

E5® Nano Silica Project Showcase IOWA DOT NE Mix Master I-80



IOWA DOT ACHIEVES 60% REDUCTION IN CONCRETE CRACKING AND SHRINKAGE USING E5 NANO SILICA ADMIXTURES, CUTTING CEMENTITIOUS USE AND ELIMINATING CURING COMPOUNDS.

The Iowa Department of Transportation utilized E5® Internal Cure® admixture to address shrinkage and cracking in concrete bridge construction. The admixture was introduced into the standard IDOT mix design to enhance internal curing and reduce drying stresses. Post-construction data revealed a 60% reduction in shrinkage-related cracking compared to previous projects within the state. Incorporating E5® Internal Cure® admixture enabled an 8% reduction in cementitious materials without compromising strength or durability. The project also reported the complete elimination of traditional curing compounds, simplifying finishing and curing procedures. Additionally, field teams observed lower pump pressures during placement, improving workability and reducing labor strain throughout the pour.



PROJECT HIGHLIGHTS

Iowa DOT
NE Mix Master I-80 to I-35
1,640 cubic yards
E5® Internal Cure®

Cramer & Associates
Norwalk Ready-Mix

THE MOST
EFFECTIVE
CURE
FOR CONCRETE.

E5® Nano Silica has emerged as a dynamic solution, addressing challenges of concrete across all concrete applications and all segments of the construction industry.

E5® Nano Silica is able to seamlessly adapt to the specific demands of various concrete applications, playing a pivotal role in meeting diverse industry needs, including accelerated construction schedules, concrete material consistency and workability, increased quality and durability of concrete structures, moisture control, surface abrasion resistance and floor flatness, as well as carbon reduction.



Products used on the project: E5® Internal Cure®



E5® Incorporated

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