



DC5040 Intumescent Coating

Description

DC5040 is a water based thin film intumescent coating used to provide fire resistance to common construction assemblies such as gypsum walls, floor/ceilings and engineered wood framing members such as I-Joists.

DC5040 complies with IBC/IRC Building Codes and provides a Class "A" Interior Finish rating in accordance with ASTM E84.

DC5040 has also been tested to provide a 30 minute rating to various combustible substrates in accordance with ASTM E84 (30 Minute), ASTM E2768 and meets the criteria of NFPA 703 Standard for Fire Retardant Impregnated Wood and Fire Retardant Coatings for Building Materials.

DC5040 ASTM E119 testing can be used to increase the fire resistance ratings of certain assemblies common in the built environment such as gypsum wall and floor assemblies.

Applied as a coating to interior surfaces, DC5040 can be top-coated with desired finish latex paint to match decor.

DC5040 has been fire tested in accordance with a full-scale ASTM E-119 Applied to the I-Joist only, once the components are installed, DC5040 provides equivalence to the 2- by-10-dimension lumber prescribed in Section R302.13, Exception 4 of the 2015 IRC® and Section R501.3, Exception 4 of the 2012 IRC®.

DC5040 Tested Solutions for Fire Protection

- ASTM E119 Fire Tested
- ASTM E84 tested
- Tested useful life, fire resistance is not compromised for at least 50 years
- Passed strict EPA – V.O.C. and AQMD air emission requirements (for all 50 states)
- 3rd Party Tested, Listed and Inspected
- Passed CDPH/EHLB/Standard Method V1.2, 2017 (CA Section 01350): Small-scale environmental chamber test; VOC emission compliance test of building products ;

Tested To:

ASTM E84:

6 mils to Cement Board FS 0 SD 0
 6 mils to OSB FS 25 SD 75
 8 mils to OSB FS 20 SD 30
 10 mils to Pine FS 5 SD 20

CAN/ULC S-102

6 mils to Pine FS 5 SD 95

ASTM E2768 (30 minute E84)

14 mils to OSB FS 0 SD 20
 14 mils to Pine FS 10 SD 60

ASTM E119-CAN/ULC S-101

15 mils to 3/8" OSB for 15 minutes
 40 mils to 1/2" gypsum wall for 60 minutes
 50 mils to 5/8" gypsum wall for 90 minutes
 40 mils to 5/8" gypsum ceiling for 90 minutes
 50 mils to 1/2" gypsum ceiling for 60 minutes



Specifications

- Finish:** Flat
- Packaging:** 5 Gallon Pails
- Color:** Off White
- V.O.C.:** <= 7g/l method EPA 24
- Shelf Life:** 12 - 18 months when stored in unopened container as recommended

Advantages

- Water Based Acrylic Latex
- Non-Toxic
- Hypoallergenic
- Non-Carcinogenic
- Passed Strict EPA – V.O.C. and AQMD
- Spray, Roll, or Brush
- Compatible with any interior paintable surface



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

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“Best Practices” & Application Guide

For use by code and inspection authorities, architects, specifiers, contractors, installers or any end user of IFTI products

To confirm the installation complies with “IFTI’s Best Practices” and is compliant with Code Listing Reports, applicators shall ensure copies of all application documents are available on site and the application of DC5040 meets their intended needs. Installation documents can be downloaded at www.painttoprotect.com Call IFTI at 949.975.8588 for current copies or with questions.

[Job Work Records](#) and [Jobsite Labels](#) 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 can provide documented proof of the installation, use these forms for all thermal or ignition barrier projects.

Prior to Applying DC5040: DC5040 is not an architectural finish depending on the porosity of the substrate absorption into the substrate is not uncommon and may result in bleed through of the wood grain or knots. This does not affect the fire performance provided the required application rate has been applied. In some cases it may be desirable to apply a primer to seal the surface of the substrate. Primers are not required to meet the tested rating but may serve to increase the spread rate of DC360 when applying over porous materials.

Surface Preparation: All surfaces to be coated must be clean, cured, firm, dry and free of dust, dirt, oil, wax, grease, mildew, and efflorescence. The quality of any application is only as good as the surface preparation that precedes the application. DC5040 has excellent bonding characteristics and will adhere to most sound, clean, surfaces. Also, verify the surface is stable, and not crumbling or deteriorated. If any such defects are found, make sure to repair them prior to proceeding

Material Preparation: DC5040 must be thoroughly mixed before application. It is required to perform mechanical stirring with a medium speed drill and a paddle appropriate for the size container you are working from. Contents should be stirred from the bottom up making sure to scrape the bottom and sides with a paint stick as you go. Contents should be stirred to a creamy consistency with no lumps. Continue mixing for 4-5 minutes per 5- gallon pail, 15-20 minutes per 55-gallon drum. Thinning is usually not needed. If DC5040 has been exposed to high heat, water may evaporate from the plastic 5-gallon container. If the paint level is below 3 inches from the top of the container, continue to mix and SLOWLY add just enough water to restore a sprayable consistency. Use Caution not to add too much water or product will run and drip during application. Check out our [Video on Mixing](#)

DC5040 Viscosity: DC5040 is a 10,000 - 12,000 viscosity coating at 75°F. When you open a container of DC5040 it may appear thick before it is mixed, ensure proper temperature and remix for 4-5 minutes and recheck. Thin with water only if required as described under material preparation.

Temperature: PROTECT FROM FREEZING DURING SHIPMENT, STORAGE, AND USE. DC5040 is water-based coating which will freeze and become unusable at temperatures below 32°F. Do Not store material at temperatures below 50°F. Do Not apply DC5040 when ambient air and substrate temperatures fall below 50°F. Store DC5040 at 50°F to 80°F at all times. Do Not store DC5040 on concrete floors during winter months. Do not store in direct sunlight. IFTI recommends an ideal installation temperature range of 62°F to 90°F. Contact IFTI for applications outside these temperature ranges.

Humidity: Ideal conditions are 50-65% relative humidity. Curing times are significantly affected when humidity levels exceed 70%. It is imperative that humidity is monitored throughout the application and curing process. 65% humidity at the beginning of the job will quickly rise as the coating is installed. Continue monitoring humidity as the coating cures until equilibrium is achieved. For additional information on using DC5040 in high or low humidity **Download a copy of our [Ventilation Guide](#)**, or this [Guide on Moisture Control](#) In Spray Foam Homes contact IFTI at 949.975.8588 or email us at ptp@painttoprotect.com.

Ventilation: Fans may be required to circulate the air during application, especially in high or low humidity. Air flow must be across the area DC5040 was applied, but not directly on it. If the relative humidity is greater than 85% at the end of spraying and cross ventilation is not drastically reducing it, then a mechanical industrial dehumidifier is required. **Download a copy of our [Ventilation Guide](#)**, or this guide on the importance [of ventilation in spray foam tight homes](#).

IMPORTANT- Mechanical ventilation, if not already present, may be required to remove moisture and avoid the accumulation of odors. When spraying in enclosed spaces, such as attics use an “exhaust” blower at one end of the enclosed space and run a hose to the exterior of the building for removing stale air. Using a “supply” blower at the opposite end of the enclosed space and a hose from the exterior to maintain a negative pressure compared to the surrounding area, maintaining at least 0.3 air changes per hour for 48-72 hours following application.

Improper installation practices that do not address temperature, humidity and ventilation may impact on the coatings ability to cure and should be avoided.

Application Equipment: It is recommended to apply DC5040 with an airless sprayer to achieve a more consistent mil thickness. In challenging areas where an airless sprayer is not practical, DC5040 can be applied by brush or roller. **Download a copy of our [Recommended Sprayers Guide](#)**

When using airless spray equipment ensure the equipment has a volume output not less than 1.0 gpm (gallons per minute) at an operating pressure of 3000 psi. Remove all filters from Machine and gun (if present). Proper atomization requires proper pressure and delivery of coating to the spray gun.

Use the following rules for hose diameter & length:

- Min. 3/8” ID up to 75’
- Min 1/2” ID up to 200’
- Min 3/4” ID greater than 200’
- Min 3/16” ID & Max 6’ L for whip hose

Always place larger diameter hose sections nearest the pump. We recommend using a gun tip with an orifice size of .517 - .525 depending on machine size and application conditions.

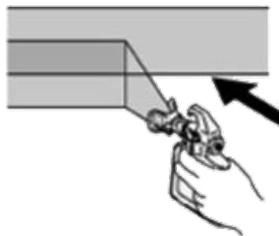
Proper equipment and settings are key to ease of application. Remove all filters from machine and gun. DC5040 requires high pressure to atomize the coating at the spray tip, correct atomization will yield a more consistent spread rate and easier coverage of uneven surfaces. Ensure you match your tip size to your machine - this is critical to ensure correct pressure at the spray tip. If the spray pattern has fingers or tails, then the pressure should be increased. If the maximum pressure of the sprayer is not enough to achieve a good spray pattern, a spray tip with a smaller orifice should be used.



A good spray pattern indicates that the paint or coating is completely atomized and distributed evenly on the surface. Hose length should be appropriate for your machine and always ensure your feed hose is larger than your whip. Having a smaller whip will serve to re-pressurize the coating at the spray gun and assist in correct atomization of the coating.

Spraying DC5040 for Maximum Yield: If this is the first time using DC5040 we suggest testing a pre-measured area to get a feel for spraying and yield. Example, if the job requires 14 wet mils or 115 ft² per gallon, then a 5-gallon pail would cover 575 ft². Monitoring the amount of material used for the area coated will ensure applicators are meeting the fire rating while avoiding over application. When applying DC5040 over porous substrates it may be desirable to apply a primer first to seal the surface and maximize the spread rate of DC5040. If using a primer follow primer manufacturers instructions and allow to fully dry before applying DC5040

Overlapping Technique: Check out our video on the [overlapping technique](#) which helps ensure that an even amount of coating was sprayed onto the surface. The spray gun should be aimed so that the tip points at the edge of the previous stroke, therefore overlapping each stroke by 50%. To maximize efficiency when spraying on broad or open surfaces (e.g. ceilings and bare walls), the outside edges of walls should be sprayed first. The middle can then be sprayed quickly requiring less precise strokes. Given the inherent surface contours, we suggest spraying side to side followed by an up and downstroke, referred to as Cross Hatch or X-Out pattern.



Coverage Rates:

Check appropriate listing report for required wet film thickness (WFT) to meet the specified rating required for your jurisdiction.

Theoretical coverage is listed below

WET	Sq.Ft. Per Gallon	Sq.Ft. Per 5 Gallon
6 WFT	267 Sq.Ft. Per Gallon	1335 Sq.Ft. Per 5 Gallon
14 WFT	115 Sq.Ft. Per Gallon	575 Sq.Ft. Per 5 Gallon

To calculate your Theoretical Application Rate (TAR) in gallons per 100 square feet, use the following equation: $TAR = (WFT)/16$.

Actual coverage rate will vary based on surface texture, over-spray, and miscellaneous losses. it is very important that additional material be added to the theoretical quantities to ensure that the proper minimum coating thickness is applied.

Measuring Wet Film Thickness (WFT)



Figure 1

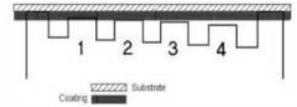
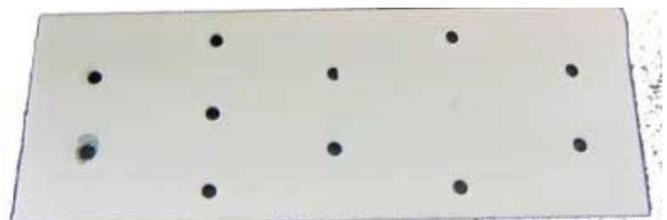


Figure 2

How to Use a Wet Film Thickness Gauge: A WFT gauge is designed to give the spray applicator immediate Wet mil measurement of the film build that has just been sprayed. Download our [How To Measure Wet Film Guide](#) or [Watch our Video Technique](#): When placing the gauge on a freshly painted area, the gauge must be placed at a 90-degree angle to the substrate and pressed firmly to ensure correct depth. The applicator also needs to be aware of variations in the surface that may influence the reading. For example, if the surface is not perfectly flat, one direction may give a more accurate reading than the other.

To use the WFT gauge, place the gauge directly on the wet area just sprayed as described above. See figure 2, the notches will indicate the measured film thickness. For example, if the 18-mil notch is wet and the 20-mil notch is dry, then the wet measured thickness is 18 mils.

Medallions (Optional): For Wet and Dry Film Thickness verification and ease of measuring the applied coating, IFTI suggests placing metal plates (aka Medallions) to the surface of the foam, roughly 1 per 400 sq ft depending on project size, applicators shall use common sense for appropriate the number and use of medallions. These plates are available at most hardware stores. IFTI recommends writing the job date and applicator name on the back of each plate. Measuring WFT on the front side of the plate will give the most accurate reading. Collect these plates at the end of the job, touch up, and keep them on file or at the job site. Medallions allow for future verification of the Dry Film Thickness (DFT) using calipers, micrometers, electronic or magnetic measuring tools. They are a great tool to present your code official or Fire Marshall



General Safety, PPE, Toxicity, Health Data
[View our video on PPE](#)

Safety Data Sheets (SDS) are available on this coating material. Any individual who may come in contact with our products should read and understand the SDS. In case of emergency contact CHEMTREC EMERGENCY NUMBER at 800-424-9300.

WARNING: Avoid eye contact with the liquid or spray mist. Applicators should wear protective clothes, gloves and use protective cream on face, hands, and other exposed areas.

EYE PROTECTION: Safety glasses, goggles, or a face shield are recommended.

SKIN PROTECTION: Chemical resistant gloves are recommended, cover as much exposed skin area as possible with appropriate clothing.

RESPIRATORY PROTECTION IS REQUIRED: Respiratory protective equipment, impervious footwear and protective clothing are required at all times during spray application.

INGESTION: Do not take internally.

Consider the application and environmental concentrations in deciding if additional protection is necessary.

Limitations:

DC5040 is designed as an interior Fire Protective Coating . When installing DC5040 in unconditioned spaces the coating may be exposed to variations in environment that needs to be accounted for by the installer/end user, when designing the full system. Care needs to be taken to ensure that the correct products are specified based on the expected service or environmental conditions. Topcoats are not required to meet the certified fire testing however should be considered for use where/when conditions warrant. Suitability for a particular end use condition shall be determined by code and inspection authorities, architects, specifiers, contractors, installers or any end user of DC5040

This guide does not purport to address all unconditioned or conditioned environmental concerns if any, associated with a specific project.

Limited Warranty:

This product will perform as tested if applied and maintained according to our directions, instructions and techniques. If this product is found to be defective upon inspection by its representative, the seller will, at its option, either furnish an equivalent amount of new product or refund the purchase price to the original purchaser of this product. Seller will not be liable for any representations made by any retail seller or applicator of the product. THIS WARRANTY EXCLUDES (1) LABOR OR COST OF LABOR FOR THE APPLICATION OR REMOVAL OF THIS PRODUCT OR ANY OTHER PRODUCT, THE REPAIR OR REPLACEMENT OF ANY SUBSTRATE TO WHICH THE PRODUCT IS APPLIED OR THE APPLICATION OF REPLACEMENT PRODUCT, (2) ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, OTHER LIMITATIONS APPLY.

For the complete terms of the limited warranty, go to www.painttoprotect.com. Some states/provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you. To make a warranty claim, write to **Technical Service:**

International Fireproof Technology, Inc.

17528 Von Karman Avenue
Irvine, CA 92614

Or email Customer Service at ptp@painttoprotect.com

