

Appearance Requirements for Colored Concrete Slabs

Problems and Practice #1

Decorative concrete contractors have experienced some difficulty in meeting owner and architect expectations for slab surface. Surface appearance expectations are not being conveyed in the specifications nor adequately discussed at a pre-bid or pre-pour meeting. Decorative concrete contractors want to meet owners and architects expectations, however, the best way for all parties to understand and agree on the appearance expectations is to construct a field mock-up and obtain approval.

A field mock-up using the same materials, placing and finishing tools and techniques, and curing products and methods is the best way to illustrate the final product. Joints should also be included in the mock-up. When possible use concrete from two truck loads to illustrate the normal batch-to-batch appearance variation that will occur. Since repair of some type is almost always expected, use repair methods on the mock-up, obtaining approval before constructing the slab.

Save the mock-up so that it can be used to compare the final appearance if there is any dispute. Owners and architects should be aware of the causes for appearance variations because they often specify items that are contrary to minimizing the color variations. These items include:

- Actual in-place color does not match the color chart or chip. Don't expect the concrete color to exactly match the color chip.
- Changes or variations in mix design will affect color; keep cementitious materials constant and from one supplier, maintain uniform water-cement ratio, don't change aggregate sources or amounts.
- A hard trowel finish is often specified but that is never uniform.

- Subgrade preparation including placing concrete on vapor retarders and dry or wet base material can affect the final color. Include subgrade preparation into field mock-up when possible.
- The amount and type of curing product and method will affect the final color. Some owners and architects like a glossy sheen while others are looking for a more durable final surface. Make sure the expectations for the curing performance and final appearance are conveyed to the contractor.
- Changes in age of placement; concrete placed at different ages will have slightly different color appearance.

Variance in color appearance for architectural slabs should be expected. A field mock-up provides the best method of converting specification language into visual acceptance criteria. Job site conditions and seasonal weather differences also affect the final look. And finally, maintenance of the slab after the contractor has completed his work must be addressed by the owner.

Decorative concrete contractors will work with owners and architects in developing specifications and constructing mock-ups to address their appearance requirements. If you have any questions, contact your ASCC/DCC concrete contractor or the ASCC Technical Hotline at (800) 331-0668.



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