



### INTERNATIONAL FIREPROOF TECHNOLOGY, INC

### ADDITIONAL LISTEE: INTERNATIONAL CARBIDE TECHNOLOGY CO., LTD

### DC5040 FIELD APPLIED INTUMESCENT COATINGS

#### CSI Section:

09 96 43 Fire-Retardant Coatings

#### 1.0 RECOGNITION

DC5040 has been evaluated for use as a fire-protective coating for wood-based products. The coating has been evaluated as part of a fire-resistance-rated assembly and for interior finish. The fire resistance, surface burning characteristics, durability, and effects on mechanical properties of the I-joint comply with the intent of the provisions of the following codes and regulations:

- 2018, 2015 and 2012 International Building Code® (IBC)
- 2018, 2015 and 2012 International Residential Code® (IRC)

#### 2.0 LIMITATIONS

Use of DC5040 recognized in this report is subject to the following limitations:

2.1 The application of any additional interior finish over the fire-protective coating is limited to interior and exterior latex or waterborne acrylic paints.

2.2 I-joists shall be installed in accordance with the manufacturer's installation instructions.

2.3 Approval of DC5040 for use with any I-joint product is conditional upon that products current approval of an evaluation report by an approved evaluation entity. Users must independently verify the current validity of any evaluation report referenced herein.

2.4 DC5040 shall be applied prior to the installation of mechanical, electrical and plumbing components. For conditions where interference is by existing mechanical, electrical or plumbing components, the components shall be removed, where necessary, to allow for full coverage of the I-joint.

2.5 DC5040 shall be applied in areas within the weatherproofing membrane or surfaces not exposed to

weather, where the substrate moisture content conditions are less than 18 percent.

2.6 The DC5040 intumescent coating recognized in this report is manufactured by International Fireproof Technology and International Carbide Technology in Taoyan, Taiwan under a quality control program with inspections by QAI.

#### 3.0 PRODUCT USE

##### 3.1 Design

3.1.1 Use as a fire-protective coating for I-joists: A minimum 9.5-inch-depth (241 mm) I-joint, as shown in [Table 1](#) of this report, at a maximum spacing of 24 inches (610 mm) on center with DC5040 fire coating applied as noted in Section 3.2 of this report, shall be required to offer equivalent fire performance to 2-inch by 10-inch nominal dimension solid sawn lumber and is recognized for installation without the prescribed minimum 1/2-inch-thick (12.7 mm) gypsum wallboard or 5/8-inch (15.9 mm) thick wood structural panel membrane in accordance with Exception 4 to the 2018 and 2015 IRC Section R302.13 or Section R501.3 for the 2012 IRC when installed as described in this report.

3.1.2 Surface burning characteristics: DC5040 when applied to oriented strand board (OSB), as noted in [Table 2](#) of this report, provides a Class A interior finish with a flame spread index of 25 or less and a smoke developed index of 450 or less as required in Section 803.1 of the IBC. As tested to ASTM E84, the flame spread index and smoke developed index of the assembly comply with the requirements of Section 302.9 of the IRC.

##### 3.2 Application

3.2.1 General: DC5040 shall be applied in accordance with International Fireproof Technology's installation instructions, the I-joint manufacturer's installation instructions, this evaluation report and the applicable codes listed in Section 1.0 of this report. Where conflicts occur, the more restrictive governs. The manufacturer's published installation instructions and this report shall be available and strictly adhered to at all times at the jobsite during application.

Application shall be by a company or individual certified by International Fireproof Technology. The applicator shall complete and provide the code official the installation card or certificate showing the identity of the applicator, the property address, manufacturer, product name, date of manufacture, the location of the treated substrate, the size of the area treated and the application rate.

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.





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The applicator shall complete and affix the label in [Figure 1](#) of this report to the substrate at a minimum of each 10,000 square feet of floor area.

**3.2.2 Application:** DC5040 shall be applied to the applicable I-joint as shown in [Table 1](#) and OSB as shown in Table 2 of this report. DC5040 shall be thoroughly mixed before application.

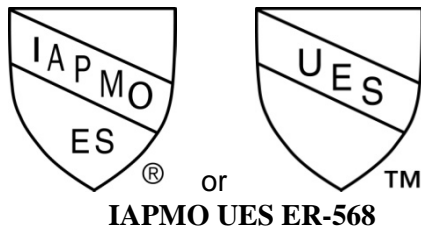
### 4.0 PRODUCT DESCRIPTION

DC5040 intumescent coating is manufactured by International Fireproof Technology, Inc. and International Carbide Technology. The coating is water-based and supplied in 5-gallon (18.9 L) pails weighing 58 lbs. (26.3 kg) and 55-gallon (208 L) drums weighing 640 lbs. (290 kg). The coating material has a maximum shelf life of 12 months when stored in factory-sealed containers at temperatures between 50°F and 90°F (10°C and 32°C). DC5040 has a minimum 24-hour curing time.

DC5040 intumescent coating has a pH within the range of 6 to 11. The product is surface coated and applied without pressure or soaking. DC5040 is shown to not be detrimental to wood or engineered wood products.

### 5.0 IDENTIFICATION

DC5040 pails and drums are identified by the International Carbide Technology or International Fireproof Technology name and address, product name (DC5040), date of manufacture, product shelf life, conditions for storage and evaluation report number (ER-568). The container identification also includes the IAPMO Uniform Evaluation Service Mark of Conformity. Either Mark of Conformity may be used as shown below:



**6.3** Data in accordance with the ICC-ES Acceptance Criteria for Prefabricated Wood I-Joists, AC14 Section 4.4, dated January 2016 for Fire-resistance testing.

**6.4** Report of testing in accordance with ASTM E119 Standard Test Methods for Fire Tests of Building Construction and Materials.

**6.5** Report of Moisture Resistance in accordance with ASTM D4585.

**6.6** Report of testing to accelerated weathering in accordance with ASTM D4587 and ASTM G154.

**6.7** Report of adhesion pull off strength in accordance with ASTM D4541

**6.8** Report of testing demonstrating long-term fire protective properties.

**6.9** Report of testing for surface burning characteristics in accordance with ASTM E84.

**6.10** Structural calculations.

### 7.0 CONTACT INFORMATION

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### 6.0 SUBSTANTIATING DATA

**6.1** Manufacturer’s descriptive literature and installation instructions. Test results are from laboratories in compliance with ISO/IEC 17025.

**6.2** Data in accordance with the IAPMO Uniform Evaluation Services Evaluation Criteria for Field Applied Fire Protective Coatings, EC-017



## 8.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research carried out by IAPMO Uniform Evaluation Service on DC5040 field applied intumescent coating to the conformance to the codes shown in Section 1.0 of this report and documents the product's certification. Products are manufactured at locations noted in Section 2.6 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

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For additional information about this evaluation report please visit [www.uniform-es.org](http://www.uniform-es.org) or email us at [info@uniform-es.org](mailto:info@uniform-es.org)



**TABLE 1 – FIRE RESISTANCE**

Substrate	Minimum Design Values						Application of DC5040		
							Average Nominal Installed Thickness (mils)		Theoretical Application Rate (gallons/100 square feet)
	Depth (inches)	Flange width (inches)	Flange Depth (inches)	Stiffness EI x 10 <sup>6</sup> (lb-in <sup>2</sup> )	Moment (ft-lb)	Flange Area (in <sup>2</sup> )	Wet Film	Dry Film	
I-joint (Structural Composite Lumber Flange)	9.5	1.75	1.125	155	2360	1.969	26	17	1.6
I-joint (Solid Sawn Lumber Flange)	9.5	2.5	1.5	155	2360	3.75	26	17	1.6

For SI: 1mil = 0.0254 mm, 1 inch = 25.4 mm, 1 pcf = 16.02 kg/m<sup>3</sup>, 1 pound = 0.454 kg

**TABLE 2 – INTERIOR FINISH CLASSIFICATION**

Substrate	Application of DC5040			Maximum Moisture Content	Interior Finish Classification
	Wet Film Thickness (mils)	Dry Film Thickness (mils)	Application Rate (gallons per 100 square feet)		
½” Oriented Strand Board	24	16	1.5	18%	A

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



**INTERNATIONAL FIREPROOF TECHNOLOGY INC.**

*The Ultimate in Fire Protection*

949.975.8588

**Job Site Label**

Job Address: \_\_\_\_\_

Product: \_\_\_\_\_ Substrate: \_\_\_\_\_

WFT Measured : \_\_\_\_\_

Company: \_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

FIGURE 1 – JOBSITE LABEL



# EVALUATION REPORT

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**International Fireproof Technology Inc.**  
The Ultimate in Firestop Solutions and Fire Protective Coatings

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949-975-8588

## Installation Job Work Record

Job Work Records are an excellent way to track your installations and confirm compliance to your Building Official or Authority Having Jurisdiction. In the event of a concern on a job the installer is able to provide documented proof of the installation.

Contractor:		Application Start Date:		Completion Date:		(M/D/Y)	
Contact Info:		Installer Name:					
Application guide on jobsite: Yes <input type="radio"/> No <input type="radio"/> (Circle One)							
<b>PROJECT INFORMATION</b>							
Customer Name:		Occupied:		Unoccupied:			
Job Site Address:		Warning Signs Posted:		Yes <input type="radio"/> No <input type="radio"/>			
		Building Permit #:		Yes <input type="radio"/> No <input type="radio"/>			
		Spray Area Isolated:		Yes <input type="radio"/> No <input type="radio"/>			
Scope of Job:		Ventilated at 0.3 ACH		N/A <input type="radio"/> Yes <input type="radio"/>			
		Coating Thickness Required		WFT		DFT	
<b>EQUIPMENT INFORMATION</b>							
IFTI Product Applied		Batch #'s:					
Mix Time per Bucket:		mins		Material Temp:		F C	
Quantity Used:		Gals:		# of Passes:			
<b>SUBSTRATE CONDITIONS</b>							
Airless Sprayer:		Hose Length:		F <input checked="" type="radio"/> M <input type="radio"/>		Hose Diameter:	
Pressure		Tip Size:					
Gun Type:		Other:					
<b>ENVIRONMENTAL CONDITIONS</b>							
Ambient Temp:		F C		Substrate Temp:		F C	
Type of Ventilation:		Heating Required: Yes <input type="radio"/> No <input type="radio"/> N/A <input type="radio"/>		Ventilation Duration:		hrs: days:	
Special Preparation:		Type Of Heat:					
Was Primer Used: Yes <input type="radio"/> No <input type="radio"/> Type:							
<b>Site Testing</b>							
Thickness Required: (mils WFT)		Were Medallions Used: Yes <input type="radio"/> No <input type="radio"/>		Daily Temp and Humidity Readings: C <input type="radio"/> F <input type="radio"/> (check One)			
Record Actual WFT measurement		Day Temp RH% Day Temp RH%					
1	7	13	19	1	7		
2	8	14	20	2	8		
3	9	15	21	3	9		
4	10	16	22	4	10		
5	11	17	23	5	11		
6	12	18	24	6	12		
For Projects Greater Than 10,000 Sq Ft Please use Additional Work Reports							
I hereby certify that I have installed the listed fire protection per manufacturers installation instructions and product listings, and in a manner compliant with local building codes in effect at the time of installation.							
Signature:		Date:					
Work Records should be completed for each and every job. Completed work records can be submitted to workrecord@painttoprotect.com							

FIGURE 2 – JOB RECORD