ICC-ES Evaluation Report

ESR-3796

Reissued December 2024

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This report also contains:

- **CA Supplement**
- **FL Supplement**

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DIVISION: 07 00 00 — THERMAL AND MOISTURE PROTECTION **Section: 07 56 00 — Fluid-Applied Roofing**	**REPORT HOLDER:** **APOC, SUB OF GARDNER ASPHALT**	**EVALUATION SUBJECT:** **ASPHALT EMULSION, POLYESTER FABRIC AND LIQUID-APPLIED ROOF COATING SYSTEMS**	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021 and 2012 *International Building Code*® (IBC)

Property evaluated:

- Physical properties
- Weather resistance
- Fire classification
- Impact resistance

2.0 USES

The asphalt emulsion, polyester fabric and liquid-applied roof coating systems are used to recover existing code-complying built-up, single-ply membrane or modified bitumen membrane roof coverings attached to combustible or noncombustible decks.

3.0 DESCRIPTION

3.1 General:

The asphalt emulsion, polyester fabric and liquid-applied acrylic roof coating system consists of an APOC 300, APOC 311 or APOC 302 asphalt emulsion base coat, polyester fabric reinforcement and two top coats of APOC 248 or APOC 252 acrylic elastomeric coating installed over an existing code-complying built-up roof system.

The liquid-applied silicone roof covering systems consist of APOC 585 ArmorFlex® White Silicone Elastomeric Coating installed over an existing code-complying single-ply membrane roof covering or an existing built-up roof covering.

When installed over existing code-complying built-up, single-ply membrane or modified bitumen membrane roof coverings as described in this report, the composite systems have fire classifications as noted in Table 1.

3.2 Materials:

3.2.1 APOC 482F Polyester Fabric: The fabric reinforcement is a 3-ounce-per-square-yard (91.5 g/m^2) polyester material.

3.2.2 APOC 252 and APOC 248 Acrylic Elastomeric Coatings: APOC 252 and APOC 248 are acrylic elastomeric coatings complying with ASTM D6083. The coatings must be spray-, roller- or brush-applied at the coverage rates specified in Table 1. The coatings are available in 4.75-gallon (18 L) containers and have a shelf life of 1 year when stored in unopened containers at temperatures between 55°F and 100°F (13°C and 38°C).

3.2.3 APOC 585 ArmorFlex® White Silicone Elastomeric Coating: APOC 585 ArmorFelx is a silicone elastomeric coating complying with ASTM D6694. The coating must be spray-, roller- or brush-applied at the coverage rates specified in Table 1. The coating is available in 4.75-gallon (18 L) containers and has a shelf life of 1 year when stored in unopened containers at temperatures between 40°F and 120°F (4°C and 48°C).

3.2.4 APOC 300, APOC 311 and APOC 302 Asphalt Emulsion: APOC 300, APOC 311 and APOC 302 are asphalt emulsions complying with ASTM D1227. The asphalt emulsions must be spray-, roller- or brush-applied at the coverage rates specified in Table 1. The asphalt emulsions are available in 4.75-gallon (18 L) containers and have a shelf life of 1 year when stored in unopened containers at temperatures between 55°F and 100°F (13C and 38°C).

3.3 Impact Resistance:

The asphalt emulsion, polyester fabric and liquid-applied roof coating systems comply with requirements for impact resistance in accordance with Section 4.6 of FM 4470.

4.0 DESIGN AND INSTALLATION

4.1 Preparation of Substrate:

The existing code-complying built-up roof system must be repaired and made sound and watertight prior to application of the asphalt emulsion, polyester fabric, and liquid-applied roof coating system. All existing roof surfaces must be completely cleaned to remove loose gravel, dirt, dust, grease, and foreign debris; power washed and allowed to dry prior to application of the new roof covering system. After the existing roof surface has completely dried, components of the new system must be applied in accordance with the report holder's published installation instructions.

4.2 Roof Deck:

4.2.1 Combustible: Plywood sheathing must be minimum $^{15}/_{32}$-inch-thick (11.9 mm), code-complying, exterior-grade, or Exposure 1 plywood.

4.2.2 Noncombustible: Steel deck must be minimum No. 22 gage galvanized steel [0.030 inch (0.76 mm)]. Concrete must have a minimum compressive strength (f_c) of 2500 psi.

4.3 Roof Slope:

The roofing systems must be applied to provide a minimum slope of ¼:12 (2 percent) and a maximum slope as specified in Table 1.

4.4 Application of Coating System:

The asphalt emulsion, polyester fabric and liquid-applied roof coating system must not be applied during inclement weather. The ambient temperature during application must be a minimum of 50°F (10°C) and a maximum of 100°F (38°C). The coating must not be applied if freezing weather, rain, or fog is expected within the 36 to 48-hour period after application.

The silicone liquid-applied roof coating must not be applied during inclement weather. The ambient temperature during application must be a minimum of 40°F (4°C) and a maximum of 110°F (43°C). The coating must not be applied if freezing weather, rain, or fog is expected within an 8-hour period after application.

4.4.1 System 1: After the existing code-complying built-up roof (BUR) system has been cleaned and prepared in accordance with Section 4.1, spray-, roller- or brush-apply one or more base coats of APOC 300, APOC 311 or APOC 302 asphalt emulsion at a total application rate of 4 to 6 gallons/100 ft^2 (1.6 to 2.4 L/m^2) starting at the low point of the roof. During application of the base coats, and starting at the low edge of the roof, install one or more layers of APOC 482F polyester fabric into the base coat. Each layer of APOC 482F polyester fabric must be overlapped a minimum of 4 inches (101 mm) at side laps and minimum 6 inches (152 mm) at end laps. End laps must be staggered and offset a minimum of 3 inches (76 mm). Broom the polyester fabric into the base coat eliminating any blisters, wrinkles, and folds. The asphalt emulsion base coat and embedded APOC 482F polyester fabric must be allowed to cure for a minimum of 24 hours depending on drying conditions.

After the asphalt emulsion base coat has thoroughly cured, the top coat of APOC 248 or APOC 252 elastomeric top coating is spray-, roller- or brush-applied over the entire surface in two coats, each at a rate of 1 to 2 gallons/100 ft^2 (0.4 to 0.8 L/m^2). The two coats must be applied perpendicular to each other and allowed to cure a minimum of 4 hours between coats depending on drying conditions.

4.4.2 System 2: After the existing code-complying TPO, TPA or EPDM membrane roof system has been cleaned and prepared in accordance with Section 4.1, spray- or roller-apply one or more coats of APOC 585 ArmorFlex® silicone coating at a total rate of 2 to 4 gallons/100 ft^2 (0.8 to 1.6 L/m^2). The coating must be allowed to cure a minimum of 8 hours between coats depending on drying conditions.

4.4.3 System 3: After the existing code-complying PVC membrane roof system has been cleaned and prepared in accordance with Section 4.1, spray- or roller-apply one or more coats of APOC 585 ArmorFlex® silicone coating at a total rate of 2 to 4 gallons/100 ft^2 (0.8 to 1.6 L/m^2). The coating must be allowed to cure a minimum of 8 hours depending on drying conditions.

4.4.4 System 4: After the existing code-complying built-up roof (BUR) capsheet or modified bitumen roof system has been cleaned and prepared in accordance with Section 4.1, apply APOC 583 primer at a rate of ¼ to 1 gallon/100 ft^2 (0.1 to 0.4 L/m^2) and spray- or roller-apply one or more coats of APOC 585 ArmorFlex® silicone coating at a total rate of 2 to 4 gallons/100 ft^2 (0.8 to 1.6 L/m^2). The coating must be allowed to cure a minimum of 8 hours between coats depending on drying conditions.

4.5 Fire Classification:

When installed on existing roof coverings as set forth in this report, the roof covering systems have fire classifications as noted in Table 1.

4.6 Reroofing:

The asphalt emulsion, polyester fabric and liquid-applied roof coating systems may be applied over an existing roof system as described in Table 1. Prior to installation of the new roof covering system over an existing roof system, inspection in accordance with 2015 IBC Section 1511 or 2012 IBC Section 1510, and approval from the code official having jurisdiction, are required.

5.0 CONDITIONS OF USE

The asphalt emulsion, polyester fabric and liquid-applied roof coating systems described in this report comply 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 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 The roof coating systems are limited to application over existing code-complying built-up roof systems.

5.3 Installation must be by applicators approved by APOC, Sub of Gardner Asphalt.

5.4 Where moderate to heavy foot traffic occurs, such as for maintenance of equipment, the roof coating must be adequately protected to prevent damage to the surface.

5.5 The deck and supporting structure to which the roof covering is applied must be designed to withstand the applicable wind pressure determined in accordance with ASCE 7 or IBC Section 1609.6.

5.6 The asphalt emulsions are manufactured at the Asphalt Products Oil Corp. (APOC) facility in Long Beach, California and Gardner Asphalt facility in Tampa, Florida, and the acrylic and silicone elastomeric coatings are manufactured at the Sun Coatings, Inc. facility in Tampa, Florida, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

6.1 Report holder's descriptive literature and published installation instructions.

6.2 Reports of testing in accordance with ASTM D6083 for APOC 252 and APOC 248 for acrylic elastomeric coatings.

6.3 Report of testing in accordance with ASTM D6694 for APOC 585 silicone elastomeric coating.

6.4 Reports of testing in accordance with ASTM D1227 for APOC 300, APOC 311 and APOC 302 asphalt emulsions.

6.5 Reports of "Resistance to Foot Traffic Test" in accordance with Section 4.6 of FM 4470 (2012).

6.6 Reports of fire classification testing in accordance with UL 790 (ASTM E 108).

6.7 Reports of accelerated weathering tests in accordance with IBC Section 1504.6.

7.0 IDENTIFICATION

7.1 Containers of the elastomeric coatings and asphalt emulsions are labeled with the product name, the report holder's name [APOC, Sub of Gardner Asphalt] and address, the date of manufacture and shelf life, and the evaluation report number (ESR-3796).

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

APOC, SUB OF GARDNER ASPHALT
4161 EAST 7TH AVENUE
TAMPA, FLORIDA 33605
(813) 248-2101
www.gardner-gibson.com and www.apoc.com

TABLE 1—FIRE CLASSIFICATION—COATED EXISTING ROOFING SYSTEM

SYSTEM NO.	ROOF CLASS[1]	ROOF DECK[2]	MAX. ROOF SLOPE	EXISTING ROOF SYSTEM[1]	COATING		
					Base Coating	Reinforcement[3]	Top Coating
1	A, B or C	Combustible or noncombustible	Same as existing classified roof system	Class A, B or C, insulated or uninsulated, 3-ply built-up roofing (BUR) or G3 capsheet system	One or more coats of APOC 300, APOC 311 or APOC 302 asphalt emulsion spray-, roller- or brush-applied over the BUR at a total rate of 4 to 6 gallons per 100 square feet	One or more layers of APOC 482F polyester fabric laid into wet asphalt emulsion and allowed to cure	Two coats of APOC 248 or APOC 252 elastomeric coating spray-, roller- or brush-applied over the polyester fabric at a rate of 1 to 2 gallons per 100 square feet per coat
2	A, B or C	Combustible or noncombustible	Same as existing classified roof system	Class A, B or C, insulated or uninsulated, TPO, TPA or EPDM membrane roof system	None	None	One or more coats of APOC 585 ArmorFlex® spray- or roller-applied over the existing roof system at a total rate of 2 to 4 gallons per 100 square feet
3	A, B or C	Combustible or noncombustible	½:12	Class A, B or C, insulated or uninsulated, PVC membrane roof system	None	None	One or more coats of APOC 585 ArmorFlex® spray- or roller-applied over the existing roof system at a total rate of 2 to 4 gallons per 100 square feet
4	A, B or C	Combustible or noncombustible	Same as existing classified roof system	Class A, B or C, uninsulated, 3-ply built-up roofing (BUR) capsheet or modified bitumen membrane roof system	None	None	One or more coats of APOC 585 ArmorFlex® spray- or roller-applied over the existing roof system at a total rate of 2 to 4 gallons per 100 square feet

For **SI:** 1 inch = 25.4 mm; 1 gal = 3.785 L; 1 square = 9.29 m^2.

[1]Classification remains the same as that of the existing UL classified code-complying roof covering system.
[2]See Section 4.2 for combustible and noncombustible roof deck materials.
[3]See Section 3.2.1 for polyester fabric reinforcement.

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

REPORT HOLDER:

APOC, SUB OF GARDNER ASPHALT

EVALUATION SUBJECT:

ASPHALT EMULSION, POLYESTER FABRIC AND LIQUID-APPLIED ROOF COATING SYSTEMS

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the APOC, Sub of Gardner Asphalt Asphalt Emulsion, Polyester Fabric and Liquid-Applied Roof Coating Systems, described in ICC-ES evaluation report ESR-3796, have also been evaluated for compliance with CBC Chapter 15 of the code edition noted below.

Applicable code edition:

2016 *California Building Code* (CBC)

2.0 CONCLUSIONS

2.1 CBC:

The APOC, Sub of Gardner Asphalt Asphalt Emulsion, Polyester Fabric and Liquid-Applied Roof Coating Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-3796, comply with CBC Chapter 15, provided the design and installation are in accordance with the 2015 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 15, as applicable.

This supplement expires concurrently with the evaluation report, reissued December 2024.

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Section: 07 56 00—Fluid-Applied Roofing

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Purpose:

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Applicable code edition:

2014 *Florida Building Code—Building*

2.0 CONCLUSIONS

The Asphalt Emulsion, Polyester Fabric and Liquid-Applied Roof Coating Systems, described in Sections 2.0 through 7.0 of the evaluation report ESR-3796, comply with the 2014 *Florida Building Code—Building*, provided the design and installation are in accordance with the *International Building Code*® provisions noted in the evaluation report.

Use of the Asphalt Emulsion, Polyester Fabric and Liquid-Applied Roof Coating Systems for compliance with the High-Velocity Hurricane Zone provisions of the 2014 *Florida Building Code—Building* has not been evaluated and is outside the scope of this evaluation report.

For products falling under Florida Rule 9N-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).

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