ICC-ES Evaluation Report

ESR-5000

Issued June 2024

Revised August 2024

Subject to renewal June 2025

This report also contains:

- CBC Supplement

- FBC Supplement

- LABC Supplement

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DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION **Section: 07 56 00 – Fluid – Applied Roofing**	**REPORT HOLDER:** **NANOTECH MATERIALS, INC.**	**EVALUATION SUBJECT:** **NANOTECH MATERIALS COOL ROOF COAT**	

1.0 EVALUATION SCOPE

Compliance with the following codes:

■ 2024, 2021 and 2018 *International Building Code*® (IBC)

For evaluation for compliance with codes adopted by *Los Angeles Department of Building and Safety* (LADBS), see ESR-5000 LABC and LARC Supplement.

Property evaluated:

■ Physical properties

■ Fire classification

■ Wind resistance

■ Impact resistance

2.0 USES

NanoTech Materials Cool Roof Coat system described in this evaluation report is used in the construction of classified roof coverings as specified in Table 1. The roof covering system described in this report may be used on buildings of any type of construction.

3.0 DESCRIPTION

3.1 General:

The NanoTech Materials Cool Roof Coat system consists of a liquid-applied coating described in Section 3.2. When installed as described in this report, the roof covering system has a fire classification as specified in Table 1.

3.2 NanoTech Materials Cool Roof Coat:

The NanoTech Materials Cool Roof Coat is an elastomeric acrylic roof coating complying with ASTM D6083, Type I. The coating is used as a base coating and top surface coating. The coating must be stored in unopened containers at temperatures between 41°F (5°C) and 100°F (37.8°C). The coating is available in a white color.

3.3 Impact Resistance:

The NanoTech Materials Cool Roof Coat system described in this report meets the requirements of the Resistance to Foot Traffic Test described in Section 4.6 of FM 4470, as referenced in 2024 and 2018 IBC Section 1504.7 (2021 IBC Section 1504.8).

4.0 INSTALLATION

4.1 Preparation of Substrates:

The substrate to be covered must be free of grease, oil, loose particles, moisture or any other substance that might interfere with the bond between roofing materials and the substrate.

4.2 Noncombustible Substrates:

4.2.1 Concrete Substrate: Structural concrete substrates must have a minimum compressive strength (f_c) of 2500 psi (17.2 MPa).

4.2.2 Steel Substrate: Steel deck must be minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)].

4.3 Roof Slopes:

The roofing systems must be applied to provide a minimum slope of $^1/_4$:12 (2 percent) and a maximum slope as specified in Table 1.

4.4 Application:

The NanoTech Materials Cool Roof Coating must be applied in two coats (base coat and surface coat) at the wet film thickness and application rate specified in Table 1. The ambient temperature during application must be a minimum of 41°F (5°C) and a maximum of 120°F (49°C). The roofing material to be covered by the coating must be free of grease, oil, loose particles, moisture or any other substance that might interfere with the bond between the coating and the roofing material.

4.5 Fire Classification:

4.5.1 New Construction:

The roof covering system specified in Table 1 is a Class A classified roof covering system in accordance with ASTM E108 (UL790).

4.5.2 Reroofing:

Prior to installation of the new roof coating, the existing roof system must be removed from the concrete roof deck or steel roof deck, as applicable. Inspection in accordance with 2024 and 2021 IBC Section 1512 (2018 IBC Section 1511), and approval from the code official having jurisdiction, are required. Installation must be over an uninsulated concrete deck only or an uninsulated steel roof deck only.

4.6 Wind Resistance:

The allowable wind uplift pressure for the system with NanoTech Materials Cool Roof Coat described in this report is limited to the allowable wind uplift pressure specified in Table 3 of ESR-4676 for System No. 1 (45 psf), System No. NC-2 (60 psf) or System No. 3 (68 psf). These allowable wind pressures are only for the roof covering. The deck and framing to which the roof covering is attached must be designed for the applicable components and cladding wind loads in accordance with ASCE 7 or IBC Section 1609.6. Calculations demonstrating that the required wind resistance is less than the allowable wind resistance must be submitted to the code official.

5.0 CONDITIONS OF USE:

The NanoTech Materials Cool Roof Coat system describe in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 Installation of the roofing system must comply with the applicable code, the report holder's published installation instructions, and this report. If there are any conflicts between the report holder's installation instructions and this report, this report governs.

5.2 Installation of the coating must be by applicators approved by Nanotech Materials, Inc.

5.3 Where moderate or heavy foot traffic occurs for maintenance of equipment, or is otherwise necessary, the roof covering system must be adequately protected to prevent rupture or wearing of the surface.

5.4 Flashing, when required, must be installed in accordance with IBC Section 1503.2.

5.5 The NanoTech Materials Cool Roof Coat is manufactured under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Reports of testing in accordance with ASTM D6083.

6.2 Reports of tensile strength testing of the coating both before and after accelerated weathering in accordance with 2021 IBC Section 1504.7 (2018 IBC Section 1504.6).

6.3 Reports of "Resistance to Foot Traffic Test" in accordance with Section 4.6 of FM 4470.

6.4 Report of roof classification tests in accordance with ASTM E108 (UL790).

7.0 IDENTIFICATION

7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5000) along with the name, registered trademark, or registered logo of the report holder [Nanotech Materials, Inc.] must be included in the product label.

7.2 In addition, each container of NanoTech Materials Cool Roof Coat is labeled with the manufacturers name and address, the product designation and the date of manufacturer, the self-life, and the batch number.

7.3 The report holder's contact information is the following:

NANOTECH MATERIALS, INC.
21401 PARK ROW DRIVE
SUITE 360
KATY, TEXAS 77449
(979) 557-9519
www.nanotechmaterials.com

TABLE 1 — FIRE CLASSIFICATION — COATED ROOF COVERING SYSTEM

SYSTEM NO.	FIRE CLASSIFICATION	ROOF DECK SUBSTRATE[1]	MAX. ROOF SLOPE	ROOF COVERING	COATING	
					Base Coat	Surface Coat
1	A	Concrete or steel	2:12	60 mil thick GAF EverGuard® TPO (ESR-4676)[2] mechanically fastened	Nanotech cool roof coat at 20 wet mils applied at a rate of 1.25 gal/100 ft^2	Nanotech cool roof coat at 40 wet mils applied at a rate of 2.50 gal/100 ft^2

For SI: 1 inch = 25.4 mm; 1 mil = 0.0254 mm

[1]Roof deck substrate must be either concrete with a minimum compressive strength of 2500 psi or minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)], as specified in Section 4.2.

[2]Installation of the GAF EverGuard® TPO membrane must be in accordance with ICC ES evaluation report ESR-4676 and the applicable code.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 56 00—Fluid Applied Roofing

REPORT HOLDER:

NANOTECH, INC.

EVALUATION SUBJECT:

NANOTECH MATERIALS COOL ROOF COAT

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that NanoTech Materials Cool Roof Coat, described in ICC-ES evaluation report ESR-5000, has/have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

■ 2023 *City of Los Angeles Building Code* (LABC)

2.0 CONCLUSIONS

The NanoTech Materials Cool Roof Coat, described in Sections 2.0 through 7.0 of the evaluation report ESR-5000, complies with the LABC Chapter 15, and is subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the evaluation report ESR-5000.
- The design, installation, conditions of use and identification of the NanoTech Materials Cool Roof Coat is in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the master evaluation report ESR-5000.
- The installation of the system must comply with City of Los Angeles Information Bulletin P/BC 2020-16, “Dwellings in High Wind Velocity Areas (HWA).”
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 15 and 16, as applicable.
- Reroofing applications must comply with Section 4.5.2 of the evaluation report ESR-5000 and LABC Section 1511.

This supplement expires concurrently with the evaluation report, issued June 2024 and revised August 2024.

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 56 00— Fluid Applied Roofing

REPORT HOLDER:

NANOTECH, INC.

EVALUATION SUBJECT:

NANOTECH MATERIALS COOL ROOF COAT

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that NanoTech Materials Cool Roof Coat, described in ICC-ES evaluation report ESR-5000, has also been evaluated for compliance with the code noted below.

Applicable code edition*(s)*:

■ 2022 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of health Care Access and Information (HCAI) and the Division of State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

2.0 CONCLUSIONS

2.1 CBC:

The NanoTech Materials Cool Roof Coat, described in Sections 2.0 through 7.0 of the evaluation report ESR-5000, complies with CBC Chapters 15, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 15, as applicable.

2.1.1 OSHPD: The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA: The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

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ICC-ES Evaluation Report

ESR-5000 FBC Supplement

Issued June 2024
Revised August 2024
This report is subject to renewal June 2025.

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 56 00 —Fluid Applied Roofing

REPORT HOLDER:

NANOTECH, INC.

EVALUATION SUBJECT:

NANOTECH MATERIALS COOL ROOF COAT

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that NanoTech Materials Cool Roof Coat, described in ICC-ES evaluation report ESR-5000, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 *Florida Building Code—Building*

2.0 CONCLUSIONS

The NanoTech Materials Cool Roof Coat, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-5000, complies with the *Building Code-Building.* The design requirements must be determined in accordance with the *Florida Building Code-Building*. The installation requirements noted in ICC-ES evaluation report ESR-5000 for the 2021 *International Building Code*® meet the requirements of the *Florida Building Code-Building,* with the following conditions:

- The NanoTech Materials Cool Roof Coat complies with Section 1509.1 of the FBC.

Use of the NanoTech Materials Cool Roof Coat for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code-Building* or the *Florida Building Code-Residential* has been evaluated.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, issued June 2024 and revised August 2024.