

Cut 7 Days off Your Pour-to Floor Timeline Without Compromising Durability

A Guide on how to replace traditional labor intensive moisture mitigation tactics — and guarantee performance.



1

ENVIRONMENTAL IMPACT

Eliminating curing compounds can result in a significant reduction of 880 lbs of CO₂ for every 100,000 square feet poured. This reduction not only benefits the environment but also enhances the overall sustainability of construction practices. By adopting E5® Moisture Mitigation, engineers and contractors can contribute to lower carbon footprints while maintaining high-quality standards in their projects.

HIGH-IMPACT PROOF

In light of recent shortages in Supplementary Cementitious Materials (SCM), utilizing E5® Liquid Fly Ash can serve as an effective alternative. This not only addresses material shortages but also promotes the use of sustainable resources in concrete production. E5® Liquid Fly Ash can enhance the properties of concrete, improving durability and performance while minimizing environmental impact.

Additionally, the E5® system boasts a Relative Humidity (RH) measurement of up to 100% in accordance with ASTM F2170. This high level of moisture control is essential in various environmental conditions, ensuring that flooring remains resilient and effective. It allows for greater flexibility in project timelines and conditions.



One of the key advantages of the E5® system is its ability to eliminate the need for wet curing. This innovative approach not only simplifies the curing process but also significantly reduces permeability and shrinkage issues within the concrete. As a result, the structural integrity and longevity of the flooring systems are enhanced.

To further instill confidence, the **E5® system** comes with a comprehensive **10-year warranty**. This warranty covers moisture-related flooring failures, providing peace of mind for both engineers and clients. The assurance of quality and reliability is paramount in today's construction environment.

Professor Lu and her team have worked tirelessly to more fully understand the curing effect and related concrete properties achieved with E5® Nano Silica. This independent research and laboratory verification has helped generate work with DOTs all across the United States as well as validate the years of results seen in the field by the team at E5®.



E5® Incorporated

2 THE PROBLEM



Moisture-related flooring failures are a leading cause of warranty disputes and costly repairs, often stemming from poor moisture control during curing.

Traditional curing delays slow down schedules and drive up costs, frustrating teams and clients alike.

Unexpected change orders from failed mitigation methods cause budget overruns and damage client relationships.

Warranty gaps around moisture performance undermine trust, leading to disputes and expensive

Why Traditional Moisture Mitigation is Holding Your Projects Back

Moisture-related flooring failures are one of the top causes of warranty disputes and costly repairs. These issues often arise from inadequate moisture management during the curing process, leading to significant financial implications. A thorough understanding of these failures can help engineers develop better strategies for moisture control.

Traditional curing methods slow projects, eat budget, and still leave gaps in performance. These delays not only affect project timelines but can also compromise quality and client satisfaction. Engineers must recognize the need for more efficient moisture mitigation solutions to overcome these obstacles.

Shrinkage cracks, permeability, and pH issues risk flooring adhesion, structural durability, and client trust. These problems can jeopardize the integrity of flooring systems, leading to significant long-term consequences. Addressing these risks is essential for ensuring successful project outcomes.

3 THE E5 SYSTEM ADVANTAGE

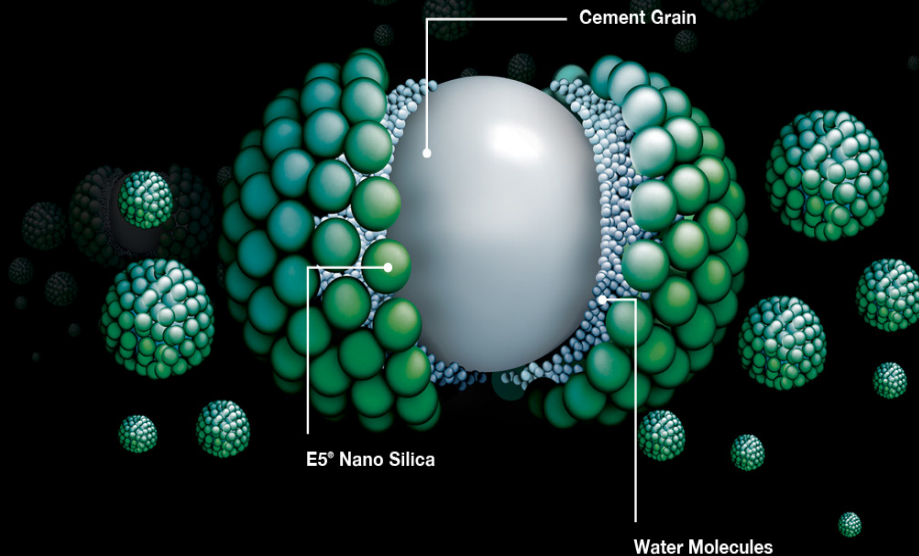
A Two-Part Solution for Total Moisture Control

E5[®] INTERNAL CURE

+ E5[®] CATALYST

E5 Internal Cure[®] is an integral admixture that allows concrete to cure internally, locking in moisture for optimal hydration and densifying the concrete matrix. This advanced technology enhances the overall performance of concrete, making it more resistant to moisture-related failures. By using E5 Internal Cure[®], engineers can ensure that their concrete remains durable and effective throughout its lifespan.

E5 Catalyst[®] is a topical application used during the finishing process that permanently seals the surface, effectively controlling pH levels and boosting abrasion resistance. This dual approach ensures comprehensive moisture control, protecting the flooring from environmental factors that could compromise its integrity. Engineers can rely on E5 Catalyst[®] to enhance the performance of their flooring systems.



Moisture Control: Meets **ASTM F1869** with $MVER \leq 25$ lbs and **ASTM F2170** with RH to 100%, protecting flooring integrity and reducing moisture-related risks.

Process Efficiency: Eliminates wet curing and topical sealers, decreasing shrinkage and permeability by up to 90%.

Schedule Advantage: Provides immediate slab access, shortening construction schedules by up to 7 days.

Reliability: Supported by a 10-year warranty against moisture-related flooring failures.

4 PROVEN SUCCESS



E5® INTERNAL CURE® REPLACED ALL TRADITIONAL CURING METHODS THROUGHOUT THE ENTIRE PROJECT. IN AREAS REQUIRING FLOOR COVERINGS, E5® CATALYST WAS USED, AS A TOPICAL TREATMENT, TO MITIGATE MOISTURE AND ENSURE ADHESIVES WOULD PERFORM OPTIMALLY.

This new hospital is a landmark development and represents a new age of health care in Northern Indiana. The hospital is a full-service, state-of-the-art facility standing seven stories tall with 165 hospital beds. The facility is the centerpiece of the Crown Point campus that includes expanded medical and educational spaces. Overall the Franciscan Health Crown Point Hospital project benefited from curing the entire concrete slab with E5® Nano Silica while eliminating costly moisture mitigation systems and change orders due to flooring adhesives.

PROJECT HIGHLIGHTS

Crown Point, IN
\$200 Million
E5® Internal Cure®
E5® Catalyst

HOK Architecture
Tonn & Blank Construction
Ben Hur Construction Co.
Eriksson Engineering
Smith Readymix

**THE MOST
EFFECTIVE
CONCRETE
CURE FOR
CONCRETE
APPLICATIONS.**

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® Catalyst



E5® Incorporated

ph: 1-888-881-1726 | www.E5NANOSILICA.com

5 How to Specify E5



To effectively incorporate E5 Internal Cure®, add it at a dosage of 4 oz per hundredweight during the batching process. This precise specification is crucial for achieving optimal performance in the concrete mix. Engineers must ensure that this admixture is properly integrated to maximize its benefits.

Apply E5 Catalyst® at a rate of up to 1000 square feet per gallon during the finishing stages. This application technique is vital for ensuring that the surface is adequately sealed and protected against moisture intrusion. Proper application not only enhances performance but also validates the effectiveness of the system.

Calculate Now

Conduct ASTM tests to validate the performance of the flooring system. These tests are essential for ensuring that the flooring meets established standards and performs as expected under various conditions. Engineers must prioritize rigorous testing to uphold quality assurance throughout the project.

Finally, register the project for the 10-year warranty coverage to provide clients with added protection against moisture-related issues. This registration process reinforces the commitment to quality and performance. It is an essential step in building long-lasting relationships with clients and ensuring their confidence in the project outcomes.

Further Assistance & Technical Questions:

Call: 888-881-1726

Visit: e5nanosilica.com

Email: sales@e5nanosilica.com



JOE SHETTERLEY, Founder/CEO,
E5 Incorporated.

Pioneer in Nano Silica Based admixtures