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# ICC-ES Report

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# ESR-3874

Issued 11/2016

This report is subject to renewal 11/2017.

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**  
**SECTION: 07 81 00—APPLIED FIREPROOFING**

**REPORT HOLDER:**

**FLAMEOFF COATINGS, INC.**

**800 SAINT MARY'S STREET  
RALEIGH, NORTH CAROLINA 27605**

**EVALUATION SUBJECT:**

**FLAMEOFF FIRE BARRIER PAINT**



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# ICC-ES Evaluation Report

**ESR-3874**

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## DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

### Section: 07 81 00—Applied Fireproofing

#### REPORT HOLDER:

FLAMEOFF COATINGS, INC.  
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RALEIGH, NORTH CAROLINA 27605  
[www.flameoffcoatings.com](http://www.flameoffcoatings.com)

#### EVALUATION SUBJECT:

### FLAMEOFF FIRE BARRIER PAINT

#### 1.0 EVALUATION SCOPE

##### Compliance with the following codes:

2015 and 2012 *International Building Code*® (IBC)

##### Properties evaluated:

- Fire-resistance-rated construction
- Surface burning characteristics

#### 2.0 USES

FlameOff Fire Barrier Paint provides protection, with up to a two-hour fire-resistance rating, for interior structural steel columns in accordance with Sections 703.2 and 704 of the IBC. When installed in accordance with this report, the products are suitable for use in buildings of Type I and II construction in accordance with Exception 21 of Section 603.1 of the IBC.

#### 3.0 DESCRIPTION

FlameOff Fire Barrier Paint is a water-based intumescent coating that has a shelf life of six months when stored in unopened containers at temperatures not less than 50°F (10°C). When installed in accordance with this report, the FlameOff Fire Barrier Paint has a Class A interior finish classification, as set forth in IBC Section 803.1, when tested in accordance with ASTM E84.

#### 4.0 DESIGN, INSTALLATION AND SPECIAL INSPECTION

##### 4.1 Design:

Installation is limited to dry interior locations.

##### 4.2 Structural Steel Surface Conditions:

All structural steel to be coated with FlameOff Fire Barrier Paint must be primed with a maximum nominally 4.0-mil-

thick (0.10 mm) layer of an alkyd-type, anticorrosive primer for ferrous metals in industrial exposures. The primer must be specified by FlameOff Coatings, Inc. in their published installation instructions. Primed surfaces must be clean, dry, and free of dirt, loose scale, grease, oil, and any contaminant that would inhibit bonding of the FlameOff Fire Barrier Paint to the primer.

##### 4.3 Installation Site Conditions:

FlameOff Fire Barrier Paint must be applied when the ambient air temperature is at least 50°F (10°C) and the relative humidity is between 40 and 60 percent. When the substrate and ambient temperatures at the project site are lower than 50°F (10°C), a minimum substrate and ambient temperature of 50°F (10°C) must be reached and then maintained prior to, during, and for a minimum of 72 hours after application.

##### 4.4 Intumescent Coating Application:

FlameOff Fire Barrier Paint is spray-applied using a spray pump in accordance with FlameOff Coatings, Inc. published installation instructions. The FlameOff Fire Barrier Paint may also be brush-applied.

**4.4.1 Thickness:** Minimum average required dry-film thicknesses of the intumescent coating applied directly to structural steel columns are listed in Figures 1 and 2. Thicknesses must be verified using a calibrated dry-film thickness gauge.

**4.4.2 Minus Tolerance:** The thickness of the intumescent coating must be corrected by applying additional material at any location where the average measured thickness of the material is less than that listed in this report, or where an individual measured thickness reading is less than 80 percent of the thickness specified in this report.

**4.4.3 Positive Tolerance:** An individual measured thickness exceeding the thickness specified in this report by 20 percent or more must be recorded as the thickness specified in the design plus 20 percent. The average dry-film thickness must not exceed by more than 10 percent the maximum thickness listed for the fire-resistance-rated assemblies indicated in this report.

##### 4.5 Special Inspection:

Application of FlameOff Fire Barrier Paint as described in this report requires special inspection and tests in accordance with 2015 IBC Section 1705.15 or special inspection in accordance with 2012 IBC Section 1705.14, as applicable. The special inspector must verify the cleanliness of the substrate, site conditions, product

designation, application procedures, and applied material thickness.

The thickness of the intumescent coating must be determined using the methods prescribed in Technical Manual 12-B, Standard Practice for the Testing and Inspection of Field Applied Thin-Film Intumescent Fire Resistive Materials: An Annotated Guide, published by the Association of the Wall and Ceiling Industries (AWCI). The special inspector must verify that the application complies with the report holder's published instructions and this report.

**5.0 CONDITIONS OF USE**

The FlameOff Fire Barrier Paint described 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 must comply with this report, the applicable code and the report holder's published installation instructions. If there are differences between this report and the report holder's published installation instructions, the more restrictive governs.

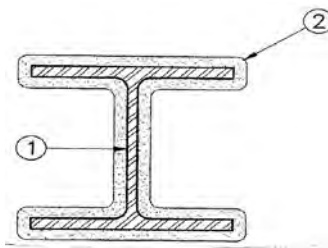
- 5.2 Application must be limited to dry interior locations.
- 5.3 Thickness of the intumescent coating must comply with Section 4.4 and Figures 1 and 2 of this report.
- 5.4 Special inspection is required as set forth in the applicable code and Section 4.5 of this report.

**6.0 EVIDENCE SUBMITTED**

Data in accordance with the ICC-ES Acceptance Criteria Sprayed Fire-Resistant Materials (SFRMs), Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings used to Protect Structural Steel Members (AC23), dated December 2012 (editorially revised May 2016).

**7.0 IDENTIFICATION**

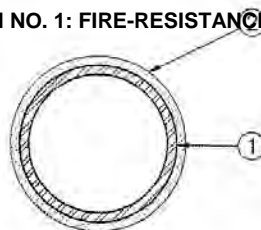
Containers of the intumescent material bear the company name (FlameOff Coatings, Inc.) and address, product name (FlameOff Fire Barrier Paint), storage and shelf-life information, and the ICC-ES evaluation report number (ESR-3874).



- 1. **Steel Column** Wide flange steel columns with the minimum sizes shown in the table below. Columns shall be free of dirt, loose scale and oil before application of coatings. Column shall be primed with metal alkyd primer.
- 2. **FlameOff Fire Barrier Paint** applied in accordance with manufacturer's instructions to the minimum dry film thicknesses shown below.
- 3. **Primer** (Not shown) – Alkyd Metal Primer applied at a minimum 0.004 in. (0.10 mm) dry film thickness prior to application of intumescent coating.

Fire-resistance Ratings, hr	Steel Column Size, in. (mm)	W-Shaped only Min Columns, W/D (M/D)	Required Minimum Thickness, in. (mm)
1	W6x25 (W150 x 37)	0.69 (41.0)	0.220 (5.60)
2	W10x100 (W250 x 149)	1.63 (95.8)	0.095 (2.41)

FIGURE 1—FIRE DESIGN NO. 1: FIRE-RESISTANCE RATINGS – 1 AND 2 HOURS



- 1. **Steel Column** - Circular tubular steel columns with the size shown in the table below. Steel columns shall be free of dirt, loose scale and oil before application of coatings. Column shall be primed with metal alkyd primer.
- 2. **FlameOff Fire Barrier Paint** applied in accordance with manufacturer's instructions to the minimum dry film thickness shown below.
- 3. **Primer** (Not shown) – Alkyd Metal Primer applied at a minimum 0.004 in. (0.10 mm) dry film thickness prior to application of intumescent coating.

Fire-resistance Rating, hr	Steel Column Size, in. (mm)	Column A/P (M/D)	Required Minimum Thickness, in. (mm)
1	HSS 6 inch Schedule 10 (0.134 wall thickness) (168 mm dia x 3.40)	0.45 (26.60)	0.250 (6.35)

FIGURE 2—FIRE DESIGN NO. 2: FIRE-RESISTANCE RATINGS— 1 HOUR

## ICC-ES Evaluation Report

## ESR-3874 CBC Supplement

Issued November 2016

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**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**  
**Section: 07 81 00—Applied Fireproofing**

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### EVALUATION SUBJECT:

**FLAMEOFF FIRE BARRIER PAINT**

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that FlameOff Fire Barrier Paint, recognized in ICC-ES master evaluation report ESR-3874, has also been evaluated for compliance with Sections 603.1 (Exception 21), 703.2, 704 and 803.1 of the code noted below.

#### Applicable code edition:

2016 *California Building Code* (CBC)

### 2.0 CONCLUSIONS

The FlameOff Fire Barrier Paint, described in Sections 2.0 through 7.0 of the master evaluation report ESR-3874, complies with CBC Sections 603.1 (Exception 21), 703.2, 704 and 803.1, provided the design and installation are in accordance with the 2015 *International Building Code*® (IBC) provisions noted in the master report.

This supplement expires concurrently with the master report, issued November 2016.

## ICC-ES Evaluation Report

## ESR-3874 FBC Supplement

Issued November 2016

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### EVALUATION SUBJECT:

**FLAMEOFF FIRE BARRIER PAINT**

### 1.0 REPORT PURPOSE AND SCOPE

#### Purpose:

The purpose of this evaluation report supplement is to indicate that FlameOff Fire Barrier Paint, recognized in ICC-ES master evaluation report ESR-3874, has also been evaluated for compliance with the code noted below.

#### Applicable code editions:

2014 *Florida Building Code* (FBC)

### 2.0 CONCLUSIONS

The FlameOff Fire Barrier Paint, described in Sections 2.0 through 7.0 of the master evaluation report ESR-3874, complies with the FBC, provided the design and installation are in accordance with the *International Building Code*® (IBC) provisions noted in the master report.

Use of the FlameOff Fire Barrier Paint for compliance with the High-Velocity Hurricane Zone provisions of the FBC has not been evaluated, and is outside the scope of this supplemental 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).

This supplement expires concurrently with the master report, issued November 2016.