



CONSIDERATIONS WHEN USING TYPE IL CONCRETE

This brief note is regarding Type IL concrete, the impact it can have on carpet with water-based adhesive, tile with mortar beds, polished concrete, and coatings, and the learning that is taking place as the industry transitions. Our objective is to encourage early discussions to avoid late surprises. At the bottom of this note, we have included a statement from the ASCC that we hope will be helpful.

The notes below reflect input we've received from industry experts. We expect this to evolve - ModernCrete has experienced Type IL concrete with and without issues.

- Type IL has up to 3 times more limestone than Type I/II concrete and with a fixed water/cement ratio, mix trucks may inject admixes to counter environmental conditions. Type IL challenges when environmental conditions are not ideal are thought to be caused primarily by the quantity of admixtures introduced in the mix truck.
- Hot Weather Pours - Conditions may require a superplasticizer/high-range water reducer in quantities sufficient to create a plasticized cap. The resulting low porosity may require the slab to be cut w/ a heavy grinder for proper adhesion of most types of flooring (carpet, tile, coatings). When this cap is removed, the concrete may have abnormally high porosity which may increase densification chemicals, diamond tooling, and grind time.
- Cold Weather Pours - Conditions may require accelerator admixtures. The increased limestone may remain partially dry below the surface while the accelerator hardens the surface. This can result in a more brittle surface, delamination over time, increased diamond tooling usage against the dry limestone, increased grind time, and more densification chemicals.
- Slab Porosity – Delayed setting characteristics and insufficient hard-troweling of the surface can increase slab porosity. The cap will need to be cut with a heavy grinder and because the pore structure is more open, 2-3 separate applications of densifier may be required depending upon the underlying porosity.
- Future ASCC publications will hopefully discuss correlation to slower strength gain, increased fine aggregate (sand) rollout, false setting (delamination), increased porosity.

These scenarios can require substantial change orders and may also result in aesthetic variability. The extent to which these results will be seen hasn't been predictable according to the industry experts w/ whom we've talked. A pre-slab meeting to discuss these is recommended. The polishing subcontractor is not responsible for these conditions and it is being recommended in the draft ASCC position paper that the general contractor carry a significant contingency for this.

ASCC (American Society of Concrete Contractors) Informational Links:

- <https://asconline.org/Home/News/articleType/ArticleView/articleId/325/Guidance-for-Concrete-Contractors-14-in-a-Series>
- <https://asconline.org/Home/News/articleType/ArticleView/articleId/330/Guidance-for-Concrete-Contractors-15-in-a-Series>
- https://asconline.org/Portals/ASCC/PS-7_CPC%20Polishing%20Weak%20Concrete%20Surfaces.pdf