

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 surfaces. 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, techniques, 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 may 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 approved mock-up so that it can be used to compare the final appearance if there is any dispute. Through education, owners and architects should be made aware of the causes of appearance variations and the mock up should set proper expectations for them. To create the best opportunity for a successful project, all parties need to understand some of the causes of color differences, from specification to placement and finishing, that may include:

- Color charts and chips are representations of the concrete color and should not be expected to fully match the in-place color.
- 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.
- The type of finish should be clearly specified. Simple tooling differences (magnesium or steel) can create noticeable color differences.
- 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. Curing methods and their affect on the finished surface must be discussed and agreed upon prior to project commencement.
- Numerous final coating options exist, such as sealer and epoxy, which will have a large influence on the final appearance. Their gloss level, suitability and durability must be addressed and shown in the approved sample.
- 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 fully understood 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 Decorative Concrete Hotline at (888) 483-5288.



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