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Technical Bulletin #10

Pre-Construction & Installation Considerations

Many installation problems and finished floor complaints can be minimized, if not eliminated, by pre-construction planning and the combined efforts of the owner/architect, construction manager, and flooring contractor. The following outlines some considerations that are not always clarified in specifications and drawings. Proper job site meetings at the right time will eliminate problems and errors at the time of installation.

I. SUBSTRATE

A. Use a vapor barrier beneath slabs-on-grade

An efficient vapor barrier is needed directly under the concrete slab. Do not place compacted granular fill or sand between the slab and vapor barrier.

B. Minimum water/cement ratio

A usable water/cement ratio is 0.40 to 0.45. Water reducing agents and super plasticizers can be used to aid in the placement.

C. Light steel trowel finish

A light steel trowel is needed to provide a hard finish with minimum laitance.

D. Wet cure, if possible

Wet curing is the preferred method of curing slabs to receive resinous systems. Any other form of curing will require mechanical abrasion such as shot blasting to remove curing contaminants.

E. Proper saw cutting of slab to prevent cracking

Proper saw cutting of slabs (¼ the depth of the slab) at the right time will reduce and/or eliminate slab cracking.

II. SLAB CONDITIONS

A. Slab curing

Conventional curing of new slabs requires 30 days cure prior to the installation of resinous systems. Longer curing periods may be necessary if the moisture content is too high after 30 days.

B. Moisture testing

All slabs (new and old) should be tested for moisture transmission. Test according to ASTM-F-1869, the Calcium Chloride Test for moisture transmission. When testing for moisture transmission, results will not be accurate unless the building is environmentally controlled with the HVAC in place and running. ASTM-F-2170, the Relative Humidity Probe Test, can also be used.

C. Slab preparation and repair

Slab preparation will depend to a large degree on the slab itself, the curing procedure, and needed repairs and leveling. Vacuum shot blasting is a common method of preparation that will leave a good profile for bonding. Should there be any question on surface preparation, contact the manufacturer for recommendations.

III. SITE CONDITIONS

A. Proper lighting -- permanent

Most resinous systems (particularly decorative quartz floors) require a high level of lighting for uniform application. Permanent lighting should be installed prior to the floor installation, if possible.

B. Heating and ventilation

For proper installation, the floor and air temperature should be a minimum of 55ºF (preferably 60ºF) for three days prior to and after the installation. Proper ventilation must be provided for installation and cure.

C. Floor protection

Resinous flooring systems should be installed after all lighting and HVAC have been installed. If installed at the proper time, little protection is necessary.

When floor protection is necessary, do not use protection that will stain the floor. Do not cover the floor when the temperature and humidity are conducive to condensation.