



DC315 Intumescent Coating

Description

DC315 is a single component, water based intumescent coating tested to meet Building Code requirements for the fire protection of Spray Polyurethane Foam (SPF). Tested and evaluated in the USA by UL and ICC-ES, and in Canada by ULC and CCMC.

DC315 is fully AC456 Compliant and satisfies the International Building Code (IBC), International Residential Code (IRC), National Building Code of Canada (NBCC) and many other National and International building codes.

DC315 offers more tested systems to meet interior thermal and ignition barrier requirements AND DC315 has been tested as a component of exterior wall systems in accordance with the NFPA 285 meeting IBC Section 2603.5 AND DC315 has been tested to provide up to a 1 hr. fire resistance rating.

The Choice is clear, DC315 is the most tested and approved fire protective coating for SPF insulation on the market today!



DC315 Tested Solutions for Spray Polyurethane Foam

- Certified full scale alternative Thermal and Ignition Barrier tests over SPF
- Code Compliance Evaluated by [ICC-ESR 3702](#) for the **USA market**
- Code Compliance Evaluated by [CCMC #14036-R](#) and [ULC ER39793](#) for the **Canadian market**
- NFPA 285 Tested and Listed by UL [File R40016](#) as a component of exterior wall systems with various architectural claddings
- [ICC-ESL 1577](#) and [ICC-ESR 3702](#) Listed for up to 60 minutes in accordance with ULC S-101 and ASTM E119
- DC315 manufacturing facilities are [3rd party Listed](#) and Inspected
- Tested useful life, fire performance not compromised after 50 years.
- Topcoat for color, weather and moisture protection, tested full scale via NFPA 286
- [ANSI 51](#) testing for incidental food contact
- Passed [CA-1350](#) - qualifies DC315 as a low-emitting material for [LEEDS](#) and Green Building standards
- Passed strict EPA – [VOC](#) and AQMD air emission requirements
- No formaldehyde, RoHS
- Meets Life Safety Code NFPA 101

Specifications:

Finish:	Flat
Color:	Ice Gray, White and Charcoal Black
V.O.C.:	10.3 g/l TVOC 18.6 g/l VOC Less Water
Volume Solids:	67%
Drying Time:	To Touch: 1-2 hours recoat: 4 to 8 hours
Type of Cure:	Coalescence
Flash Point:	None
Reducer/Cleaner:	Water
Shelf Life:	18-24 months (unopened)
Packaging:	5- & 55-gallon containers
Shipping weight:	5-gallon pail - 58 lbs. 55-gallon drum - 640 lbs.
Application:	Brush, roller, airless spray
Application Rate:	Max 24 mils WFT per coat
QAI Listed:	File B1117



International Building Code Fire Performance Requirements for SPF: The International Building Code (IBC) Section 2603.4 mandates that SPF be separated from the interior of the building by a ½" gypsum board on an **NFPA 275** tested covering, unless specifically tested in accordance with Section **2603.9**. DC315 passed certified **NFPA 286** testing over all major brands and types of open and closed cell spray applied polyurethane foams. This finished assembly testing complies with the requirements of IBC Section 2603.9 and Section 803.1 and allows the coated assembly to be left exposed without covering in the prescribed gypsum board or NFPA 275 thermal barrier.

Alternative Ignition Barrier Assemblies: DC315 meets the requirements for ignition barrier protection in unoccupied spaces as per **AC 377, Appendix X**.

Exterior Wall Systems: DC315 has been tested as a component of exterior wall systems in accordance with the NFPA 285 and meets 2015 IBC Section 2603.5 with various architectural cladding options.

National Building Code of Canada: DC315 prevents flashover for 10 minutes for Combustible Construction or 20 minutes for Non-Combustible construction when tested to the CAN/ULC S-145 Standard. This testing has been shown to exceed the protection of CAN/ULC S-124 tested materials and meets the Intent of NBC Section 3.1.5.12 for the protection of foamed plastics.

60- Minute Fire Resistance Rating for Steel Buildings- DC315 has been tested in accordance with CAN/UCL S-101 and ASTM E119 and has met the conditions of acceptance for exterior walls in steel building applications

European Union: DC315 has been tested over both medium density and low-density spray polyurethane foam and provides an EN13501- 1 Fire Classification of B-S2-D0.

Australia and New Zealand: DC315 has been tested to the AUS ISO- 9705 standard over spray polyurethane foam and meets Group 2 Classification. ISO5660 (part 1 and 2) tests confirm Group number classification as 1 which allows for the addition of the thermal barrier coating to upgrade the fire rating of the underlying spray foam.

END USE APPLICATIONS: DC315 is designed as an interior Fire Protective Coating used to protect spray foam insulation from the interior conditioned space of a building. DC315 can also be used in many different applications such as cold storage, parking garages and agricultural buildings by following a few additional steps to address these types of environments. When installing DC315 in unconditioned spaces the coating and the SPF are 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 DC315. **This guide does not purport to address all unconditioned or conditioned environmental concerns if any, associated with a specific project.**

Testing

USA

- **ASTM E84** - Flame Spread 0 Smoke 10
- **NFPA 286** - Complies with IBC/IRC
- **ASTM E2768** - 30-minute Ignition Resistant Material
- **NFPA 285** - Exterior Wall System with various claddings
- **ASTM E119** 60-minute fire resistance rating

Canada

- **CAN/ULC S102** - FSR 0 SDC 25
- **CAN/ULC S 101** – up to 1 hr assembly rating
- **CAN/ULC 9705** - 10- and 20-minute testing
- **CAN/ULC S-145** – 20 Minute Rating

European Union

- **BS 476 Part 6 & 7**
- **BS EN ISO 11925-2**
- **EN 13823**
- **EN 13501** Classification B-S2-d0

Australia/New Zealand

- **AUS ISO 9705**
- **AS/NZS 1530.3**
- **AS 5637.1** Group Classification 2, NZBC Group 2-S
- **ISO 5660** Parts 1 and 2

Physical Properties Testing

- **ASTM D522** Flexibility, Mandrel Bend
- **ASTM D4541** Adhesion pull off strength
- **ASTM D4585** Moisture resistance for 100 hours
- **ASTM D4587 / ASTM G154** Accelerated Weather QUV 1000 hours
- **ASTM D3359** Tape Adhesion
- **ASTM D2486** Scrub Resistance
- **ASTM E661** Durability, Impact, Concentrated load



“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 Evaluation Reports, applicators shall ensure copies of all application documents are available on site and the application of DC315 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 DC315 : Adhesion of a coating to SPF requires the foam surface to have a slight profile or texture like an orange peel. ([click here for our video](#)) Smooth, glossy foam surfaces should be flash coated with a light 3 - 4 mils Wet Film Thickness (WFT) of DC315 before applying the full application. Flash coating is a quick burst of DC315 or a primer* via airless sprayer over an area needing treatment. ***Note - primer is required for all applications in Canada refer to [CCMC #14036-R](#).**

Allow foam to cure and cool to ambient conditions prior to applying DC315, minimum 1 hour.

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. DC315 has excellent bonding characteristics and will adhere to most sound, clean, foam surfaces. Verify that the surface of the foam is free of gouges, holes, and exposed cells. 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: DC315 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 DC315 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](#)

DC315 Viscosity: DC315 is a 10,000 - 12,000 viscosity coating at 75°F. When you open a container of DC315 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. DC315 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 DC315 when ambient air and substrate temperatures fall below 50°F. Store

DC315 at 50°F to 80°F at all times. Do Not store DC315 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 until the coating has fully cured. For additional information on using DC315 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 DC315 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 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 to remove 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 DC315 with an airless sprayer to achieve a more consistent mil thickness. In challenging areas where an airless sprayer is not practical, DC315 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. DC315 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

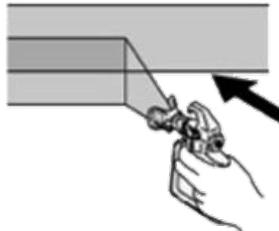


atomized and distributed evenly on the surface. Hose length should be appropriate for your machine and always ensure your feed hose is larger than your whip. Having a smaller whip will serve to re-pressurize the coating at the spray gun and assist in correct atomization of the coating.

Spraying DC315 for Maximum Yield: If this is the first time using DC315 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.

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 of SPF, 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 test or evaluation report for required wet film thickness (WFT) and gallon per square coverage required to meet the specified rating required for your jurisdiction. **DO NOT EXCEED 24 mils WFT in one coat. If the required thickness is greater than 24 mils, then installers must apply multiple coats with a minimum 4 hr. dry time between coats.**

Theoretical coverage rates are listed below:

WFT	Sq.Ft. Per Gallon	Sq.Ft. Per 5 Gallon
4 WFT	400 Sq.Ft. Per Gallon	2000 Sq.Ft. Per 5 Gallon
14 WFT	115 Sq.Ft. Per Gallon	575 Sq.Ft. Per 5 Gallon
24 WFT	67 Sq.Ft. Per Gallon	335 Sq.Ft. Per 5 Gallon
34 WFT	47 Sq. Ft. Per Gallon	235 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

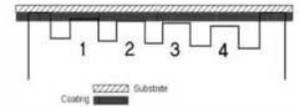
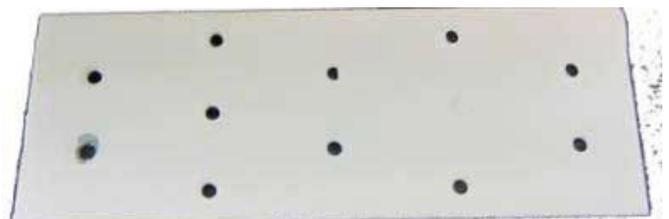


Figure 2

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: 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:

DC315 is designed as an interior Fire Protective Coating used to protect spray foam insulation from the interior conditioned space of a building. DC315 can also be used in many different applications such as cold storage, parking garages and agricultural buildings by following a few additional steps to address these types of environments. When installing DC315 in unconditioned spaces the coating and the SPF are 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 DC315. **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

