



## ICC-ES Listing Report ESL-1411

Reissued February 2024

This listing is subject to renewal February 2025.

**CSI:** DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION  
Section: 07 81 23—Intumescent Fireproofing

DIVISION: 09 00 00—FINISHES  
Section: 09 96 00—High-Performance Coatings  
Section: 09 96 43—Fire-Retardant Coatings  
Section: 09 96 46—Intumescent Painting

### Product Certification System:

The ICC-ES product-certification system includes evaluating reports of tests of standard manufactured product, prepared by accredited testing laboratories and provided by the listee, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

**Product:** FIREFREE 88® (FF88®) INTUMESCENT COATING

**Listee:** FIREFREE COATINGS, INC.

**Evaluation:** The FireFree 88® (FF88®) intumescent coating is a water-based latex non-toxic coating, where the application is either brushed, rolled or sprayed using an airless spray gun. The coating was evaluated when applied as a component of a full scale assembly described in the Assembly Section below and tested in accordance with the following standards:

- ASTM E119-2018B, Standard Test Methods for Fire Tests of Building Construction and Materials, ASTM International. (full scale assembly tested).

**Assembly:** The floor/ceiling assembly is approximately 14 feet 3 inches (4.34 m) long by 18 feet (5.49 m) wide. The assembly must be installed over two 1 ½ inch (38 mm) by 3 ½ inch (89 mm) bearing plates, giving a clear span of 13 feet 8 inches (4.17 m). The materials included in the assembly are listed below. Layers of Kaowool must be inserted and packed along the assembly bottom, insulating the unexposed perimeter of the assembly at the top edges of the horizontal furnace opening.

1. **WOOD JOISTS**—Nominal 3-by-12 Douglas fir (Structural Select) by 14 feet long (4.26 m). The ends of each joist were fastened to nominal 2 by 12 rim joists with four 16d nails. The joists must be spaced 24 inches (609.6 mm) on-center, with alternating blocking placed at mid-span. The average measured mass of the joists was 7.18 lb/ft (10.69 kg/m) and had an average moisture content of 14.0% prior to coating.
2. **SUBFLOOR**—A single layer of tongue-and-groove plywood with a nominal thickness of ¾ inches (19.1 mm) installed over the wood joists with 8d nails at 12 inches (304.8 mm) on center. A ¼ inch (6.4 mm) bead of construction adhesive was applied to the top of each joist to adhere to the plywood. The average mass of the subfloor was 1.66 lb/ft<sup>2</sup> (8.10 kg/m<sup>2</sup>).
3. **FINISHED FLOOR**—The finished floor over the subfloor consists of 7/8 inch (22.2 mm) thick gypcrete (Maxxon 3.2 K 2000) over a 1/8 inch (3.2 mm) thick acoustic mat (AcoustiMat). The gypcrete was cured for 5 weeks prior to testing. The mass of the finished floor is 7.40 lb/ft<sup>2</sup> (36.13 kg/m<sup>2</sup>).
4. **FIREFREE 88® (FF88®) INTUMESCENT COATING**—Coating was applied to the underside surface of the assembly (subfloor, wood joists, blocking and rim joists), where the surface was coated at a minimum dry film thickness of 60 mils (1.52 mm).

**Findings:** The FireFree 88® (FF88®) intumescent coating, when applied as a component of an assembly described in the Assembly section above, meets the one-hour fire-resistance-rated full scale test requirements, based on testing in accordance with ASTM E119, where the superimposed load (50% design load based on a total design load of 110.0 lb/ft<sup>2</sup>) was applied. The applicable section of the following code editions is as follows:

- 2021 *International Building Code*®  
Applicable Section: 703.2
- 2021 *International Residential Code*®  
Applicable Section: R302

**Identification:**

1. Containers of FireFree 88® (FF88®) intumescent coating are identified by a label bearing the manufacturer's name (FireFree Coatings, Inc.) and address, the product name, the date of manufacture, shelf life, the manufacturer's instructions for application, the listing report number (ESL-1411), and when applicable, the ICC-ES Listing Mark.
2. The report holder's contact information is the following:

**FIREFREE COATINGS, INC.**  
**8 COMMERCIAL BOULEVARD, SUITE E**  
**NOVATO, CALIFORNIA 94949**  
**(415) 459-6488**  
[www.firefree.com](http://www.firefree.com)

**Installation:** The product must be installed in accordance with the FireFree Coatings, Inc. published installation instructions and applicable codes.

**Conditions of Listing:**

1. The listing report addresses only conformance with the standard noted above.
2. Approval of the product's use is the sole responsibility of the local code official.
3. The listing report applies only to the materials tested and as submitted for review by ICC-ES.
4. The FireFree88® (FF88®) intumescent coating, described in this listing report, is produced under a quality control program with inspections by ICC-ES.
5. The Assembly Section describes the assembly, using FireFree88® (FF88®) intumescent coating, does meet the requirements for the one-hour fire-resistance-rated full scale test, based on testing as described in the Findings section under horizontal fire resistance endurance conditions.