

TD.200 – Resinous Flooring Guidelines

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Resinous flooring failures can be caused due to many factors such as rising water vapor, air vapor, high dew point, contaminated surfaces, poorly prepared surfaces and alkalinity are costly and repair downtimes can be a burden to property owners. This is why it is critical to pre-determine problematic surfaces and issues ahead of time to ensure the resinous floor coating's long term, expected performance. This document will outline some of the factors to look out for and be aware of when considering the installation of a resinous flooring system.

RISING DAMP AND VAPOR TRANSMISSION

Although most concrete surfaces on grade have a vapor barrier installed, the presence of moisture in concrete can still be an issue to be reckoned with and testing prior to the application of a resinous flooring system must be performed.

The moisture in concrete surfaces may be the result of required water in the concrete mix during the pour, precipitation, human error or even through the absorption out of the air and humidity. Regardless of the cause, there are various limited amounts of moisture in concrete that resinous flooring systems can withstand. Understanding the proper testing and limits is a must for successful, long-term performing floors.

Another concern of rising damp and vapor transmission is the possible calcium/salt that can be present that can be created by ground water. This contamination can cause a weaker than required surface and/or create a delamination point whereas the resinous flooring system can delaminate from the surface.

Concrete surfaces below grade or under the water table can create resinous flooring system failures if not properly addressed as water naturally will find its own level. Although topical, penetrating vapor barriers can rectify some concrete surfaces, an inspection and testing should take place.

SUGGESTED PREPARATION AND TESTING

Understandably, various factors such as site and concrete surface conditions always play a role in the decision for surface preparation but generally speaking most concrete surfaces may require mild to aggressive mechanical abrasion. This can range from light grinding to shot blasting or even scarification depending on the preexisting condition. Rarely is any type of "wet" surface preparation such as acid etching or pressure washing ever suggested due to the amount of additional water that would be absorbed into the concrete surface.

Mechanical abrasion opens the concrete surface capillaries to assist in the evaporation of moisture but also removes possible loose or weak laitance, debris, contaminates and curing agents.

In most cases it is highly recommended that a Relative Humidity Test per ASTM F-2170 be performed. Elite Crete Systems often recommends Rapid RH by Wagner Meters due to the accuracy and speed of the finished testing results. It is recommended that three relative humidity tests be performed within the first 1,000 square feet and then an addition one test per 1,000 square feet for the remainder of the floor. In addition, some tests should be performed within 3 feet of each exterior wall. Tests should not be performed in exposed areas such as near open doors or windows as final testing results may not be accurate.

Relative Humidity (RH) maximum percentages of moisture content per the ASTM F-2170 ranges from 75 to 85% depending on the resinous flooring system and individual products used within those systems and may or may not require a bond test prior to application.

It is Elite Crete Systems stance that traditional calcium chloride testing per ASTM F-1869 may not provide accurate readings/results and can often be manipulated by humidity, temperature and many other factors. With that said, Elite Crete Systems can provide maximum pounds per 1,000 square foot per 24 hours if needed depending on the system or product being installed.

Understanding the varying tolerance levels of moisture that various systems and products can withstand are also an important factor and an Elite Crete Systems technical representative should be consulted if there are any questions about a concrete surface.

In all cases, Elite Crete Systems resinous flooring systems must be applied per the instructions of each individual product in the system. Concrete surfaces must be structurally sound, clean and with proper surface preparation methods.

Elite Crete Systems shall not be responsible or liable for adhesion failures that are the result of poor workmanship, deficient substrates, the presence of alkalinity or salts or expanding aggregates and reinforcements such as rebar, wire mesh, drains or expansion joint materials.

WARRANTY SUMMARY

For the complete warranty statement and important limitations, read the Safety Data Sheet and Warranty. Generally, Elite Crete Systems represents and warrants only that its products are of consistent quality. No other oral or written statement is authorized. Any liability is limited to refund or replacement of the defective product if found. The end user shall determine product's suitability and assume all risks and liability.