and limitations must be included in all references to Approval by FM Approvals.

5 SURVEILLANCE AUDITS

The manufacturing facilities at the following location shall be visited on a routine basis. The facility processes and quality control procedures in place have been determined to be satisfactory to manufacture products identical to that tested and Approved. An FM Approved Products/Specification-Tested Revision Request Form shall be submitted to FM Approvals for requesting to manufacture products at any additional or alternate manufacturing facilities which are not listed below.

Audit Location:

AllShield Coatings BV
Hoogenveenweg 29
Nieuwerkerk aan den IJssel 2913 LV
Netherlands

6 MANUFACTURER'S RESPONSIBILITIES

- 6.1** The manufacturer shall notify FM Approvals of any planned change in the Approved products, prior to general sale or distribution, using the FM Approved Products/Specification Tested Revision Request Form. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from FM Approvals.

6.2 To ensure compliance with his procedures in the field, the manufacturer shall supply to the installer such necessary instruction or assistance required to produce the desired performance achieved in the tests.

6.3 In accordance with the Master Agreement, the manufacturer shall make full and immediate disclosure to FM Approvals of all information concerning any defect in, or potential hazard of, the product or service manufactured or provided by the Customer which is Approved by, or being examined by, FM Approvals. The manufacturer shall make all necessary arrangements for the investigation of complaints/anomalies applicable to this approval and shall keep records of all complaints/anomalies including actions taken.

7 DOCUMENTATION

No new documents have been created as all products are currently Approved.

8 CONCLUSIONS

8.1 Test results from this program indicate that AllShield Coatings BV AllShield Blue, as evaluated, meets the requirements of the FM Approvals Standard listed in Section 1.3 above, when as a retrofit coating on existing roof systems having roof-mounted rigid photovoltaic module systems, with or without racking systems, as follows:

8.1.1 AllShield Blue coating applied to the top surface of the existing roof covering systems, as follows:

AllShield Blue coating (Part A and Part B mixed in a 1:1 ratio) applied to the substrate at a total coverage rate of 6.0 kg/m ² (1.2 lb/ft ²):	
<u>Top Coat:</u>	AllShield Blue applied over the embedded reinforcement at a rate of 3.0 kg/m ² (0.6 lb/ft ²).
<u>Reinforcement:</u>	225 g/m ² (0.05 lb/ft ²) fiberglass reinforcement immediately embedded into wet base coat.
<u>Base Coat:</u>	AllShield Blue applied direct to the existing roof covering system at a rate of 3.0 kg/m ² (0.6 lb/ft ²).
Existing Roof Covering Systems:	Existing TPO roof covering systems, Existing PVC roof covering systems, Existing Liquid Applied Roof Covering systems, Existing Modified Bitumen roof covering systems, Existing asphaltic built-up roof (BUR) covering systems

8.2 Since a duly signed Master Agreement is on file for this customer, Approval is effective as of the date of this report.

8.3 Continued Approval will depend upon satisfactory field experience and periodic Facilities and Procedures Audits.

PROJECT DATA RECORD: PR472853

ORIGINAL TEST DATA: See Table 1 above.