

International Fireproof Technology Inc

Submittal

Technical Service 1-949 975 8588 * Fax 1 949 724 8898



DC315 Intumescent Coating

Description

DC315 is a single component, water based intumescent coating tested to meet Building Code requirements for the fire protection of for 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 and meets IBC Section 2603.5 with various architectural cladding options.

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

- More certified full scale Thermal and Ignition Barrier tests over SPF
- Code Compliance Evaluated by [IAPMO ER-499](#) and [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
- 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
- “Single Coat Coverage” on walls and ceilings
- 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: at 77°F & 50% RH	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 5-gallon pail - 58 lbs. 55-gallon drum - 640 lbs.
Shipping weight:	
Application:	Brush, roller, airless spray
QAI Listed:	File B1117

***FOR USA ONLY -View our online [Testing Matrix](#) for a complete list of all foams DC315 has been tested and approved with as Thermal or Ignition barriers.**

International Building Code Fire Performance Requirements for SPF: The International Building Code (IBC) mandates that SPF be separated from the interior of the building by a 15-minute thermal barrier, or other approved covering. 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, conducted by IAS certified testing facilities, complies with the requirements of 2012 IBC Section 803.1.2 and Section 2603.10., 2015 IBC Section 2603.9 and Section 803.1.

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.

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 for interior conditioned spaces. It is the responsibility code and inspection authorities, architects, specifiers, contractors, installers or any end user of IFTI products to Contact IFTI to discuss their application to ensure it complies with manufacturers recommendations and meets their intended end use. The use of topcoats, though not required to meet the fire rating, may be included as part of the overall system to address specific conditions required for the project and address use in specified conditions such as, but not limited to, exterior wall systems, cold storage, parking garages or high humidity environments.

Testing

USA

- **ASTM E84** - Flame Spread 0 Smoke 10
- **NFPA 286** - Complies with Acceptance Criteria of IBC/IRC
- **ASTM E2768** - 30-minute Ignition Resistant Material
- **NFPA 285** - Exterior Wall System with various claddings

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



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

International Fireproof Technology, Inc.
17528 Von Karman Ave. Irvine, CA 92614

Office: 949-975-8588
Web Site: www.painttoprotect.com
Email: ptp@painttoprotect.com

"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. Failure to do so may compromise the coating's ability to perform. 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%. Low relative humidity can also be a problem, because DC315 may dry too quickly and lead to blistering on the surface. 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 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 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 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.

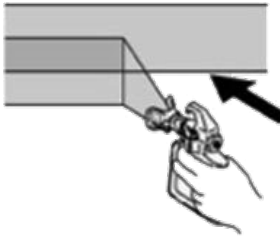
Proper equipment and settings are key to ease of application. Remove all filters from machine and gun. DC315 requires high pressure to atomize the coating at the spray tip, correct atomization will yield a more consistent spread rate and easier coverage of uneven surfaces. Ensure you match your tip size 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.

Theoretical coverage is listed below

WET	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

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

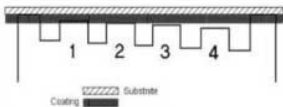
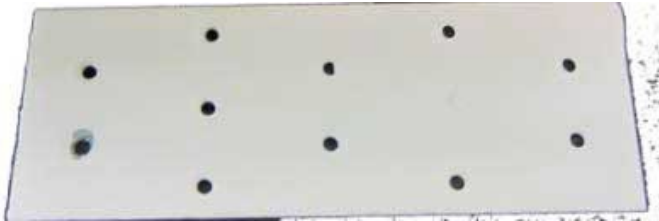


Figure 2

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



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 used for interior conditioned spaces. It is the responsibility of the material specifier, general contractor, applicator, to Contact IFTI to discuss application in unconditioned spaces to ensure it complies with manufacturers recommendations and meets their intended end use. The use of topcoats, though not required to meet the fire rating, may be included as part of the overall system to address specific conditions required for the project and address use in specified areas such as, but not limited to, exterior wall systems, cold storage, parking garages or high humidity environments.

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





ICC-ES Evaluation Report

ESR-3702

Reissued July 2023

Revised March 2024

This report is subject to renewal July 2025.

DIVISION: 09 00 00—FINISHES

Section: 09 96 43—Fire-Retardant Coatings

REPORT HOLDER:

INTERNATIONAL FIREPROOF TECHNOLOGY INC.

EVALUATION SUBJECT:

DC315 INTUMESCENT COATING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2021, 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)

Properties evaluated:

- Application without a prescriptive thermal barrier
- Application without a prescriptive ignition barrier
- Physical properties
- Surface burning characteristics
- Water vapor transmission
- Exterior walls in Types I through IV construction
- Fire-resistance-rated construction

2.0 USES

DC315 is a liquid-applied coating intended for application over the surface of spray-applied foam plastic insulation complying with ICC-ES Acceptance Criteria for Spray-applied Foam Plastic Insulation (AC377). The coated assembly may be left exposed to the interior of the building without the application of a code-prescribed thermal barrier when installed as described in Section 4.2 of this report. The DC315 coating may be used in attic and crawl spaces as described in Section 4.3 of this report. See Section 4.4 for use in exterior walls of Type I, II, III and IV construction.

3.0 DESCRIPTION

3.1 General:

DC315 is a single-component, water-based, liquid-applied intumescent coating and are available in white, ice gray, dark gray and charcoal black. The coating is supplied in

5-gallon (19 L) pails and 55-gallon (208 L) drums and has a shelf life of one (1) year when stored in factory-sealed containers at temperatures between 50° and 80°F (10 and 27°C).

DC315 Primer is a liquid-applied primer, manufactured by International Fireproof Technology, Inc., and is supplied in 1- and 5-gallon (3.8 and 18.9 L) pails, and has a shelf life of 2 years when stored in factory-sealed containers at temperatures between 50° and 80°F (10 and 27°C).

DTM Bonding Primer is a waterborne, acrylic emulsion, bonding primer manufactured by Sherwin-Williams. The primer is supplied in 1- and 5-gallon (3.8 and 18.9 L) containers, and has a shelf life of three (3) years when stored in factory-sealed containers at temperatures between 50° and 100°F (10 and 38°C).

3.2 Vapor Retarder:

When a minimum thickness of 18 mils WFT [0.018 inch (0.46 mm)] of DC315 is applied to a minimum thickness of 2 inches (50.8 mm) of open-cell spray-applied foam plastic insulation, the assembly has a vapor permeance greater than 1 perm (5.7×10^{-11} kg/Pa-s-m²) and less than 10 perms (5.7×10^{-10} kg/Pa-s-m²) when tested in accordance with ASTM E96 procedure A (desiccant method), and qualifies as a Class III vapor retarder.

3.3 Surface Burning Characteristics:

When tested in accordance with ASTM E84/UL 723, at a thickness of 13 mils WFT [0.013 inch (0.33 mm)], DC315 has a flame spread index of 25 or less and a smoke-developed index of 450 or less. The DC315 coated foam assemblies listed in Table 1 were tested in accordance with NFPA 286 and comply with the acceptance criteria of 2021 and 2018 IBC Section 803.1.1.1 (2015, 2012 and 2009 IBC Section 803.1.2.1 and 2006 IBC Section 803.2.1) and 2021, 2018, 2015, 2012 and 2009 IRC R302.9.4 (2006 IRC Section R315.4) and is permitted to be used where a Class A classification in accordance with ASTM E 84 or UL 723 is required by 2021 and 2018 IBC Section 803.13 (2015 IBC Section 803.11, 2012 and 2009 IBC Section 803.9 and 2006 IBC Section 803.5).

4.0 DESIGN AND INSTALLATION

4.1 Installation – General:

DC315 must be applied in accordance with the manufacturer's published application instructions and this

report. A copy of the instructions must be available on the job site at all times.

DC315 must be mechanically mixed prior to application. The coating is applied to the required thickness using spray equipment, a brush or a roller having a medium nap. Surfaces to be coated must be inspected in accordance with the manufacturer's published installation instructions and must be dry, clean, and free of dirt, loose debris and other substances that could interfere with the adhesion of the coating. The coating must not be applied when the ambient or surface temperature is below 50°F (10°C) or above 90°F (32° C) and relative humidity of more than 85%. The manufacturer must be consulted for specific application conditions.

4.2 Application without a Prescriptive Thermal Barrier:

The DC315 coating may be applied over spray-applied foam plastic insulations listed in Table 1 without covering the coated assembly with the thermal barrier prescribed in IBC Section 2603.4 and IRC Section R316.4 (2006 IRC Section R314.4).

The DTM Bonding Primer, when used as part of the assemblies listed in Table 1, must be installed in accordance with the manufacturer's published installation instructions.

4.3 Application without a Prescriptive Ignition Barrier:

4.3.1 General: Where spray-applied foam plastic insulations listed in Table 2 are installed in attics and crawl spaces without the ignition barrier prescribed in IBC Section 2603.4.1.6 and 2021, 2018, 2015, 2012 and 2009 IRC Sections R316.5.3 and R316.5.4 (2006 IRC Sections R314.5.3 and R314.5.4) the installation must be in accordance with Sections 4.3.2 and 4.3.3, and the following conditions apply:

- a. Entry to the attic or crawl space is only to service utilities, and no storage is permitted.
- b. There are no interconnected attic or crawl space areas.
- c. Air in the attic or crawl space is not circulated to other parts of the building.
- d. Attic ventilation is provided when required by 2021 and 2018 IBC Section 1202.2 (2015, 2012, 2009 and 2006 IBC Section 1203.2) or IRC Section R806, except when air-impermeable insulation is permitted in unvented attics in accordance with the 2021 and 2018 IBC Section 1202.3 (2015 IBC Section 1203.3) or 2021, 2018, 2015 and 2012 IRC Section R806.5 (2009 IRC Section R806.4).
- e. Under-floor (crawl space) ventilation is provided when required by 2021 and 2018 IBC Section 1202.4 [2015 IBC Section 1203.4 (2012, 2009 and 2006 IBC Section 1203.3) or IRC Section R408.1, as applicable.
- f. Combustion air is provided in accordance with IMC (*International Mechanical Code*) Section 701.

4.3.2 In attics and crawl spaces: In attics, the insulation may be spray-applied to the underside of roof sheathing or roof rafters, and/or vertical surfaces; and in crawl spaces, the insulation may be spray-applied to the underside of floors and/or vertical surfaces provided the assembly conforms to one of the assemblies described in Table 2.

4.3.3 Use on Attic Floors: The insulation may be installed between and over the joists in attic floor at the maximum thickness set forth in Table 2. The insulation must be separated from the interior of the building by an approved

thermal barrier. An ignition barrier prescribed in IBC Section 2603.4.1.6 and 2018, 2015, 2012 and 2009 IRC Sections R316.5.3 and R316.5.4 (2006 IRC Sections R314.5.3 and R314.5.4) may be omitted.

4.4 Exterior Walls in Types I, II, III and IV Construction:

Carlisle Spray Foam Insulation SealTite™ Pro Closed-Cell spray foam insulation may be installed in or on exterior walls of buildings of Type I, II, III and IV construction complying with IBC Section 2603.5 and as described in this section. The maximum thickness of the foam plastic installed on the exterior of the sheathing or installed in stud cavities must be as described in Table 3. The potential heat of Carlisle Spray Foam Insulation SealTite™ Pro Closed Cell spray-applied insulation is 1838 Btu/ft² (20.9 MJ/m²) per inch of thickness. The wall assembly must be as described in Table 3.

4.5 Fire-resistance-rated Construction:

Non-loadbearing wall assemblies, as described in Figures 4 through 7 with DC315 intumescent coating as a component of each assembly, have fire-resistance ratings based on the unexposed surface temperature provisions under 2021, 2018, 2015, 2012 and 2009 IBC Section 705.7 and tested in accordance with ASTM E119.

5.0 CONDITIONS OF USE

The DC315 coating 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** Application must comply with this report, the manufacturer's published installation instructions, and the applicable code. A copy of the installation instructions must be on the job site during application of the coating. In the event of a conflict between the manufacturer's published installation instructions and this report, this report and the code govern.
- 5.2** The application of additional interior finishes over the DC315 coating is limited to interior/exterior satin latex paint applied at an average wet film thickness of 8.0 mils (0.20 mm) or interior/exterior coating consisting of 30% silicon alkyd having a VOC (less exempt solvents) of no more than 340 g/L (2.8 lb/gal) and a volume solids content of 62% applied at a maximum average wet film thickness of 8 mils (0.20 mm). The use of either of the two interior finishes in conjunction with a vapor retardant coating is outside the scope of this report.
- 5.3** Installation in accordance with this report is for the specific assemblies and spray-applied foam plastic insulations described in Tables 1 and 2. The spray-applied foam plastic insulation must be installed in accordance with the requirements set forth in the specific ICC-ES evaluation report noted. For spray-applied foam plastic insulation that is not covered in an ICC-ES evaluation report, the evaluation is limited as noted in Tables 1 and 2, Footnote 3.
- 5.4** When used in or on the exterior walls of buildings of Type I, II III or IV construction, the wall assembly must conform to those described in Section 4.4, Table 3 and Figures 1 - 3.
- 5.5** When used in fire-resistance-rated construction, the wall assembly must conform to those described in Section 4.5 and Figures 4 through 7.
- 5.6** Each fire-resistance rated assembly, described in Figures 4 through 7, reports respective equivalent opening factors (F_{EO}) derived from 2021, 2018, 2015,

2012 and 2009 IBC Figure 705.7 and must be used in the calculation of the equivalent area of protected openings (A_c) to achieve the Assembly Rating. Calculation of A_c is the sole responsibility of the end user and outside of the scope of this listing.

- 5.7 The coating is manufactured in Taoyuan, Taiwan and Irvine, California, under a quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Fire-Protective Coatings Applied to Spray-applied Foam Plastic Insulation Installed without a Code-prescribed Thermal Barrier (AC456), dated October 2015 (Editorially revised February 2022), including room corner fire testing in accordance with NFPA 286.
- 6.2 Report of testing in accordance with ASTM E84 (UL 723).
- 6.3 Report of vapor permeance test in accordance with ASTM E96 (Desiccant method).
- 6.4 Report of testing in accordance with Appendix X of AC377.
- 6.5 Report of fire propagation characteristics testing in accordance with NFPA 285 and associated fire engineering analysis supporting the NFPA 285 test report.

- 6.6 Data on accelerated weathering, resistance to humidity and thermal cycling testing in accordance with ASTM D5894, ASTM D4585 and ASTM D3346, respectively.
- 6.7 Report of testing in accordance with ASTM E119 (UL 263) and calculations demonstrating compliance with 2021, 2018, 2015, 2012 and 2009 IBC Section 705.7.

7.0 IDENTIFICATION

- 7.1 All containers of DC315 coating must be labeled with the manufacturer's name (International Fireproof Technology Inc.) and address; the product name; the date of manufacture, the shelf life or expiration date; the manufacturer's instructions for application, and the evaluation report number (ESR-3702).

The spray-applied foam plastic insulations must be labeled in accordance with the applicable evaluation report (see Table 1).

- 7.2 The report holder's contact information is the following:

INTERNATIONAL FIREPROOF TECHNOLOGY INC.
17528 VON KARMAN AVENUE
IRVINE, CALIFORNIA 92614
(949) 975-8588
www.painttoprotect.com
ptp@painttoprotect.com

**TABLE 1—USE OF INSULATION WITHOUT A PRESCRIPTIVE THERMAL BARRIER
(TESTED IN ACCORDANCE WITH NFPA 286)**

INSULATION COMPANY NAME	INSULATION PRODUCT NAME	MAXIMUM THICKNESS (in.) (Vertical Surfaces)	MAXIMUM THICKNESS (in.) (Overhead Surfaces)	DC315 COATING MINIMUM AVERAGE THICKNESS ¹ (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING ²
Acme Urethanes	WC-50 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
AMBIT Polyurethane LLC	AMBI-SEAL 5.0 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
AMBIT Polyurethane LLC	AmbiTite 204 (HFO) (ESR-4427)	8	12	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
AMBIT Polyurethane LLC	AmbiTite 201 245fa (ESR-4426)	8	12	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
AMD Distribution LLC	Diamond Back (ESR-4438)	7½	11½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulStar® Light 12-008 (See Note 3)	8	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulBloc® (ESR-1615)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulStar® (ESR-1615)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulStar® 1.7 SmartSPF™ (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulBloc® 1.7 SmartSPF™ (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	Sealtite OCX (See Note 3)	10	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulStar®SmartSPF™ (See Note 3)	6	10	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulBloc®SmartSPF™ (See Note 3)	6	10	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²

INSULATION COMPANY NAME	INSULATION PRODUCT NAME	MAXIMUM THICKNESS (in.) (Vertical Surfaces)	MAXIMUM THICKNESS (in.) (Overhead Surfaces)	DC315 COATING MINIMUM AVERAGE THICKNESS ¹ (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	NCFI 23-026 (See Note 3)	6	6	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
BASF Corporation	ENERTITE® G (ESR-3102)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	ENERTITE® IB-418 (ESR-3102)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	ENERTITE® NM (ESR-3102)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	SPRAYTITE 158 (ESR-5215)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	SPRAYTITE 178 (ESR-5215)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	SPRAYTITE 81205 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	SPRAYTITE 81206 (ESR-5215)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	SPRAYTITE SP (ESR-5215)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	WALLTITE 200 (See Note 3)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	WALLTITE HP+ (See Note 3)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	WALLTITE US (ESR-5215)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	WALLTITE US-N (See Note 3)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	SPRAYTITE LWP-L (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	WALLTITE LWP (ESR-2642)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	WALLTITE HP+S (See Note 3)	5½	11½	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
BASF Corporation	Spraytite Comfort (ESR-5215)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
BASF Corporation	Spraytite Comfort Plus (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate 50 (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate 50 HY (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate 70 (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate Closed Cell (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate HFO (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate OCX (See Note 3)	9	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO Closed Cell (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO High Yield (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO No Mix (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO No Trim 21 (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO OCX (See Note 3)	9	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO One Zero Closed Cell (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO Open Cell (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite™ PRO HFO (See Note 3)	7½	11½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Commercial Thermal Solutions, Inc.	Tiger Foam® E-84 Fire-Rated SPF Class 1 Spray Foam System (ESR-3183)	3½	3½	13 mils DFT 20 mils WFT	1.25 gal/100 ft ²

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Creative Polymer Solutions	Accufoam CC (See Note 3)	5½	9½	13 mils DFT 19 mils WFT	1.19 gal/100 ft²
Creative Polymer Solutions	Accufoam OC (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Creative Polymer Solutions	Accufoam 2.0 Regular HFO (See Note 3)	7½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Creative Polymer Solutions	AccuFoam AF1 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Creative Polymer Solutions	AirLok 45 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
DAP Foam, Inc.	Touch N' Foam Professional Class I FR Spray Foam System (ESR-3052)	3½	3½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
DAP Foam, Inc.	Touch N' Seal Class I FR Spray Foam System (ESR-3052)	3½	3½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
DAP Foam, Inc.	TNF/TNS Class I FR HFO Spray Foam System (See Note 3)	3¼	3¼	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
DuPont de Nemours, Inc.	FROTH-PAK™ (ESR-3228)	3½	3½	14 mils DFT 20 mils WFT	1.25 gal/100 ft²
Elastochem Specialty Chemicals, Inc.	Elastochem® Insulthane® Extreme (See Note 3)	7¼	7¼	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Elastochem Specialty Chemicals, Inc.	Insulthane 200 Evolution (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Elastochem Specialty Chemicals, Inc.	Insulthane® 450 NM (See Note 3)	10	14	8 mils DFT 14 mils WFT	0.88 gal/100 ft²
Elastochem Specialty Chemicals, Inc.	Elastochem 500 (See Note 3)	8	12	13.7 mils DFT 20.5 mils WFT	1.28 gal /100 ft²
EnergyOne America	EOA 2000 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
EnergyOne America	EOA 500 (ESR-3686)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Foam Suppliers	EcoStar CC (See Note 3)	8	12	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Foam Suppliers	Genfoam OC (See Note 3)	8½	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Foam Suppliers	GenX (See Note 3)	7½	11½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Franklin International, Inc.	Titebond Weathermaster Superfoam (ESR-4099)	2	2	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Gaco Western	F1850 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Gaco Western	Gaco 183M (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Gaco Western	GACO F1880 (See Note 3)	9	12	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Gaco Western	Gaco Firestop2 F5001 (See Note 3)	18	18	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Gaco Western	Gaco Green 052N (See Note 3)	11¼	11¼	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Gaco Western	GacoEZSpray F4500 (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
General Coatings Manufacturing Corp.	Ultrathane 050 (See Note 3)	8	10	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
General Coatings Manufacturing Corp.	Ultra-Thane 230 (See Note 3)	5½	7½	DTM Bonding Primer 3 mils DFT/ 4 mils WFT & DC315 12 mils DFT/ 18 mils WFT	0.25 gal/100 ft² & 1.13 gal/100 ft²
General Coatings Manufacturing Corp.	Ultrathane 202 (See Note 3)	8	12	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
General Coatings Manufacturing Corp.	UPC 2.0 (See Note 3)	8	12	12 mils DFT 18 mils WFT	1.13 gal/100 ft²

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General Coatings Manufacturing Corp.	Ultrathane 050 Max (See Note 3)	8	14	14 mils DFT 21 mils WFT	1.31 gal/100 ft ²
General Coatings Manufacturing Corp.	Ultrathane 170 (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
General Coatings Manufacturing Corp.	Ultrathane 205 HFO (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
General Coatings Manufacturing Corp.	Ultrathane 202 MAX (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
General Coatings Manufacturing Corp.	UPC 2.0 MAX (ESR-3805)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
Genyk	Elite 2.0 (ESR-5150)	5½	9½	15 mils DFT 23 mils WFT	1.44 gal/100 ft ²
Guardian Energy Technologies	Foam It Green (See Note 3)	3½	3½	13 mils DFT 20 mils WFT	1.25 gal/100 ft ²
Henry Company	Permax 1.8 (See Note 3)	11¼	11¼	14 mils DFT 21 mils WFT	1.31 gal/100 ft ²
Henry Company	Permax 2.0X (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Henry Company	Permax 2.0X Fast (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Agribalance® (ESR-2600)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Huntsman Building Solutions	APX® 2.0 (See Note 3)	5¼	14	13 mils DFT 20 mils WFT	1.25 gal/100 ft ²
Huntsman Building Solutions	APX™ (See Note 3)	8	10	13 mils DFT 20 mils WFT	1.25 gal/100 ft ²
Huntsman Building Solutions	Heatlok® HFO (ESR-4073)	7½	11½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Heatlok® XT-s (ESR-3824)	7½	11½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Heatlok® XT-w (ESR-3883)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Huntsman Building Solutions	Demilec SEALECTION® 500 (ESR-1172)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Huntsman Building Solutions	HEATLOK SOY® 200 PLUS (See Note 3)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Huntsman Building Solutions	Heatlok® Eco (ESR-3198)	5½	9½	14 mils DFT 22 mils WFT	1.38 gal/100 ft ²
Huntsman Building Solutions	Heatlok HFO Pro (See Note 3)	8	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Huntsman Building Solutions	Sealection® NM (ESR-2668)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Huntsman Building Solutions	LD C 50 No Mix (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Classic (ESR-1826)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Classic Plus (ESR-1826)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Classic Ultra (ESR-1826)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Classic Ultra Select (ESR-1826)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	MD-C-200 (ESR-3199)	6	10	14 mils DFT 22 mils WFT	1.38 gal/100 ft ²
Huntsman Building Solutions	ProSeal HFO (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	ProSeal Max HFC (See Note 3)	6	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Foam-Lok FL 450 (ESR-4242)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Prime Gold (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Foam-Lok FL2000 (ESR-2629)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Foam-Lok FL500 (ESR-2847)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Lapolla FL 2000 4G (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Huntsman Building Solutions	Foam-Lok FL 750 (ESR-4322)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²

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Huntsman Building Solutions	Foam-Lok FL2000-3G (ESR-4501)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Huntsman Building Solutions	ProSeal (ESR-3500)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Huntsman Building Solutions	ProSeal LE (ESR-3500)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
ICP Construction Inc. dba ICP Building Solutions Group	HandiFoam E-84 Class 1(A) Spray Foam System (ESR-2717)	3½	3½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
ICP Construction Inc. dba ICP Building Solutions Group	HandiFoam E84 HFO (ESR-2717)	4	4	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
ICP Construction Inc., dba ICP Building Solutions Group	HandiFoam HVLP MD 2.0 (ESR-4287)	5½	11½	DC315 Prime Coat 3 mils DFT / 4 mils WFT & DC315 11 mils DFT / 16 mils WFT	0.25 gal/100 ft² & 1.00 gal/100 ft²
ICP Construction Inc., dba ICP Building Solutions Group	HandiFoam HVPL HFO 2.0 (ESR-4287)	5½	7½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Johns Manville	JM Corbond III (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Johns Manville	JM Corbond MCS™ (See Note 3)	7¼	9¼	14 mils DFT 22 mils WFT	1.38 gal/100 ft²
Johns Manville	JM Corbond oc (See Note 3)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Johns Manville	JM Corbond ocx SPF (See Note 3)	9	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Johns Manville	JM MCS+ (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Johns Manville	JM Gen IV (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ 0.5 IB (See Note 3)	9½	14½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ 0.50 PCF (See Note 3)	9½	14½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ 2.0 IBS (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ 2.0 IBW (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ Light (See Note 3)	9½	14½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ ZERO (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Natural-Therm® 2.0 HFO IBW IBS (See Note 3)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Natural Polymers, LLC	Ultra Pure LD (See Note 3)	9½	14½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Natural Polymers, LLC	Ultra Pure HD (See Note 3)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
North American Spray Foam Polymers	EcoPolySeal (ESR-4483)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
North American Spray Foam Polymers	EPS 2000 (ESR-4484)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Nu-Wool Company Incorporated	Nu-Seal 0.5 (See Note 3)	9½	14½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Nu-Wool Company Incorporated	Nu-Seal 2.0 HFO (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft²
Nu-Wool Company Incorporated	Nu-Seal 2.0 (See Note 3)	5½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
PCC Prodex Sp. z.o.o.	Crossin 450 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Polygreen Solutions	GreenSeal 44 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Preferred Solutions, Inc.	Staycell® 302 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
ProFoam Corporation	ProSeal™ (ESR-3835)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
ProFoam Corporation	ProSeal Plus (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²

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ProFoam Corporation	ProFill Plus (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Purinova Sp. z.o.o.	Purinova PURIOS 500 (ESR-4165)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Quadrant Urethane Technologies	EnviroSeal OCX (See Note 3)	8½	13½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Quadrant Urethane Technologies	EnviroSeal HY (High Yield) (See Note 3)	8	12	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Quadrant Urethane Technologies	EnviroSeal No Mix (See Note 3)	8	12	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Quadrant Urethane Technologies	EnviroSeal HFO (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
RHH Foam Systems	Versi-Foam Class I (See Note 3)	3½	3½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Rhino Linings Corporation	ThermalGuard CC2 (ESR-2100)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Rhino Linings Corporation	ThermalGuard OC.5 (ESR-2100)	7½	11½	13 mils DFT 18 mils WFT	1.13 gal/100 ft²
SES Foam	Nexseal 2.0 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SES Foam	Nexseal 2.0 LE (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SES Foam	SES 2.0 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SES Foam	SES 2.0 LE (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SES Foam	SES Foam Easyseal 0.5 lb (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SES Foam	Sucraseal™ 0.5 (ESR-3375)	9	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SFM Foam	OC NM Pro (See Note 3)	10	14	8 mils DFT 14 mils WFT	0.88 gal/100 ft²
SFM Foam	OC Pro (See Note 3)	8	12	13.7 mils DFT 20.5 mils WFT	1.28 gal /100 ft²
SFM Foam	CC Pro (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SFM Foam	CC HFO Pro (See Note 3)	7¼	7¼	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Soprema	SupraSeal (See Note 3)	7¼	7¼	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Specialty Products, Inc. (S.P.I.)	Envelo-Seal™ 0.5 OC (See Note 3)	9½	14½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Specialty Products, Inc. (S.P.I.)	Envelo-Seal™ 2.0 IBW (See Note 3)	5½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Spray Foam Polymers LLC	ThermoSeal 500 HY (See Note 3)	8	12	13.7 mils DFT 20.5 mils WFT	1.28 gal /100 ft²
Spray Foam Polymers LLC	Thermoseal OCX (See Note 3)	7½	11½	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Spray Foam Polymers LLC	2000 (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Spray Foam Polymers LLC	Thermoseal CCX (ESR-4137)	7½	11½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Spray Foam Polymers LLC	TS 5G (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Spray Foam Polymers LLC	TS One (See Note 3)	5½	9½	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Spray Foam Polymers LLC	TS360 (See Note 3)	8½	14	13 mils DFT 20 mils WFT	1.25 gal/100 ft²
Spray Foam Polymers LLC	TS500 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Spray Foam Polymers LLC	TS800 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft²
Sustainable Polymer Products	0.5 OC (See Note 3)	8½	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Sustainable Polymer Products	0.5 OCX (See Note 3)	9	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
Sustainable Polymer Products	2.0 CC (See Note 3)	5½	9½	9 mils DFT 14 mils WFT	0.88 gal/100 ft²
SWD Urethane	Quik-Shield 100X (See Note 3)	7	11	12 mils DFT 18 mils WFT	1.13 gal/100 ft²

INSULATION COMPANY NAME	INSULATION PRODUCT NAME	MAXIMUM THICKNESS (in.) (Vertical Surfaces)	MAXIMUM THICKNESS (in.) (Overhead Surfaces)	DC315 COATING MINIMUM AVERAGE THICKNESS ¹ (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING ²
SWD Urethane	Quik-Shield 104 (See Note 3)	8	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
SWD Urethane	Quik-Shield 106 (See Note 3)	11 ¹ / ₄	11 ¹ / ₄	15 mils DFT 24 mils WFT	1.50 gal/100 ft ²
SWD Urethane	Quik-Shield 108 (See Note 3)	8 ¹ / ₂	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
SWD Urethane	Quik-Shield 112 (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
SWD Urethane	Quik-Shield 118 (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
SWD Urethane	Quik-Shield 144 (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
The Spray Market	SPM-200 (See Note 3)	7 ¹ / ₂	11 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Universal Polymers Corporation	UPC 500 (ESR-3803)	8 ¹ / ₂	14	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Universal Polymers Corporation	UPC 500 OCX (See Note 3)	7 ¹ / ₂	11 ¹ / ₂	13 mils DFT 20 mils WFT	1.25 gal/100 ft ²
Universal Polymers Corporation	UPC 2.0 High Lift (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
Universal Polymers Corporation	UPC 1.7 (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
Universal Polymers Corporation	UPC 2.0 (See Note 3)	8	12	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Universal Polymers Corporation	UPC 500 Max (See Note 3)	8	14	14 mils DFT 21 mils WFT	1.31 gal/100 ft ²
Universal Polymers Corporation	UPC 2.0 HFO (See Note 3)	8	12	11 mils DFT 16 mils WFT	1.00 gal/100 ft ²
Urethane Technology Company, Inc.	UTC 7040-0.5 (ESR-3244)	5 ¹ / ₂	14 ³ / ₄	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
Urethane Technology Company, Inc.	UTC 7041-0.5 (ESR-3244)	5 ¹ / ₂	14 ³ / ₄	14 mils DFT 20 mils WFT	1.25 gal/100 ft ²
Victory Polymers Corp.	VPC-HFO (See Note 3)	7 ¹ / ₄	7 ¹ / ₄	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Victory Polymers Corp.	VPC-50 OCHY (See Note 3)	8 ¹ / ₂	11 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Victory Polymers Inc.	VPC-CC SuperLift and VPC-CC SuperYield (ESR-4334)	7 ¹ / ₂	11 ¹ / ₂	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Victory Polymers Inc.	VPC-OneStroke (See Note 3)	7 ¹ / ₂	11 ¹ / ₂	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Victory Polymers Inc.	VPC-HiR-OC (See Note 3)	8 ¹ / ₂	11 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Victory Polymers Inc.	VPC-50NF (ESR-4657)	7 ¹ / ₂	11 ¹ / ₂	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Victory Polymers Inc.	VPC 50 OC (See Note 3)	10	14	8 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Victory Polymers Inc.	VPC 200 OC (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Victory Polymers Inc.	VPC HFO High Lift (See Note 3)	7 ¹ / ₄	7 ¹ / ₄	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Volatile Free, Inc.	VFI-714 (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Volatile Free, Inc.	VFI-716 (See Note 3)	8 ¹ / ₂	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Xcelus	XLS-2000 (See Note 3)	7 ¹ / ₄	7 ¹ / ₄	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Xcelus	XLS-200 (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Xcelus	XLS 500 (See Note 3)	8	12	13.7 mils DFT 20.5 mils WFT	1.28 gal /100 ft ²
Xcelus	XLS 200 (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
Xcelus	XLS 2000 (See Note 3)	7 ¹ / ₄	7 ¹ / ₄	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
XtremeSeal, LLC	XtremeSeal 0.4 LX (See Note 3)	8 ¹ / ₂	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
XtremeSeal, LLC	XtremeSeal 0.5 LX (See Note 3)	8 ¹ / ₂	14	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²
XtremeSeal, LLC	XtremeSeal 2.0 LE (See Note 3)	5 ¹ / ₂	9 ¹ / ₂	9 mils DFT 14 mils WFT	0.88 gal/100 ft ²

For SI: 1 inch = 25.4 mm; 1 mil = 0.0254 mm; 1 gallon = 3.38 L; 1 ft² = 0.93 m².

Notes:

¹DFT = Dry Film Thickness; WFT = Wet Film Thickness

²As reported in the manufacturer's application instructions. Actual application rate, based upon specific project conditions, must be in accordance with the manufacturer's application instructions.

³Evaluation is limited to the NFPA 286 test data for the coated assembly described. Evaluation for compliance of the spray foam insulation with other applicable requirements of AC377 and the IBC and IRC are outside the scope of the report.

**TABLE 2—USE OF INSULATION WITHOUT A PRESCRIPTIVE IGNITION BARRIER
(TESTED IN ACCORDANCE WITH APPENDIX X OF AC377)**

INSULATION COMPANY NAME	INSULATION PRODUCT NAME	MAXIMUM THICKNESS (in.) (Vertical Surfaces and Attic Floors)	MAXIMUM THICKNESS (in.) (Underside of Roof Sheathing and/or Rafters, Underside of Floors)	DC315 COATING MINIMUM AVERAGE THICKNESS ¹ (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING ²
Acme Urethanes	WC-50 (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Barnhardt Manufacturing Company dba NCFI Polyurethanes	InsulStar® Light (12-008) (See Note 3)	8	14	4 mils DFT 7 mils WFT	0.44 gal/100 ft ²
BASF Corporation	ENERTITE® G (ESR-3102)	11½	15½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	ENERTITE® NM (ESR-3102)	11½	15½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	SPRAYTITE 158 (ESR-5215)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	SPRAYTITE 178 (ESR-5215)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	SPRAYTITE 81205 (See Note 3)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	SPRAYTITE 81206 (ESR-5215)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	SPRAYTITE SP (ESR-5215)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	WALLTITE HP+ (See Note 3)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	WALLTITE US (ESR-5215)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
BASF Corporation	WALLTITE US-N (See Note 3)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate 50 (See Note 3)	12	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Carlisle Spray Foam Insulation	Foamsulate 70 (See Note 3)	14	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO No Mix (See Note 3)	12	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Carlisle Spray Foam Insulation	SealTite PRO No Trim 21 (See Note 3)	14	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Creative Polymer Solutions	Accufoam CC (See Note 3)	5½	9½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Creative Polymer Solutions	Accufoam OC (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Creative Polymer Solutions	Accufoam AF1 (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Creative Polymer Solutions	AirLok 45 (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
DAP Foam, Inc.	TNF Class I FR HFO Spray Foam System (See Note 3)	3¼	3¼	4 mils DFT 6 mils WFT	0.38 gal/100 ft ²
Elastochem Specialty Chemicals, Inc	Elastochem 500 (See Note 3)	7¾	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Elastochem Specialty Chemicals, Inc	Insulthane 450NM (See Note 3)	7¾	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Gaco Western	Gaco Green 052N (See Note 3)	11¼	11¼	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Foam Suppliers	EcoStar CC (See Note 3)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Foam Suppliers	Genfoam OC (See Note 3)	8½	14	4 mils DFT 6 mils WFT	0.38 gal/100 ft ²
Gaco Western	GacoEZSpray F4500 (See Note 3)	12	16	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
General Coatings Manufacturing Corp.	Ultrathane 050 (See Note 3)	6	8	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²

INSULATION COMPANY NAME	INSULATION PRODUCT NAME	MAXIMUM THICKNESS (in.) (Vertical Surfaces and Attic Floors)	MAXIMUM THICKNESS (in.) (Underside of Roof Sheathing and/or Rafters, Underside of Floors)	DC315 COATING MINIMUM AVERAGE THICKNESS ¹ (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING ²
General Coatings Manufacturing Corp.	Ultra-Thane 230 (See Note 3)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
General Coatings Manufacturing Corp.	Ultra-Thane 202 (See Note 3)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
General Coatings Manufacturing Corp.	Ultra-Thane 205 HFO/UPC 2.0 HFO (See Note 3)	8	12	4 mils DFT 6 mils WFT	0.38 gal/100 ft²
General Coatings Manufacturing Corp.	Ultra-Thane 205 HFO High Lift / UPC 2.0 HFO High Lift (See Note 3)	8	12	4 mils DFT 6 mils WFT	0.38 gal/100 ft²
Huntsman Building Solutions	Sealection® NM (ESR-2668)	10	12	4 mils DFT 6 mils WFT	0.38 gal/100 ft²
Huntsman Building Solutions	Classic (ESR-1826)	5½	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Classic Plus (ESR-1826)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Classic Ultra (ESR-1826)	5½	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Classic Ultra Select (ESR-1826)	5½	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	MD-C-200 (ESR-3199)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Agribalance® (ESR-2600)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	SELECTION® 500 (ESR-1172)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Heatlok® Eco (ESR-3198)	11½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Foam-Lok FL 450 (ESR-4242)	5½	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Prime Gold (See Note 3)	5½	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	Foam-Lok FL500 (ESR-2847)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	ProSeal (ESR-3500)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Huntsman Building Solutions	ProSeal LE (ESR-3500)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
ICP Construction Inc., dba ICP Building Solutions Group	HandiFoam HVLP MD 2.0 (ESR-4287)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
ICP Construction Inc., dba ICP Building Solutions Group	HandiFoam HVLP HFO 2.0 (ESR-4287)	5½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Johns Manville	JM Corbond III (See Note 3)	7½	9½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Johns Manville	JM MCS+ (See Note 3)	7½	9½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ HFO (See Note 3)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Natural Polymers, LLC	Natural-Therm™ ZERO (See Note 3)	7½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
PCC Prodex S.P z.o.o.	Crossin 450 (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Polygreen Solutions	GreenSeal 44 (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Profoam	ProFill Plus (See Note 3)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Purinova Sp. Z.o.o.	Purinova PURIOS 500 (ESR-4165)	8	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Rhino Linings Corporation	ThermalGuard OC .5 (ESR-2100)	8	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
Rhino Linings Corporation	ThermalGuard 1.0 (See Note 3)	8	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
SES Foam	SES Foam 0.5 lb (See Note 3)	9½	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²
SFM Foam	OC NM Pro (See Note 3)	7¾	11½	3 mils DFT 4 mils WFT	0.25 gal/100 ft²

INSULATION COMPANY NAME	INSULATION PRODUCT NAME	MAXIMUM THICKNESS (in.) (Vertical Surfaces and Attic Floors)	MAXIMUM THICKNESS (in.) (Underside of Roof Sheathing and/or Rafters, Underside of Floors)	DC315 COATING MINIMUM AVERAGE THICKNESS ¹ (Applied to all Foam Surfaces)	MINIMUM THEORETICAL APPLICATION RATE OF COATING ²
SFM Foam	OC Pro (See Note 3)	7 ³ / ₄	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Spray Foam Polymers LLC	ThermoSeal 500 HY	7 ³ / ₄	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Spray Foam Polymers LLC	TS 360 (See Note 3)	8 ¹ / ₂	14	4 mils DFT 6 mils WFT	0.25 gal/100 ft ²
Spray Foam Polymers LLC	TS 600 (See Note 3)	9 ¹ / ₂	14	4 mils DFT 6 mils WFT	0.25 gal/100 ft ²
Spray Foam Polymers LLC	TS 800 (See Note 3)	9 ¹ / ₂	14	4 mils DFT 6 mils WFT	0.38 gal/100 ft ²
Sustainable Polymer Products	0.5 OC HY (See Note 3)	9 ¹ / ₂	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
SWD Urethane	Quik-Shield 108 (See Note 3)	8	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Universal Polymers Corporation	UPC 500 (ESR-3803)	8 ¹ / ₂	14	4 mils DFT 6 mils WFT	0.38 gal/100 ft ²
Universal Polymers Corporation	UPC 2.0 High Lift (See Note 3)	8	12	4 mils DFT 6 mils WFT	0.38 gal/100 ft ²
Universal Polymers Corporation	UPC 2.0 (See Note 3)	7 ¹ / ₂	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Urethane Technology Company, Inc.	UTC 7040-0.5 (ESR-3244)	5 ¹ / ₂	14 ³ / ₄	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Urethane Technology Company, Inc.	UTC 7041-0.5 (ESR-3244)	5 ¹ / ₂	14 ³ / ₄	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Victory Polymers Corp.	VPC-50 OCHY (See Note 3)	12	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Victory Polymers Inc.	VPC-OneStroke (See Note 3)	7 ¹ / ₂	11 ¹ / ₂	12 mils DFT 18 mils WFT	1.13 gal/100 ft ²
Victory Polymers Inc.	VPC-HiR-OC (See Note 3)	14	14	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Victory Polymers Inc.	VPC-50NF (ESR-4657)	10	12	4 mils DFT 6 mils WFT	0.38 gal/100 ft ²
Victory Polymers Inc.	VPC 50 OC (See Note 3)	7 ³ / ₄	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
Xcelus	XLS 500 (See Note 3)	7 ³ / ₄	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
XtremeSeal, LLC	XtremeSeal 0.4 LX (See Note 3)	8	12	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²
XtremeSeal, LLC	XtremeSeal 0.5 LX (See Note 3)	9 ¹ / ₂	11 ¹ / ₂	3 mils DFT 4 mils WFT	0.25 gal/100 ft ²

For **SI**: 1 inch = 25.4 mm; 1 mil = 0.0254 mm; 1 gallon = 3.38 L; 1 ft² = 0.93 m².

Notes:

¹DFT = Dry Film Thickness; WFT = Wet Film Thickness

²As reported in the manufacturer's application instructions. Actual application rate, based upon specific project conditions, must be in accordance with the manufacturer's application instructions.

³Evaluation is limited to the NFPA 286 test data for the coated assembly described. Evaluation for compliance of the spray foam insulation with other applicable requirements of AC377 and the IBC and IRC are outside the scope of the report.

TABLE 3—NFPA 285 COMPLYING EXTERIOR WALL ASSEMBLIES

WALL COMPONENTS	MATERIALS
Base wall system— Use either 1, 2 or 3	1 — Concrete wall 2 — Concrete masonry wall 3 — 1 layer of 5/8-inch-thick Type X gypsum wallboard on interior, installed over minimum 3 5/8-inch-deep, minimum No. 20-gage steel studs spaced at a maximum of 24 inches on center with lateral bracing every 4 feet as required by the code.
Floorline firestopping	4 pcf mineral-fiber insulation friction-fit in each wall stud cavity at each floor line. Thickness must match stud cavity depth.
Cavity insulation— Use either 1, 2, 3 or 4	1 — None 2 — Spray-applied foam plastic insulation, maximum 3 5/8-inch-thick of Carlisle SealTite™ Pro Closed Cell ⁴ applied to Base wall 3, covering the width of the stud cavity and either fully filling the stud cavity depth or partially filling the stud cavity depth leaving a maximum air space of 1 5/8 inches. 3 — Fiberglass batt insulation, Class A (faced or unfaced) ¹ 4 — Mineral-fiber insulation complying with ASTM E136 ¹
Exterior sheathing— Use 1 with Base Wall 1 or 2, Use 2 with Base Wall 3	1 — None 2 — Minimum 1/2-inch-thick ASTM C1177 complying exterior sheathing
Exterior Insulation	1 — Maximum 3 1/2-inch-thick of Carlisle SealTite™ Pro Closed Cell ⁴ spray foam insulation, applied directly to the exterior face of the exterior sheathing of Base wall 3 or directly to the exterior face of Base wall 1 or 2, 2 — The exposed surface of the spray foam insulation must be covered with International Fireproof Technology, Inc. DC315 intumescent coating applied at a minimum average 16 mils wet film thickness 3 — The DC315 coating must be covered with Sherwin-Williams SHER-CRYL HPA topcoat applied at a minimum average 12 mils wet film thickness ²
Exterior wall covering—Use either 1 through 12	1 — Brick —Standard nominally 4-inch-thick clay brick with brick veneer anchors installed a maximum of 24 inches on center vertically on each stud. Maximum 2-inch air gap between exterior insulation and brick. 2 — Cast concrete – Minimum 1-inch-thick, using any standard non-open-jointed installation. —Maximum 2-inch air gap between exterior insulation and cast concrete. 3 — Concrete masonry units – Minimum 2 1/2-inch-thick, using any standard non-open-jointed installation. —Maximum 2-inch air gap between exterior insulation and concrete masonry units. 4 — Natural stone veneer – Minimum 2-inch-thick, using any standard non-open-jointed installation technique 5 — Terracotta cladding – Use any terracotta cladding system in which the terracotta is minimum 1 1/4-inch-thick, using any standard non-open-jointed installation technique. 6 — Stucco – Minimum 3/4 –inch-thick, code-complying three-coat exterior cement plaster and lath. 7 — Aluminum cladding panels, vertical interlocking type – Minimum 0.030-inch-thick using the framing system specified in footnote 3. 8 — Corrosion-resistant steel cladding panels, interlocking type – minimum 0.0149-inch-thick using the framing system specified in footnote 3. 9 — Cold-rolled copper cladding panels, interlocking type – minimum 0.0216-inch-thick, minimum 16 ounces per square foot, using the framing system specified in footnote 3. 10 — Fiber-cement siding – Minimum 0.25 inches thick, using any standard non-open-jointed installation. 11 — One-coat Stucco – Minimum thickness as stated in a current ICC-ES evaluation report where the one-coat stucco has been qualified for compliance under AC11. 12 — Thin brick veneer – Minimum 1/4-inch thick thin brick complying with ASTM C1088, adhered to minimum 3/4 –inch-thick, code-complying three-coat exterior cement plaster and lath mortar bed.
Opening Flashing	Minimum 0.030-inch-thick aluminum flashing installed at all openings to completely cover the opening header, jambs and sill

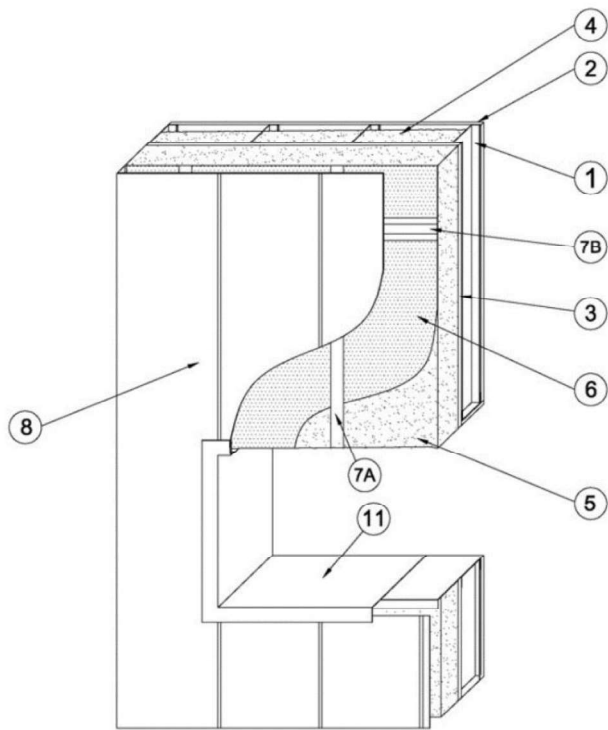
For **SI**: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pcf = 16.01 kg/m³.

¹Insulation must comply with the applicable requirements of 2021, 2018, 2015 or 2012 IBC Section 720.2 (2009 IBC Section 719.2).

²Coating must be applied in accordance with the coating manufacturer's published installation instructions.

³Framing for Exterior wall coverings 7, 8, and 9 consists of minimum 22 gage steel C-channel with 1 3/8-inch legs (54 mm) installed around the perimeter of any window opening or door opening through the exterior sheathing to the steel studs. 4-inch deep (101 mm), 20-gage steel Z-girts with 2-inch legs (51 mm) secured through exterior sheathing to studs at 24 inches (610 mm) on-center. Hat Channels [1-inch deep (25.4 mm), 3 7/8-inch tall (99 mm)] 22-gage steel hat channels fastened at 24 inches (610 mm) on-center to the Z-girts. Z-girts may be installed horizontally or vertically. The cladding edges interlock together such that all edges and fasteners are concealed after installation. The maximum air space between the exterior face of the spray-applied foam plastic insulation and the back of the exterior wall covering cladding panels described in 7, 8 and 9 must not exceed 2 1/2 inches (64 mm).

⁴Evaluation is limited to the NFPA 285 test data for the assembly described. Evaluation for compliance of the spray foam insulation with other applicable requirements of AC377 and the IBC and IRC are outside the scope of the report.



- 1. Steel Studs — See Table 3, Base Wall System 3 (See Alternate Base Wall in Table 3).
Systems
- 2. Interior Gypsum Board — See Table 3.
- 3. Exterior Gypsum Sheathing — See Table 3.
- 4. Cavity Insulation — See Table 3
- 5. Exterior Insulation — See Table 3.
- 6. Exterior Insulation Intumescent Coating — See Table 3, Items 2 and 3.
- 7. Mounting System — See Table 3.
- 7A. Z-Girts and Window Channel — See Table 3, Footnote 3.
- 7B. Hat Channels — See Table 3, Footnote 3.
- 8. Exterior Cladding — See Table 3 Claddings 7, 8 or 9.(Other Claddings in Table 3 are not shown)
- 10. Floorline Firestopping — See Table 3.
- 11. Window Flashing — See Table 3, Footnote 3.

FIGURE 1—TABLE 3 (COMPONENTS)*

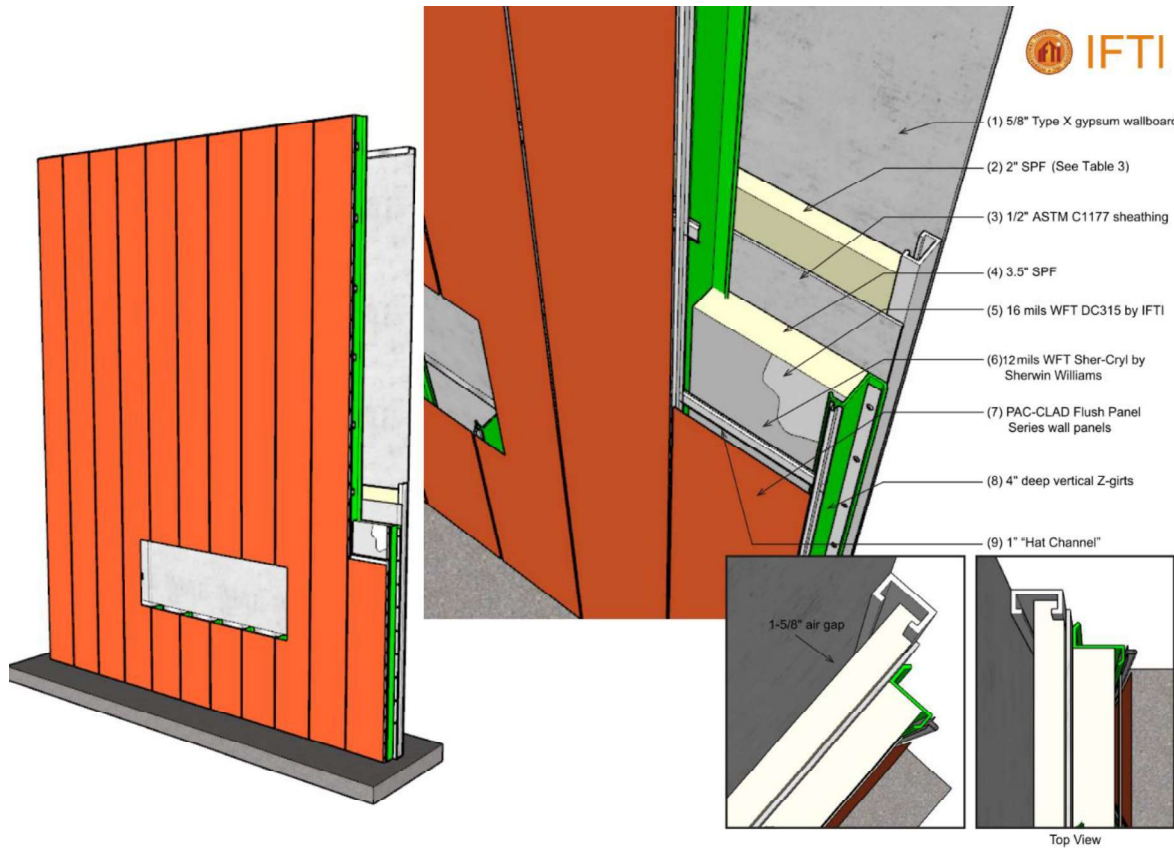


FIGURE 2—TABLE 3 (WALL DETAILS)*

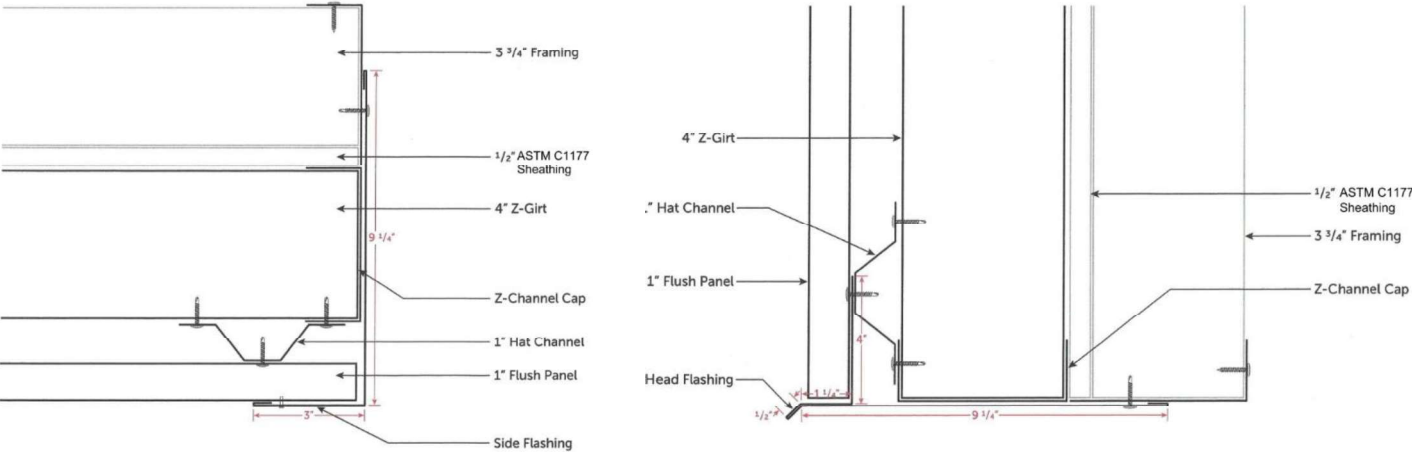
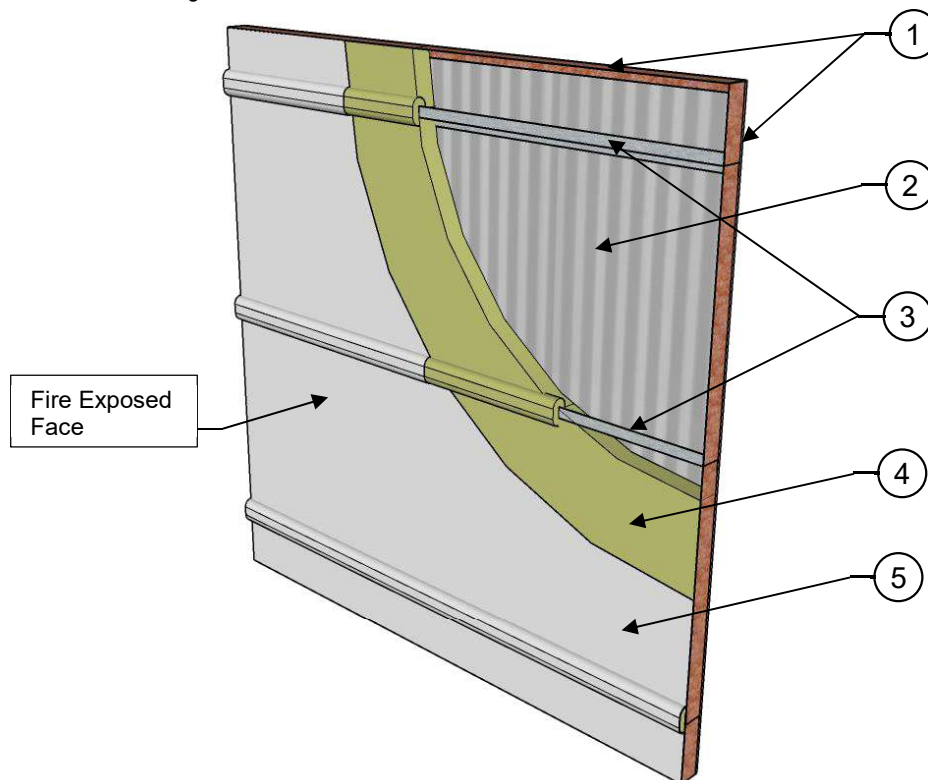


FIGURE 3—TABLE 3 (OPENING DETAILS)*

*In the event of conflict between the written descriptions in Table 3 and the Figure, the written description applies.

Assembly No.:	Assembly No. 1 (Asymmetrical)
Applicant:	INTERNATIONAL FIREPROOF TECHNOLOGY INC.
Product:	DC315 INTUMESCENT COATING
Code Section:	2021, 2018, 2015, 2012 and 2009 IBC Section 705.7
Assembly Rating:	1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are not limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8. 1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8 and correction is made to the area of protected openings in accordance with 2021, 2018, 2015, 2012 and 2009 IBC Section 705.7 using $F_{EO} = 0.034$. (Note: See Conditions of Use – Sections 5.5 and 5.6)
Load:	Non-loadbearing

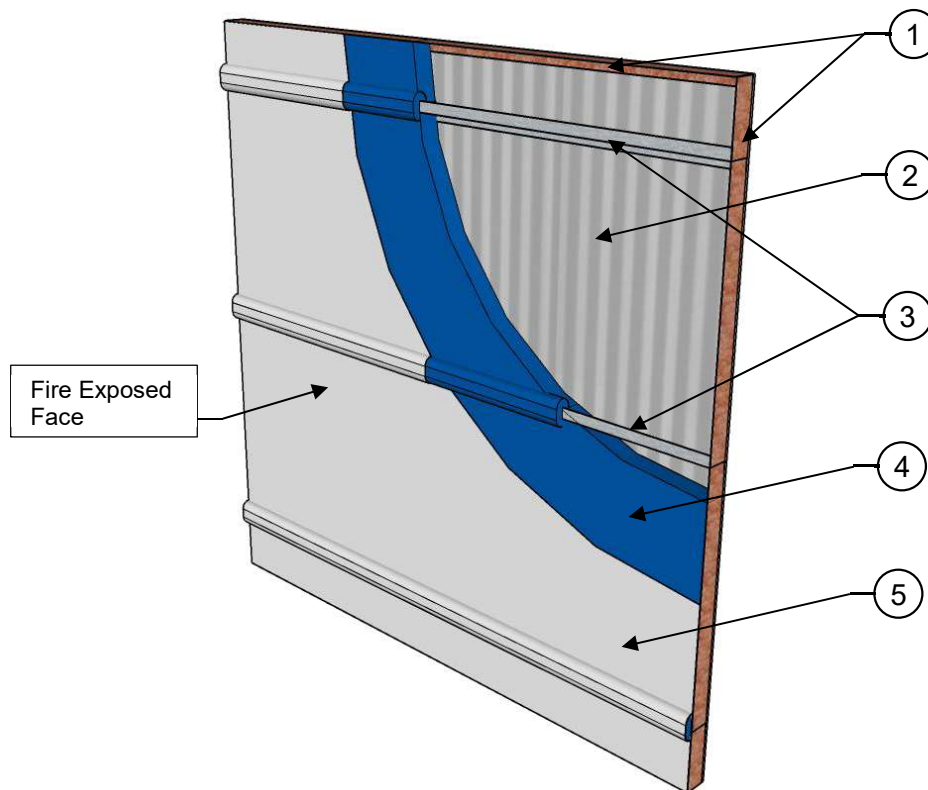


COMPONENTS OF CONSTRUCTION:

- Perimeter Framing Members** – Minimum 16-gauge thick steel members with minimum 4-inch by 2-inch (101.6 mm by 50.8 mm) legs are used as perimeter framing for the wall assembly. The perimeter framing members are oriented to allow for wall sheathing attachment and secured to each other using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each corner.
- Wall Sheathing (Unexposed Face)** – Minimum 26-gauge thick and 36-inch (914.4 mm) wide commercial grade steel R-panels with 1 1/4-inch (31.8 mm) deep ribs must be installed vertically with panel seams overlapping in accordance with the manufacturer's published installation instructions. Panels must be secured to each other along the vertical overlapping seam using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center vertically. Panels are secured to the perimeter framing members using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center around the perimeter of the wall assembly. Panels must be secured to the intermediate support framing using 1 1/2-inch (38.1 mm) long No. 12-14 external hex washer head self-drilling screws spaced at a maximum of 12-inches (304.8 mm) on center horizontally along each intermediate support framing member.
- Intermediate Support Framing** – Intermediate wall framing members consist of minimum 16-gauge thick, 4-inch (101.6 mm) deep Z- or C-girts with 2-inch (50.8 mm) legs installed horizontally and spaced at a maximum of 48-inches (1219.2 mm) on center. The intermediate support framing members are secured to the perimeter framing members using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each end.
- Insulation** – GENYK Boreal Nature Elite (Closed-Cell) spray-applied polyurethane foam (SPF) insulation, with a reported density of 2.0 lbs./ft³ (32.04 kg/m³), must be applied at a nominal thickness of 4-inches (101.6 mm) between the intermediate support framing members, applied directly to the fire exposed face of the wall sheathing. SPF insulation must also be applied to the intermediate support framing members at a nominal thickness of 1 1/2-inch (38.1 mm) matching the contour of the Z- or C-girts. Application must be in accordance with the manufacturer's published instructions.
- Intumescent Coating (Exposed Face)** – International Fireproof Technology Inc. DC315 intumescent coating must be applied over the exposed surface of the spray foam insulation at a minimum 24 mils (0.61 mm) dry film thickness (DFT) on the fire exposed face of the wall assembly. Application must be in accordance with the manufacturer's published instructions.

FIGURE 4—NON-LOADBEARING WALL ASSEMBLY #1 CONSTRUCTION DETAILS

Assembly No.:	Assembly No. 2 (Asymmetrical)
Applicant:	INTERNATIONAL FIREPROOF TECHNOLOGY INC.
Product:	DC315 INTUMESCENT COATING
Code Section:	2021, 2018, 2015, 2012 and 2009 IBC Section 705.7
Assembly Rating:	1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are not limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8. 1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8 and correction is made to the area of protected openings in accordance with 2021, 2018, 2015, 2012 and 2009 IBC Section 705.7 using $F_{EO} = 0.016$, (Note: See Conditions of Use – Sections 5.5 and 5.6)
Load:	Non-loadbearing

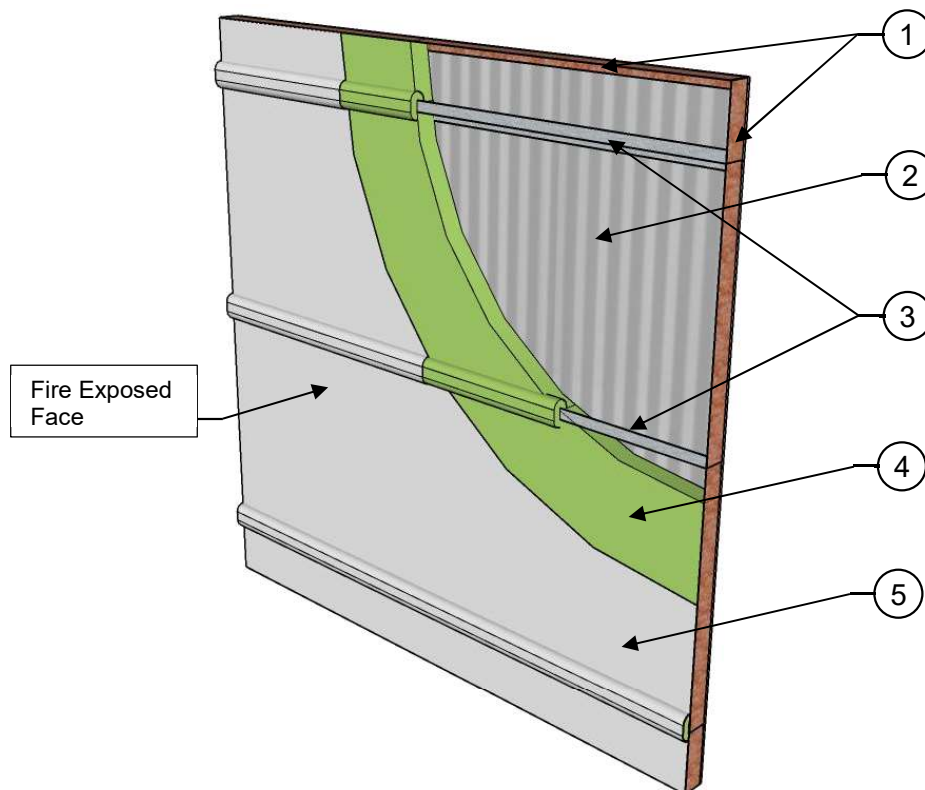


COMPONENTS OF CONSTRUCTION:

- Perimeter Framing Members** – Minimum 16-gauge thick steel members with minimum 4-inch by 2-inch (101.6 mm by 50.8 mm) legs are used as perimeter framing for the wall assembly. The perimeter framing members are oriented to allow for wall sheathing attachment and secured to each other using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each corner.
- Wall Sheathing (Unexposed Face)** – Minimum 26-gauge thick and 36-inch (914.4 mm) wide commercial grade steel R-panels with 1 1/4-inch (31.8 mm) deep ribs must be installed vertically with panel seams overlapping in accordance with the manufacturer's published installation instructions. Panels must be secured to each other along the vertical overlapping seam using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center vertically. Panels are secured to the perimeter framing members using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center around the perimeter of the wall assembly. Panels must be secured to the intermediate support framing using 1 1/2-inch (38.1 mm) long No. 12-14 external hex washer head self-drilling screws spaced at a maximum of 12-inches (304.8 mm) on center horizontally along each intermediate support framing member.
- Intermediate Support Framing** – Intermediate wall framing members consist of minimum 16-gauge thick, 4-inch (101.6 mm) deep Z- or C-girts with 2-inch (50.8 mm) legs installed horizontally and spaced at a maximum of 48-inches (1219.2 mm) on center. The intermediate support framing members are secured to the perimeter framing members using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each end.
- Insulation** – Carlisle SealTite™ PRO HFO (Closed-Cell) spray-applied polyurethane foam (SPF) insulation, with a reported density of 2.07 lbs./ft³ (33.16 kg/m³), must be applied at a nominal thickness of 4-inches (101.6 mm) between the intermediate support framing members, applied directly to the fire exposed face of the wall sheathing. SPF insulation must also be applied to the intermediate support framing members at a nominal thickness of 1 1/2-inch (38.1 mm) matching the contour of the Z- or C-girts. Application must be in accordance with the manufacturer's published instructions.
- Intumescent Coating (Exposed Face)** – International Fireproof Technology Inc. DC315 intumescent coating must be applied over the exposed surface of the spray foam insulation at a minimum 27 mils (0.69 mm) dry film thickness (DFT) on the fire exposed face of the wall assembly. Application must be in accordance with the manufacturer's published instructions.

FIGURE 5— NON-LOADBEARING WALL ASSEMBLY #2 CONSTRUCTION DETAILS

Assembly No.:	Assembly No. 3 (Asymmetrical)
Applicant:	INTERNATIONAL FIREPROOF TECHNOLOGY INC.
Product:	DC315 INTUMESCENT COATING
Code Section:	2021, 2018, 2015, 2012 and 2009 IBC Section 705.7
Assembly Rating:	1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are not limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8. 1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8 and correction is made to the area of protected openings in accordance with 2021, 2018, 2015, 2012 and 2009 IBC Section 705.7 using $F_{EO} = 0.018$, (Note: See Conditions of Use – Sections 5.5 and 5.6)
Load:	Non-loadbearing

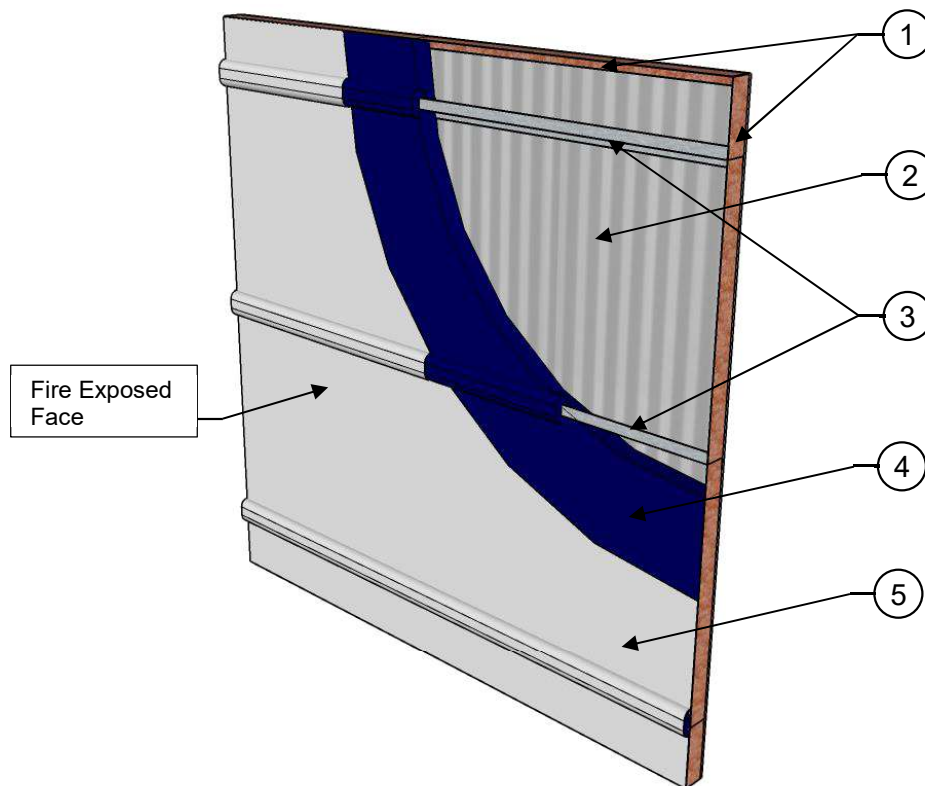


COMPONENTS OF CONSTRUCTION:

- Perimeter Framing Members** – Minimum 16-gauge thick steel members with minimum 4-inch by 2-inch (101.6 mm by 50.8 mm) legs are used as perimeter framing for the wall assembly. The perimeter framing members are oriented to allow for wall sheathing attachment and secured to each other using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each corner.
- Wall Sheathing (Unexposed Face)** – Minimum 26-gauge thick and 36-inch (914.4 mm) wide commercial grade steel R-panels with 1 1/4-inch (31.8 mm) deep ribs must be installed vertically with panel seams overlapping in accordance with the manufacturer's published installation instructions. Panels must be secured to each other along the vertical overlapping seam using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center vertically. Panels are secured to the perimeter framing members using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center around the perimeter of the wall assembly. Panels must be secured to the intermediate support framing using 1 1/2-inch (38.1 mm) long No. 12-14 external hex washer head self-drilling screws spaced at a maximum of 12-inches (304.8 mm) on center horizontally along each intermediate support framing member.
- Intermediate Support Framing** – Intermediate wall framing members consist of minimum 16-gauge thick, 4-inch (101.6 mm) deep Z- or C-girts with 2-inch (50.8 mm) legs installed horizontally and spaced at a maximum of 48-inches (1219.2 mm) on center. The intermediate support framing members are secured to the perimeter framing members using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each end.
- Insulation** – Carlisle SealTite™ One (Closed-Cell) spray-applied polyurethane foam (SPF) insulation, with a reported density of 2.30 lbs./ft³ (36.84 kg/m³), must be applied at a nominal thickness of 4-inches (101.6 mm) between the intermediate support framing members, applied directly to the fire exposed face of the wall sheathing. SPF insulation must also be applied to the intermediate support framing members at a nominal thickness of 1 1/2-inch (38.1 mm) matching the contour of the Z- or C-girts. Application must be in accordance with the manufacturer's published instructions.
- Intumescent Coating (Exposed Face)** – International Fireproof Technology Inc. DC315 intumescent coating must be applied over the exposed surface of the spray foam insulation at a minimum 24 mils (0.61 mm) dry film thickness (DFT) on the fire exposed face of the wall assembly. Application must be in accordance with the manufacturer's published instructions.

FIGURE 6— NON-LOADBEARING WALL ASSEMBLY #3 CONSTRUCTION DETAILS

Assembly No.:	Assembly No. 4 (Asymmetrical)
Applicant:	INTERNATIONAL FIREPROOF TECHNOLOGY INC.
Product:	DC315 INTUMESCENT COATING
Code Section:	2021, 2018, 2015, 2012 and 2009 IBC Section 705.7
Assembly Rating:	1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are not limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8. 1-Hour from the Fire Exposed Face (Asymmetrical Wall Assembly) where protected openings are limited by 2021, 2018, 2015, 2012 and 2009 IBC Section 705.8 and correction is made to the area of protected openings in accordance with 2021, 2018, 2015, 2012 and 2009 IBC Section 705.7 using $F_{EO} = 0.01$, (Note: See Conditions of Use – Sections 5.5 and 5.6)
Load:	Non-loadbearing



COMPONENTS OF CONSTRUCTION:

- Perimeter Framing Members** – Minimum 16-gauge thick steel members with minimum 4-inch by 2-inch (101.6 mm by 50.8 mm) legs are used as perimeter framing for the wall assembly. The perimeter framing members are oriented to allow for wall sheathing attachment and secured to each other using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each corner.
- Wall Sheathing (Unexposed Face)** – Minimum 26-gauge thick and 36-inch (914.4 mm) wide commercial grade steel R-panels with 1 1/4-inch (31.8 mm) deep ribs must be installed vertically with panel seams overlapping in accordance with the manufacturer's published installation instructions. Panels must be secured to each other along the vertical overlapping seam using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center vertically. Panels are secured to the perimeter framing members using 1-inch (25.4 mm) long No. 12 external hex washer head self-drilling screws spaced at a maximum of 16-inches (406.4 mm) on center around the perimeter of the wall assembly. Panels must be secured to the intermediate support framing using 1 1/2-inch (38.1 mm) long No. 12-14 external hex washer head self-drilling screws spaced at a maximum of 12-inches (304.8 mm) on center horizontally along each intermediate support framing member.
- Intermediate Support Framing** – Intermediate wall framing members consist of minimum 16-gauge thick, 4-inch (101.6 mm) deep Z- or C-girts with 2-inch (50.8 mm) legs installed horizontally and spaced at a maximum of 48-inches (1219.2 mm) on center. The intermediate support framing members are secured to the perimeter framing members using minimum two 1/2-inch (12.7 mm) long No. 8 pan head self-drilling screws at each end.
- Insulation** – Elastochem Insulthane® Extreme Winter (Closed-Cell) spray-applied polyurethane foam (SPF) insulation, with a reported density of 2.18 lbs./ft³ (34.92 kg/m³), must be applied at a nominal thickness of 4-inches (101.6 mm) between the intermediate support framing members, applied directly to the fire exposed face of the wall sheathing. SPF insulation must also be applied to the intermediate support framing members at a nominal thickness of 1 1/2-inch (38.1 mm) matching the contour of the Z- or C-girts. Application must be in accordance with the manufacturer's published instructions.
- Intumescent Coating (Exposed Face)** – International Fireproof Technology Inc. DC315 intumescent coating must be applied over the exposed surface of the spray foam insulation at a minimum 24 mils (0.61 mm) dry film thickness (DFT) on the fire exposed face of the wall assembly. Application must be in accordance with the manufacturer's published instructions.

FIGURE 7— NON-LOADBEARING WALL ASSEMBLY #4 CONSTRUCTION DETAILS

International Fireproof Technology, Inc.
17528 Von Karman Ave. Irvine, CA 92614
Office: 949-975-8588



IFTI SPEC NOTE: This master specification is written to include SPEC NOTES noted as “IFTI Spec Note” in order to assist designers in their decision-making process. SPEC NOTES precede the text to which they apply. This section should serve as a guideline only and should be edited by a knowledgeable person to meet the requirements of each specific project.

Text indicated in bold and by square brackets is optional. Make appropriate decisions and delete the optional text as well as the brackets in the final copy of the specification. Delete or hide the SPEC NOTES in the final version of the document.

This specification section is written to follow the recommendations of the Construction Specifications Institute/Construction Specifications Canada (CSI/CSC) such as MasterFormat™, SectionFormat™, and PageFormat™. It is also written with metric and imperial units of measurement.

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PART 1 - GENERAL

IFTI Spec Note: Use the following information as additional wording to Section 07 21 19. Use relevant paragraphs as necessary

1.1 SUMMARY

- A. Surface preparation and application of fire-protective intumescent thermal barrier coating to spray-applied polyurethane foams.

1.2 INFORMATIONAL SUBMITTALS

IFTI Spec Note: Always verify applicability and validity of test reports. Do not specify out-of-date reports.

- A. Evaluation reports: Submit Evaluation reports in accordance with **[ICC-ESR 3702] [IAPMO ER 499] [UL R-40016]** showing compliance with applicable building codes.
 - 1. Submit Evaluation report from accredited independent evaluation agency, indicating compliance of intumescent thermal barrier with specifications for specified performance characteristics and physical properties.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. **[Thermal Barrier Installer: company specializing in intumescent thermal barrier installations with 3 years documented experience and approved by manufacturer.]**

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Thermal Barriers:
 - 1. Deliver materials to the project in manufacturer's unopened packages, fully identified as to trade name, type and other identifying data. Handle and store in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Thermal Barrier Coating Manufacturer:
 - 1. International Fireproof Technology Inc; 6208, 17528 Von Karman Ave, Irvine, CA 92614, United States Tel: (949) 975-8588 Web: www.painttoprotect.com; as listed in this Specification.
- B. Substitution Limitations: **[No further substitutions are acceptable.] [Conforming to requirements of Section 01 25 00 - Substitution Procedures]**

2.2 INTUMESCENT THERMAL BARRIER COATING SYSTEM

A. Regulatory Requirements:

1. Products shall meet requirements of municipal, state, or federal authorities having jurisdiction.
2. Fire protective coating systems shall comply with the following requirements:
 - a. Provide rated systems complying with the following requirements based on tests performed by a qualified testing agency acceptable to authorities having jurisdiction:
 - b. All systems and products shall bear the classification rating and listing of a qualified testing agency based on designations listed by one of the following:

Retain only subparagraph(s) below that reference the directories of testing agency or agencies approved by authorities having jurisdiction.

1. ASTM E84 FSR 0 SDC 10
2. ASTM E119
3. ISO 9705
4. ASTM E2768
5. NFPA 286
6. NFPA 285
7. IAPMO ER499
8. ESR-3702
9. UL R40016

B. Design and Performance Requirements

1. Material Compatibility:
 - a. Provide materials for use within each coating system that are compatible with one another and substrates indicated.
 - b. Apply all products according to spreading rates recommended in writing by intumescent thermal barrier coating manufacturer.
 - c. Comply with requirements for fire-protective coating classification and surface-burning characteristics indicated.
2. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.

C. Bonding Primer (where required): Interior unconditioned spaces subject to freeze thaw cycling, temperature and humidity variations or as required per tested and listed system. Waterborne, acrylic emulsion, adhesion-promoting bonding primer recommended in writing by manufacturer, if required, compatible with substrate and other materials indicated.

1. Application thickness (DFT):
 - a. Prime Coat: 2 – 5 mils dft.
2. Acceptable product:
 - a. Sherwin Williams DTM Bonding Primer
 - b. Sherwin Williams Extreme Bond Primer
 - c. PPG Gripper Universal Primer
 - d. Zinsser Bondz Primer
 - e. General Coatings Mfg. Corp. Ultra Bond 16

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- f. Approved equivalent recommended in writing by intumescent thermal barrier manufacturer.

D. Fire-protective Intumescent Thermal Barrier Coating:

- 1. Protective coating with following characteristics, specifically formulated for application over polyurethane foam plastics and compatible with insulation:
 - a. Finish: Flat
 - b. Color: [Ice Grey] [White] [Dark Grey] [Charcoal Black]
 - c. VOC Content: 19 g/L less water as per EPA 24
 - d. Shore D Hardness (before topcoat and finish coat are applied): 40.
 - e. Solids by Volume: 67%
 - f. Specific Gravity: 1.30 +/- 0.05 g/cc
 - g. Drying Time @ 25 deg C (77 deg F) and 50% R.H:
 - 1. To touch: 1-2 hours
 - 2. To recoat (if required): 2-4 hours
 - h. Flashpoint: None
 - i. Reducing or Cleaning: Water
- 2. Application Thickness: Refer to ICC-ESR 3702 for application rates required for the specific brand and type of spray foam being used and the desired rating. Application thickness shall not exceed 24 mils WFT in one coat. IF the application requires a thickness great than 24 mils then users shall apply in two coats with a minimum of 4 hrs dry time in between.
- 3. Acceptable Product: "DC315" by International Fireproof Technology Inc.

E. Decorative Topcoat (where desired)

- 1. Interior conditioned spaces: Water based latex-based paint recommended in writing by manufacturer compatible with substrate and other materials indicated.
 - a. Application thickness (DFT):
 - 1. First Coat: 1.8 – 2.4 mils dft
 - 2. Second Coat: 1.8 – 2.4 mils dft.
 - b. Acceptable product:
 - 1. Dulux Ultra flat, eggshell, pearl, and semi-gloss
 - 2. Dulux Spraymaster Waterbased Dryfall
 - 3. Sherwin Williams ProMar 200 0 VOC Flat, EgShel, Semi-Gloss
 - 4. Sherwin Williams Pro Industrial Dryfall
 - 5. Approved equivalent recommended in writing by intumescent thermal barrier manufacturer.

F. Protective Topcoat: (where required)*

- 1. Interior unconditioned spaces subject to humidity, condensation or at risk of direct contact with moisture: exterior/interior, VOC compliant, protective topcoat.
 - a. Application thickness (DFT):
 - 1. First Coat: 2 – 4 mils dft.
 - 2. Second Coat: 2— 4 mils dft.

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- b. Acceptable Product:
 - 1. PPG PittTech Plus, Single Component, Enamel
 - 2. PPG Aquapon WB, Tow Component, Water-Borne Epoxy
 - 3. Sherwin Williams Pro Industrial Acrylic
 - 4. Sherwin Williams Sher-Cryl HPA
 - 5. Sherwin Williams SteelMaster 9500
 - 6. Approved equivalent recommended in writing by intumescent thermal barrier manufacturer.*
- 2. Unconditioned spaces subject to constant high humidity, condensation or at risk of direct contact with moisture: industrial, exterior/interior, VOC compliant, protective topcoat.
 - a. Application thickness (DFT):
 - 1. First Coat: 2 – 4 mils dft.
 - 2. Second Coat: 2— 4 mils dft.
 - b. Acceptable Product:
 - 1. PPG Aquapon WB, Tow Component, Water-Borne Epoxy
 - 2. Sherwin Williams Pro Industrial Waterbased Acrolon 100
 - 3. Sherwin Williams Pro Industrial Waterbased Catalyzed Epoxy
 - 4. Approved equivalent recommended in writing by intumescent thermal barrier manufacturer.*
- 3. Exterior Continuous Insulation systems as a component of exterior wall systems as shown in UL File FWFO.EWS0054 when installed behind approved claddings.
 - a. Application thickness (DFT):
 - 1. First Coat: 2 – 4 mils dft.
 - 2. Second Coat: 2— 4 mils dft.
 - b. Acceptable Product:
 - 1. Sherwin Williams Sher-Cryl HPA

*Topcoats have been investigated as to not reduce the fire resistance rating of the specific intumescent coating listed. Authorities Having Jurisdiction, Architects, Engineers or Specifiers should be consulted as to the particular requirements covering the installation and use of any coatings listed.

G. Accessories

- 1. Provide accessories to comply with manufacturer's recommendations and to meet fire resistance design and code requirements. Such accessories include, but are not limited to, any required or optional items such as bonding agents, mechanical attachments; and application aids.

PART 3 - EXECUTION

3.1 INSTALLATION OF THERMAL BARRIER COATINGS

- A. Comply with manufacturer's written instructions applicable to substrates and coating systems indicated. Refer to test report for applicable brand and type of sprayed polyurethane foam to verify compatibility, and if a primer is required. Provide compatible primer approved by intumescent thermal barrier manufacturer to required surfaces where required by applicable test reports.
- B. Do not paint unless substrates are acceptable and/or until all environmental conditions (heating, ventilation, lighting and completion of other subtrade work) are acceptable for applications of products.
- C. Prime or “fog” glossy foam surfaces prior to applying intumescent thermal barriers.
- D. Apply intumescent thermal barrier coatings according to manufacturer's written instructions and to comply with requirements for fire-protective coating classification and applicable test reports for spray urethane foam insulation.
- E. Upon completion of installation, clean excess material, overspray, and debris. Remove and clear such materials from Project site.
- F. Ensure patching of, and repair to, intumescent thermal barriers due to damage by other trades, is performed under this section, and paid for by trade responsible for damage.
- G. Ensure patching is performed by an applicator with expertise in the installation of intumescent thermal barrier coatings.
- H. Continuously monitor WFT by performing checks to ensure correct thicknesses are applied.
- I. When applying as a component of an exterior wall system do not paint unless substrates are acceptable and/or until all environmental conditions are acceptable for applications of products. Thermal barrier must be protected from weather until the protective topcoats is applied.
- J. Do not apply topcoats on surfaces that are not sufficiently dry. Unless manufacturer’s directions state otherwise, each coat shall be sufficiently dry and hard before a following coat is applied.

3.2 IDENTIFICATION

- A. Upon completion, provide job site label or similar method of identifying product used. Affix job site label in a prominent location, clearly indicating applicator’s name, contact information, company information, products used, and measured thickness.

END OF SECTION

DISCLAIMER: To the best of our knowledge, all technical data contained herein is true and accurate as of the date of issuance and subject to change without prior notice. User must contact IFTI to verify correctness before specifying or ordering. We guarantee our products to conform to the quality control standards established by IFTI. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of the product. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY IFTI™ EXPRESSED OR IMPLIED; STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.



Certificate of Compliance

This certificate is issued for the following:

DC315

Prepared for:

International Carbide Technology Co Ltd
No 1-17 Tao-Chan 12 Ling, Kern-Ko Village
Lu-Chu Hsiang, Taoyuan 338
Taiwan

FM Approvals Class: 4975

Approval Identification: PR450764 Approval Granted: 3/12/19

To verify the availability of the Approved product, please refer to www.approvalguide.com

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

A handwritten signature in dark blue ink, reading 'Phillip J. Smith'.

Phillip J. Smith
VP - Manager of Materials
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062



Member of the FM Global Group

BUILDING PRODUCTS LISTING PROGRAM

Customer: **International Fireproof Technology Inc (IFTI)**

Class: Applied Fireproofing
Location: Irvine, CA
Website: www.painttoprotect.com

Listing No. B1117-2
Project No. B1117-2, Edition 2
Effective Date: Aug 23, 2018
Last Revised Date: May 8, 2019
Expires: <N/A>

Standards: ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials".

ASTM E84 "Standard Test Method for Surface Burning Characteristics of Building Materials", Extended 20 minutes.

ASTM E2768 "Extended Duration Surface Burning Characteristics of Building Materials (30 Min Tunnel Test) ".

ASTM E119 "Standard Test Method for Fire Tests of Building Construction and Materials".

CAN/ULC S101 "Standard Methods of Fire Endurance Tests of Building Construction and Materials."

NFPA 286 "Standard Methods of Fire Tests Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth".

CAN/ULC-S145 "Standard Method of Test for the Evaluation of Protective Coverings for Foamed Plastic Insulation - Full-Scale Room Test."

Product: DC315 Intumescent Coating.

Description: DC315 is an intumescent coating used as an interior ignition or thermal barrier coating (Per IBC) for application over spray polyurethane foam (SPF) Insulation. DC315 may be produced in the following colors: White, Ice Gray, Dark Gray and Charcoal Black.

Uses: DC315 is an ignition and thermal barrier coating (Per IBC) for application to spray polyurethane foam (SPF) insulation. DC315 is a water based latex product. DC315 is typically applied with a paint sprayer, brush or roller.

See manufacturers published installation instructions for application details.

Markings: Product is marked with labels or stamp supplied by IFTI to each container. The markings include:

- Manufacturer's name, trademark, or other recognized symbol of identification,
- Product name,
- QAI File Number: B1117,
- Date of manufacture or date code on the label or stamp,
- ASTM E84 (ASTM E2768) Flame Spread Index / Smoke Developed Index
- QAI logo shown here:



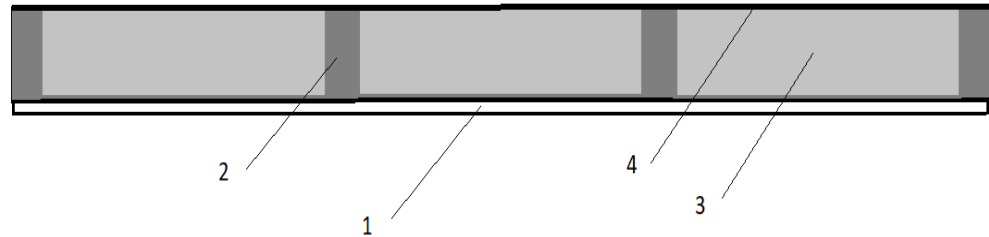
Models / Ratings: The following outlines DC315 intumescent coating ratings.

Standard	Ratings	Limitations
ASTM E84	FSI \leq 25 SDI \leq 450	DC315 applied at (min. 20 wmils)
ASTM E84 Extended 20 minutes (ASTM E2768)	FSI \leq 25 SDI \leq 450	DC315 applied at (min. 20 wmils)
ASTM E119 / CAN/ULC S101	DC315 achieved a 25 min rating for asymmetrical design as with DC315 exposed to the Fire side.	DC315 applied at (min. 18 wmils) see Figure 1
NFPA 286	Complies with section 2603.9 Special approval of IBC 2015 for installation without code prescribed thermal barrier.	See current IFTI Code Evaluation report for required installation details and approved foam plastic types.
CAN/ULC S145	20 Minute Classification.	DC315 when applied with a 3 wmil primer and a 25 wmils thickness - 20 minute classifications of ULC S145 when applied over 3 1/2 in thick SPF meeting CAN/ULC S705.1

Figure 1: B1117-2-1 Asymmetric fire assembly design, non-load bearing wall assembly – 25 minutes



Side exposed to Fire



- 1) ½ in. thick approved Type C gypsum wallboard fastened to one side of the framing using 1-1/4in drywall screws spaced 8 in. on center.
- 2) Nominal 2 in. by 4 in. Studs, located 16 in on center.
- 3) LaPolla Industries Foam-Lok spray foam insulation or equivalent inside the cavity to an average thickness of 3-1/2 in
- 4) DC315 intumescent paint applied to a WFT of 18 mils in total

The materials, products or systems listed herein have been qualified to bear the QAI Listing Mark under the conditions stated with each Listing. Only those products bearing the QAI Listing Mark are considered to be listed by QAI. No warrantee is expressed or implied, and no guarantee is provided that any jurisdictional authority will accept the Listing found herein. The appropriate authorities should be contacted regarding the acceptability of any given Listing. Visit the QAI Online Listing Directory located at www.qai.org for the most up to date version of this Listing and to validate that this QAI Listing is active. Questions regarding this listing may be directed to info@qai.org. Please include the listing number in the request.



Environmental Self Declaration – Volatile Organic Compounds.
Made in Accordance with **ClearChem** Standard BkA-CC-01

Self-Declared Certificate of Product Conformity VOC Emissions



Company Information

Company Name:	International Fireproof Technology Inc
Contact Information:	949-975-8588
Website:	www.painttoprotect.com

Product Information

Product Name:	DC315
Product Numbers ¹ :	DC315-IG, DC315-W, DC315-DG, DC315-BK

¹All listed product numbers are within single product line & vary solely with respect to physical attributes or parameters not associated with VOC content or emissions.

Product Line:	Intumescent Coatings
Product Category:	Paints

Exclusions

Exclusions:	None
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VOC Content

Regulatory VOC Content g/L:	18.6
Regulation:	SCAQMD Rule 1113
Category:	Architectural Coatings
VOC Content test or determination method:	U.S EPA Method 24

Exempt compounds >1% weight by mass of product:	none
Does product contain methylene chloride or perchloroethylene?:	No

VOC Emissions

Test Standard:	CDPH Standard Method V1.2
Acceptance Criteria:	CDPH Standard Method V1.2
Use scenario(s) Product type:	Wall Paint & Wall Coverings
Building Type:	Classroom+Office
Product coverage g/m ² :	876 g/m ²
TVOC concentration at 14-days:	Less or equal to 0.5 mg/m ³
Direct or extended claim:	Direct

Compliance Testing

ISO/IEC 17025 accredited third-party laboratory:	Berkeley Analytical, IAS TL-383
Test start date:	03/11/2022
Laboratory certificate number:	220330-03

Extended Claim for Co-product

Name of compliance tested product:	Not Applicable
Number:	Not Applicable
Was listed product screening-level tested for VOC emissions?:	Not Applicable
Basis for extension of claim from compliant product to co-product:	Not Applicable
Brief description of procedures used to ensure product is represented by compliance test results:	Not Applicable

Quality Control

Company maintains internal quality control program to ensure manufactured units are produced consistently and meet the requirements and acceptance criteria of listed standard(s):	Yes
Tested product sample was selected from typical production and is representative of commercial product. Where there are expected variations, sample was selected from production lot or group expected to give worst-case results:	Yes
If claim is for product other than product that was sampled and compliance tested, company maintains record of procedures used for extending claim in form of test results, calculations, formulations, or other information:	Not Applicable

Self-Declaration Signature

I affirm that I am authorized to make claims established in this declaration:	Yes
I certify that the information in this declaration is true and correct:	Yes
Date:	05/06/2022
Name of company representative:	Chris Hsu
Title:	President
Signature:	Chris Hsu

This ClearChem template is a standardized reporting form used by companies to make self-declared claims about the environmental performance of their products. Only companies that have entered into a binding Implementation Agreement with Berkeley Analytical may use this form.

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COMPLIANCE TESTED by berkeley analytical

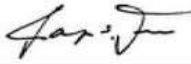
VOC Emission Test Certificate

Product Name: DC315 Intumescent Coating

Product Sample Information

Company:	International Fireproof Technology Inc
Company Website:	www.painttoprotect.com
Product Type:	Paints & Coatings
Date Produced:	3/3/2022

Certificate Information

Certificate No:	220330-03
Certified By:	 Raja S. Tannous, Laboratory Director
Date:	March 30, 2022

Reference Standard: California Department of Public Health CDPH/EHLB/Standard Method Version 1.2, 2017
(Emission testing method for CA Specification 01350)

Acceptance Criteria and Results Demonstrating Compliance of Product Sample to Referenced Standard:

Exposure Scenario ¹	Individual VOCs of Concern ²		Formaldehyde ³		TVOC ⁴
	Criterion	Compliant?	Criterion	Compliant?	Range
School Classroom	≤½ Chronic REL	YES	≤9.0 µg/m ³	YES	≤ 0.5 mg/m ³
Private Office	≤½ Chronic REL	YES	≤9.0 µg/m ³	YES	≤ 0.5 mg/m ³

Product Coverage⁵: 876 g/m² (based on 22 mil WFT and modeling for wall applications)

1. Exposure scenarios & product quantities for classroom & office are defined in Tables 4-2 – 4-5 (CDPH Std. Mtd. V1.2-2017)
2. Maximum allowable concentrations of individual target VOCs are specified in Table 4-1 (*ibid.*)
3. Maximum allowable formaldehyde concentration is ≤9 µg/m³, effective Jan 1, 2012; previous limit was ≤16.5 µg/m³ (*ibid.*)
4. Informative only; predicted TVOC Range in three categories, i.e., ≤0.5 mg/m³, >0.5 – 4.9 mg/m³, and ≥5.0 mg/m³
5. Informative and applicable only to tests of wet-applied products; grams of sample applied per square meter of substrate

Standards & Codes Recognizing CDPH Standard Method V1.2 (partial list)

- USGBC LEED Version 4/4.1, BD&C, ID&C, Residential BD&C Multifamily
- The WELL Building Standard, WELL v2, Feature X06
- ANSI/GBI 01-2019 Green Globes Assessment Protocol
- ANSI/ASHRAE/USGBC/IES Standard 189.1

Narrative: International Fireproof Technology Inc selected a sample representative of its DC315 Intumescent Coating - fire resistant coating product and submitted it on 3/7/2022 for testing. Berkeley Analytical measured and evaluated the emissions of VOCs from this sample following CDPH/EHLB/Standard Method V1.2-2017. The results of the test are presented in Berkeley Analytical report, 469-006-01A-Mar3022.

Berkeley Analytical is an independent, third-party laboratory specializing in the analysis of organic chemicals emitted by and contained in building products, finishes, furniture, and consumer products. We are an ISO/IEC 17025 accredited laboratory (IAS, [TL-383](#)); all standards used in performing this test are in Berkeley Analytical's scope of accreditation.

DISCLAIMER: THIS CERTIFICATE OF COMPLIANCE AFFIRMS THAT: 1) A SAMPLE OF THE LISTED PRODUCT WAS TESTED ACCORDING TO THE REFERENCED STANDARD; 2) THE MEASURED VOC EMISSIONS FROM THE SAMPLE WERE EVALUATED FOR THE DEFINED EXPOSURE SCENARIO(S); AND 3) THE RESULTS MEET THE ACCEPTANCE CRITERIA OF THE REFERENCED STANDARD(S). BERKELEY ANALYTICAL IS NOT RESPONSIBLE FOR ANY CLAIMS REGARDING A PRODUCT OR PRODUCTS ENTERED INTO COMMERCE THAT MAY BE BASED ON THIS TEST. BERKELEY ANALYTICAL PROVIDES THIS CERTIFICATE OF COMPLIANCE "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

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FC17B.2



Water based intumescent paint for foam plastic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 8 December 2017

Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Water based intumescent paint for foam plastic
Product code : DC315

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fireproof coating for foam plastic

1.3. Supplier

International Fireproof Technology, Inc.
17528 Von Karman Ave.
Irvine, CA 92614
T 949-975-8588
tom@painttoprotect.com (Tom Hsiang)

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral), Category 4 H302 Harmful if swallowed.
Serious eye damage/eye irritation, Category 2B H320 Causes eye irritation
Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labelling

Hazard pictograms (GHS-US) : None
Signal word (GHS-US) : None
Hazard statements (GHS-US) : The mixture does not meet the criteria for classification.

Precautionary statements (GHS-US) : P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P301+P312 - If swallowed: Call a POISON CENTER, a doctor if you feel unwell
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P330 - Rinse mouth.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards which do not result in classification

other hazards which do not result in classification : Titanium dioxide is in a form that is not available for respiration.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

The manufacturer lists no ingredients as hazardous to health according to OSHA 29 CFR 1910.1200.

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Full text of hazard classes and H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- | | |
|---------------------------------------|--|
| First-aid measures after inhalation | : Move the affected person away from the contaminated area and into the fresh air. Get medical advice/attention if you feel unwell. |
| First-aid measures after skin contact | : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Get medical advice/attention. |

4.2. Most important symptoms and effects (acute and delayed)

- | | |
|-------------------------------------|---|
| Symptoms/effects after skin contact | : May cause mild irritation in sensitive individuals. |
| Symptoms/effects after eye contact | : Causes eye irritation. |
| Symptoms/effects after ingestion | : Harmful if swallowed. |

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- | | |
|--------------------------------|---|
| Suitable extinguishing media | : Use extinguishing media appropriate for surrounding fire. |
| Unsuitable extinguishing media | : None known. |

5.2. Specific hazards arising from the chemical

- | | |
|------------------|--|
| Fire hazard | : Not classified as flammable but will burn. On combustion forms: Carbon oxides (CO, CO ₂). Nitrogen oxides. Metal oxides. |
| Explosion hazard | : Heating will cause pressure rise with risk of bursting and subsequent explosion. |
| Reactivity | : Stable under normal conditions of use. |

5.3. Special protective equipment and precautions for fire-fighters

- | | |
|---------------------------------------|--|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent firefighting water from entering the environment. |
| Protective equipment for firefighters | : Do not enter fire area without proper protective equipment, including respiratory protection. refer to section 8. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- | | |
|------------------|---|
| General measures | : Avoid contact with eyes. Avoid breathing mist or vapor. Spilled material may present a slipping hazard. |
|------------------|---|

6.1.1. For non-emergency personnel

- | | |
|----------------------|---|
| Emergency procedures | : Evacuate unnecessary personnel. Wear personal protective equipment as required. |
|----------------------|---|

6.1.2. For emergency responders

- | | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. Wear approved self-contained breathing apparatus (set on positive pressure mode). Refer to section 8. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

- Methods for cleaning up
- : Small spills: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
 - : Large spills: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.4. Reference to other sections

Refer to sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling
- : Provide good ventilation in process area to prevent formation of vapor. Avoid contact with eyes. Avoid breathing mist or vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Hygiene measures
- : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions
- : Keep only in the original container in a cool, well ventilated place away from incompatible materials. Keep container closed when not in use.
- Incompatible materials
- : Organic solvent. Strong acids. Alkalis. Oxidizing agent.
- Storage temperature
- : $\approx 5 - 35^{\circ}\text{C}$ (Use up as soon as possible after opening the lid)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ammonium polyphosphate (68333-79-9)		
Not applicable		
Titanium dioxide (13463-67-7)		
ACGIH	Local name	Titanium dioxide
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
ACGIH	Remark (ACGIH)	LRT irr; A4
ACGIH	Regulatory reference	ACGIH 2017
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³
OSHA	Regulatory reference (US-OSHA)	OSHA

8.2. Appropriate engineering controls

- Appropriate engineering controls
- : Provide adequate ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Impervious gloves e.g. PVC, nitrile rubber, butyl rubber

Eye protection:

Chemical goggles or safety glasses

Respiratory protection:

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In case of inadequate ventilation wear respiratory protection. NIOSH/MSHA approved air purifying respirator should be used if operating conditions produce airborne concentrations that exceed exposure limits for any individual components. If conditions immediately dangerous to life or health exist, use NIOSH/MSHA self-contained breathing apparatus (SCBA).

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: White, grey
Odour	: Mild emulsion odor
Odour threshold	: No data available
pH	: 6 - 8
Melting point	: No data available
Freezing point	: No data available
Boiling point	: > 100 °C
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Not applicable
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Density	: 1.35±0.1 (Specific gravity)
Solubility	: Miscible with water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 8000 - 20000 cP
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

Volatile components %	: 30 – 45 %
-----------------------	-------------

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong acids. Organic solvents. Alkalis. Oxidizing agent.

10.6. Hazardous decomposition products

On combustion forms: Nitrogen oxides. Carbon oxides (CO, CO₂). Metal oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Acute toxicity : Oral: Harmful if swallowed.

Water based intumescent paint for foam plastic

ATE (oral)	1666 mg/kg bodyweight
------------	-----------------------

Skin corrosion/irritation : Not classified
pH: 6 - 8

Serious eye damage/irritation : Causes eye irritation.
pH: 6 - 8

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Titanium dioxide (13463-67-7)

IARC group	2B - Possibly carcinogenic to humans
------------	--------------------------------------

In OSHA Hazard Communication Carcinogen list	Yes
--	-----

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Likely routes of exposure : Ingestion. Inhalation. Skin and Eye contact.

Symptoms/effects after skin contact : May cause mild irritation in sensitive individuals.

Symptoms/effects after eye contact : Causes eye irritation.

Symptoms/effects after ingestion : Inhalation of titanium dioxide dust may cause cancer, however due to the physical form of the product, inhalation of dust is not likely. Expected to be a low ingestion hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product components are not classified as environmentally hazardous.

Ammonium polyphosphate (68333-79-9)

LC50 fish 1	> 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
-------------	--

LC50 fish 2	123 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
-------------	--

12.2. Persistence and degradability

Water based intumescent paint for foam plastic

Persistence and degradability	Not established.
-------------------------------	------------------

12.3. Bioaccumulative potential

Water based intumescent paint for foam plastic

Bioaccumulative potential	Not established.
---------------------------	------------------

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to comply with applicable local, national and international regulation, a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transportation of Dangerous Goods

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

Ammonium polyphosphate (68333-79-9)

Listed on the Canadian DSL (Domestic Substances List)

Titanium dioxide (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Ammonium polyphosphate (68333-79-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Titanium dioxide (13463-67-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Ammonium polyphosphate (68333-79-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on Turkish inventory of chemical
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Titanium dioxide (13463-67-7)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on Turkish inventory of chemical
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

Water based intumescent paint for foam plastic

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogenic or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

Date of Issue : 8 December 2017
Other information : None.

Abbreviations and acronyms:

PVC	Polyvinyl chloride
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SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product