



**LIST OF OTHER QUALITY BULLETINS AND QUALITY NOTES ON THIS SUBJECT:**

- Issue 01  
**Concrete Curing** – 06.05.2012
- Issue 12-2020  
**Existing Concrete Prep Requirements** – 11.13.2020
- Issue 29  
**FF-FL** – 02.18.2014
- Issue 49  
**Polished Concrete Lessons Learned** – 09.18.2018
- Issue 66  
**FF/Floor Finish** – 01.26.2022
- Floor Moisture Testing 01** – 06.30.2015
- Floor Prep 01** – 06.14.2016
- Floor Prep 02** – 10.24.2017
- Floor Prep 03** – 06.30.2020

According to Sherwin Williams, 80% of all floor failures are floor prep and floor topping related. Pepper has experienced the same percentage over the years. Floor prep and floor topping failures is Pepper's most frequent failure. The failure costs and timing frequently far exceed the original cost to install the floor prep and floor topping on the project. It is important to understand the preparation requirement, materials being installed, and limitations of the system. Please use this and other Quality Bulletins on this topic to better understand the risks and how to mitigate them on your project.

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**Concrete Delamination**



- ▶ Lightweight Concrete
- ▶ Black Surface = Hard Trowel Finish
- ▶ Finishing Created Delamination at the surface

**Topping Delamination**



- ▶ Surface was not properly roughened to CSP #3.

**Spray Paint From Layout Caused Delamination of the Topping**



- ▶ Surface was not properly roughened to CSP #3, which would have removed the paint from the concrete surface.

- Floor prep includes: Surface profiling/cleaning, skim coat, topping material, overlays, tile mud bed, mitigation membranes, crack suppression membranes, and similar products.
- If new concrete and we have the opportunity to review the FF numbers specified, recommend to the AOR to specify an FF of 25 maximum to get the best concrete surface profile. If too high of a number, the concrete installer will likely need to burn the floor and hard trowel the surface, which provides a poor surface to apply floor topping too and a potential for delamination of the top surface in lightweight concrete.**
- Recommend performing a general sounding of the concrete using a chain or hammer (contact the Quality Department to assist if needed) if your project has lightweight concrete. This will identify if there is any concrete delamination in the upper surface of the concrete floor early.
- Perform moisture test – Probe type – This typically takes 24-72 hours – *Perform a pre-install prior to the start of the test.*
- Perform a water drop test to verify if any contaminants or curing compounds were used. Contact the Quality Department for further discussion.
- Verify moisture readings are acceptable for both flooring and floor topping/skim coat. Floor topping/skim coat might need a moisture mitigation membrane even if the flooring does not.
- On new or existing concrete, Pepper Quality recommends shot blasting in most cases. Shot blasting provides the best Concrete Surface Profile (CSP) #3 or #4. Existing concrete will need to be further evaluated based on the existing condition of the concrete (adhesive, asbestos, chemical compatibility concerns, etc) Recommend to further discuss with your Quality Department.**
- Grinding typically has a hard time getting to the right CSP and will have a tendency to polish the surface if the pads are not changed out frequently. Pepper Quality does not recommend this type of preparation in most cases.
- Scarifying the concrete might be necessary, if so, shot blasting must be performed after to remove the damaged concrete surface left by the scarifier.
- Paint marks and line-stay must be removed prior to any floor topping/flooring installation.
- Most floor topping specifications are lacking information or direction. Contact the Quality Department for further discussion on your specific project before submitting a product to the AOR.
- A list of materials in floor toppings that Pepper Quality tries to avoid: **Calcium Sulfate (Salt), Gypsum/Plaster of Paris, Anhydrite, Calcium Sulfate Hemihydrate, and Calcium Sulfate Dehydrate.** The SDS should have this information.
- Concrete and Gypsum are not chemically compatible. The two in contact with each other will create a crystal that will cause problems for the system. The two materials must be separated with Two coats of primer (different direction installation).
- Gypsum/Plaster of Paris is a hydraulic cement ingredient, so even if the topping material indicates that it is a cementitious product, it might contain a high concentration of Gypsum/Plaster of Paris.
- The Quality Department generally does not recommend the installation of a Ready-mix type concrete if the thickness of the installation is <2" if cracking is a concern.
- Review your site conditions, including temperature and thickness of the topping material. Your installer might need to install multiple lifts and you might not be able to access the floor for up to 72 hours – always discuss at the pre-installation meeting.
- A bonding agent might be needed for your installation. Contact the Manufacturer and the Quality Department for further discussion. It is suggested to have the installer perform a bond test on the final concrete surface.
- It is recommended to get the floor topping Manufacturer on board and on site to review conditions. Ask for a letter of surface preparation and procedure of installation. This will be used as a guide, as the review is only based on a small portion of the project and conditions might vary. **Ultimately the floor preparation is dependent on the condition and the installer. The Quality Department might suggest strengthening the Manufacturer suggestions based on your project and our experience with the conditions. This will not void any warranty but will further protect Pepper, Subcontractor, and Owner.**
- Review if there is metal or plastic fiber in concrete. Depending on the project, a different preparation might be needed.
- Never use a "Sharpie" on the concrete. The ink will bleed through the topping and VCT, Rolled Material. Etc.
- EXISTING CONCRETE CONSIDERATIONS:**
- Existing adhesives should be evaluated by the floor topping manufacturer to determine if it needs to be 100% removed, scraped off with staining, or even left in place. Floor topping products will determine the extent of demo.
- There is a risk of delamination when leaving old adhesives on the concrete. It is a general recommendation to remove the existing if there is any question on the material left in place.
- When installing a new floor over an existing roof, it is recommended to perform a concrete core and chemical analysis of the concrete and shot blast or scarify and shot blast the concrete. Contact the Quality Department for further discussion.
- WOOD SUBSTRATE:**
- When installing floor prep or flooring on a wood substrate, contact the Quality Department to discuss material selection and installation requirements for your project.

