



## VENTILATION GUIDE FOR DC315

### IT IS VERY IMPORTANT TO HAVE PROPER VENTILATION DURING APPLICATION AND CURING OF DC315

Ventilation is critical for proper application and curing of DC315 coating. Listed below are some of the best practices in the industry when applying latex coatings such as DC315. **Failure to comply with ventilation guidelines may affect the adhesion of DC315.**

**The Drying and Curing Process:** DC315 is approximately 67% solid and 33% liquid. Simply stated, for every 5 gallons of DC315 applied on a job site, almost 2 gallons of liquid will be evaporated into the airspace as the coating cures. The need to create a negative pressure in the enclosed area ensures the humid air that contains the evaporated components of both the SPF and coating are evacuated to the exterior unoccupied area and not being forced into the occupied/living area or job area. The more liquid that evaporates from the coating the more stable and cured it becomes. The drying time of DC315 when applied at 18-24 Mils WFT, is longer than simply “dry to touch” and may take **48-72** hours for initial curing. Spraying DC315 thicker than 18-24 intentionally or unintentionally, or spraying the coating over an uncured substrate, may potentially create problems in the drying, curing process which may lead to adhesion issues. DC315 has not cured until all liquids have completely evaporated. Once fully cured DC315 becomes a durable and inert fire protective finish.

**Impact of Temperature and Humidity When Applying and Curing DC315:** Proper ambient air, substrate, coating temperatures, and low humidity are necessary for the adhesion and curing of DC315. Lower temperatures or higher humidity will prevent DC315 from curing properly and may lead to blistering and delamination. Another problem associated with the slower drying is the lingering odor associated with the evaporation of the liquid components. Under normal drying conditions these odors, which are similar to any low-odor latex paint, are quickly dissipated and do not cause any lingering issues.



The use of space heaters is necessary in colder temperatures to ensure the application area is maintained within specified temperatures found on the application guide. Do not use combustion source heaters, commonly referred to as “Salamanders” as these units add a significant amount of moisture as a byproduct of the combustion process. Indirect heaters or electric element forced air are ideal for maintaining temperature and aiding in the control of excess humidity. **Temperatures must be maintained above 50°F (10°C) for the duration of the application and curing process.**

### Relative Humidity vs. Humidity

**Absolute humidity** is the water content of air. **Relative humidity**, expressed as a percent, measures the current absolute humidity relative to the maximum for that temperature. Temperature will affect the relative humidity. Warm air is less dense, and therefore the molecules are further spread apart, allowing more moisture between them. Cooler air causes the molecules to draw closer together limiting the amount of water the air can hold. The air acts like a sponge and absorbs water through the process of evaporation, which is how DC315 coatings cure.

Handheld Hygrometers like the one pictured here are ideal for monitoring Relative Humidity (RH). Ensure you monitor levels throughout the application process and adjust airflows as needed to keep the RH within specified limits. In certain cases, this may continue for several days following application. **RH must be maintained below 85% for the duration of the application and curing process.** Follow these steps below to control relative humidity throughout the application and curing process:



1. **Ventilation or air exchange is critical in unvented areas, areas with limited air movement, or if humidity is 65% or higher.** This is particularly important following the installation of SPF, due to its inherent air barrier properties. Care must be taken in unvented attics or spaces without mechanical ventilation, even if the application area is large. The larger the project, the more coating is installed and therefore more moisture is going to be added to the air.
2. **If relative humidity is above 65%, fans must be used to circulate air.** It is required to maintain at least 0.3 air changes per hour in the application area for 48-72 hours following application.
3. Installer must measure temperature and humidity for the duration of the application and initial curing. Results shall be recorded on the daily work report. Daily work reports can be downloaded at [www.painttoprotect.com](http://www.painttoprotect.com) or by calling IFTI at 949.975.8588.

#### Installation Requirements:

- Apply DC315 when temperatures are above 10°C (50°F). Ideal conditions are 16°C-32°C (62°F to 90°F) and 65% Relative Humidity. **If temperatures are below 10°C (50°F) or when humidity is above 85% or temperature is within 5°C of dew point CONTACT IFTI for detailed application instructions.**
- Do not use propane or kerosene heaters to heat a closed space.
- Inspect the foam substrate to ensure it is dry, clean, and secured to its substrate. Use a moisture meter to ensure that the foam's moisture level is below 19%. **Also ensure that the foam's surface is consistent with an "Orange Peel" texture.**
- 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. Ensure large volume air output to maintain a negative pressure in the application area compared to the surrounding area.
- Air flow must be across the area DC315 was applied and not directly on it.
- Place a filter over intake of the exhaust to avoid spreading overspray. Check air flow periodically to make sure air is still moving.
- **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.**
- **It is very important to maintain air exchange. Installer must avoid sealing up a work space at night with no active air exchange as it may dramatically affect curing and adhesion. Special attention and details should be given to areas that do not have HVAC systems or passive ventilation. Contact IFTI for application instructions in unconditioned spaces, areas of high humidity or cold storage buildings.**

