

Cool Weather Concrete is Coming



We talked about cold weather concrete challenges and solutions a couple of years ago. As we move into the fall (sorry, summer's over), we will first encounter cool weather challenges for concrete. Many of the challenges are similar to what we talked about in that article, but there is a little twist.

In the fall, we are in transition. It is cool, but it's not cold. It is the time to remind ourselves that the concrete will respond a little differently than we've been accustomed to during warmer months. Prominent among these changes is the rate at which bleed water will emerge. If you have attended our world-renowned Best Practices in Concrete Construction training course (look for it again this fall), you know that allowing excess water to escape the plastic concrete mix is an essential part of maintaining the proper water to cement ratio and achieving durable concrete.

In the summer, bleed water can begin to emerge right after you screed and float the surface. You may be able to wait just 15-20 minutes in the heat of the summer before the bleed water has evaporated or run off the surface and final finishing of the surface can begin. But when it gets cooler, as in this video on our YouTube channel, the bleed water can take much longer to reveal itself and it is important to wait for that process so you don't work excess water (beyond what is needed for full hydration of the cement) into the concrete mix.

Of course, this is complicated by shorter daylight hours and narrowing windows of acceptable ambient temperatures. As the shadows get longer in the afternoon, it can be tempting to jump the gun before the surface is ready for final finishing.

With the goal of long-lasting, high-performing concrete, practice some patience. The real solution is to ramp up our logistical planning and make sure everything is ready to begin our pour when the temperatures are right, so we have the longest window to complete the work before the nighttime temperatures start creeping back in.



The Delaware T²/LTAP Center's Municipal Engineering Circuit Rider is intended to provide technical assistance and training to local agencies and so if you have concrete quality concerns or other transportation issues, contact Matt Carter at matheu@udel.edu or (302) 831-7236.