Questions and Answers from Tech Tuesday Webinar on *Best Practices for Paving in Extreme Temperatures*

May 12, 2026

Q1 - How does hot and cold weather affect smoothness of concrete? (Agency, IA)

I'm not sure if this is meant as smoothness during construction or long-term smoothness. Assuming this is during construction smoothness shouldn't be majorly affected as long as workability of the mixture is maintained. As far as long-term smoothness hot weather can cause increased warp and curl if a proper water/cementitious ratio is not maintained or cure is not applied in a timely manner.

Q2 – Is there a concern for flash setting when using integrated Colloidal Silica and heated water? (Agency, CO)

We don't see colloidal silica admixtures used extensively in paving applications, so this is out of our wheel house. This is something that should be discussed with the product manufacturer and evaluated with a test batch before paving.

Q3 – Do you have an opinion on mixing C and F ash during colder fall and spring paving to elevate the heat of hydration for early strength? (Agency, CO)

Blending Class C and Class F Flyash can be an option. However, this depends heavily on compatibility of the sources, the replacement rates, and meeting specified durability requirements. If changing SCM contents or introducing Class C ash for colder weather a trial batch should be performed at the new proportions to verify all specified durability criteria such as ASR mitigation, shrinkage, and permeability are still met.

Q4 - Can you speak to the difference between Water reducer admixtures in slip form vs. ready mix concrete placements in low humidity placements? (Agency, CO)

There shouldn't really be a difference between water reducers used in slip form vs. ready mix. If you are trying to achieve a higher slump with ready mix then you may need to look at moving towards a Type F water reducer instead of a Type A depending on your materials and properties.

Q5 - What w/c ratio are you trying to place at with ideal conditions for the subgrade and slip form paving? Or with ready mix paving? (Agency, CO)

The recommended range for w/c ratio for slipform paving or exterior flatwork mixtures is .38-.42 this should apply to contractor batched concrete and ready-mix concrete. When we get much above that we start seeing a decline in durability, and much lower than that we can get into workability issues or the chance of not having enough water in the mix for hydration, especially in low humidity environments.

Q6 - Do you find that the increased fineness of Type IL cement causes concern for curling of the surface in low humidity environment? Especially when using ready mix paving? (Agency, CO)

> Type 1L cement should not cause an increase in curling. Increased fineness associated with some Type IL cements can contribute to increased drying rates, different hydration rates, and greater sensitivity to surface moisture loss, which may increase the potential for early-age shrinkage and curling — particularly in low humidity and high evaporation environments. Proper curing becomes especially important when using finer cements in dry environments. Contractors may also consider optimizing paste volume, aggregate gradation, and mixture proportions to reduce shrinkage. Increased curling can be mitigated with proper batching and construction practices. It shouldn't matter if it is ready mix or not if best practices are being followed.

Q7 - Can the water in finishing aids replenish this loss at the surface? (Agency, CO)

> No. Finishing aids can assist with finishing operations but once the original water in the mix has evaporated it cannot be replaced.

Q8 - Do you believe the contractor should tailor a mix design that accommodates for stiffening (or loss of slump) during hot weather? For context, we are in Texas and often paving in the summer and it is still hot at night. (Contractor, TX)

> Yes. contractors should consider seasonal mixture adjustments to account for accelerated slump loss and faster stiffening. Especially in climates where hot weather conditions exist day and night. Typically, the adjustments are admixture adjustments for maintaining workability so a completely new mix design is likely not necessary but a trial batch in the field to figure out which adjustments are needed is a good idea.