

BENEFITS OF IMPERMEABLE CONCRETE & PERMANENT IMPERMEABLE REPAIR MATERIALS

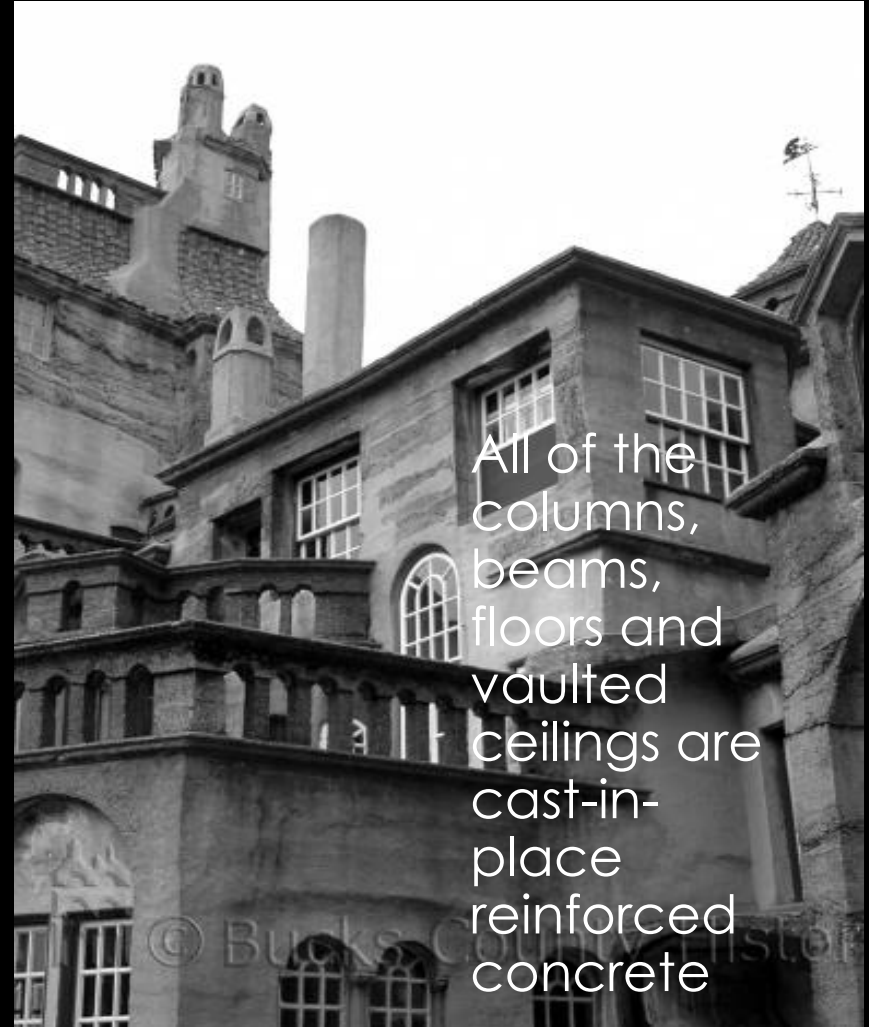
Mercer's
Fonthill-1909

SOLVING THE MOISTURE ISSUE
WWW.SPGGOGREEN.COM



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Scott Bergsbaken President



The image features a solid black background. At the top, there is a decorative border with a wavy, fluid shape. This border is composed of several overlapping bands of color: a bright yellow-orange on the left, transitioning into a deep red, and then into a vibrant cyan-blue on the right. The word "QUALITY" is centered in the upper half of the image, rendered in a clean, white, sans-serif typeface.

QUALITY

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At the end of this program, participants will be able to:

LEARNING OBJECTIVES-

- Determine VOC Rules & Identifying Impact
- Pro-Active Solutions to Moisture Proofing concrete
- Design Reactive Solutions for Existing Buildings & Roads
- Identify & Eliminate Potential Future Issues



- Pantheon 2,000 years old
- Today-100 Years



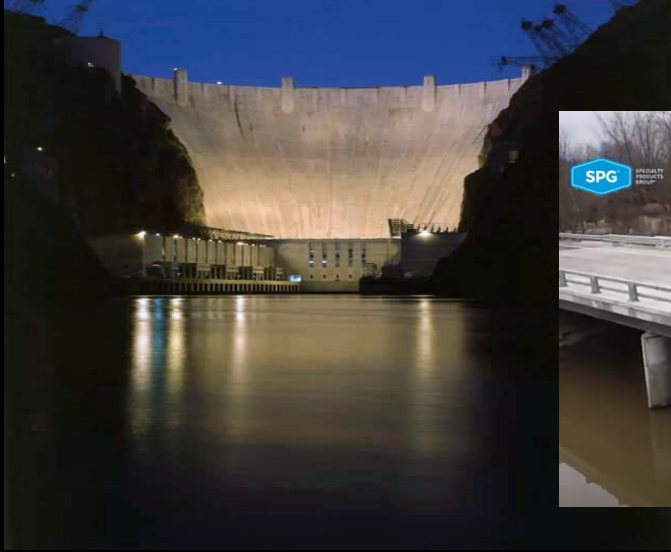
THEN AND NOW



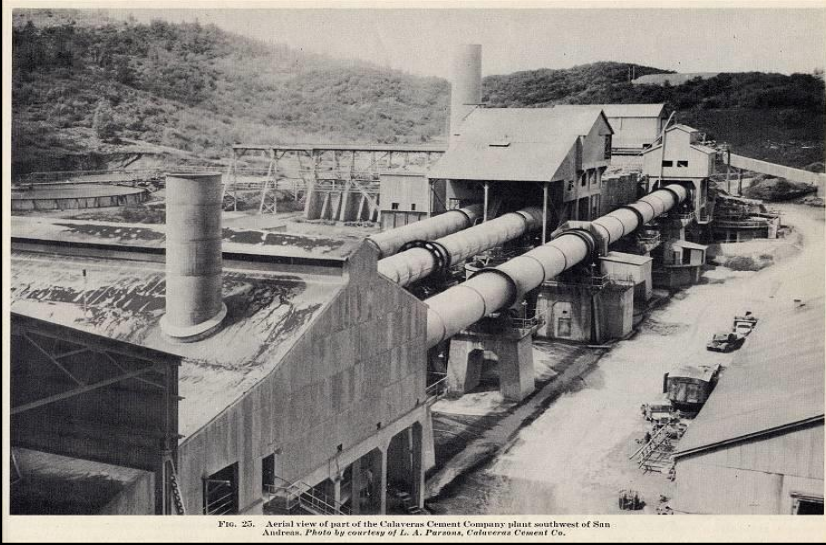
9/11 Memorial at the Pentagon-Designed to last 100 years

CONCRETE'S PLACE IN THE WORLD

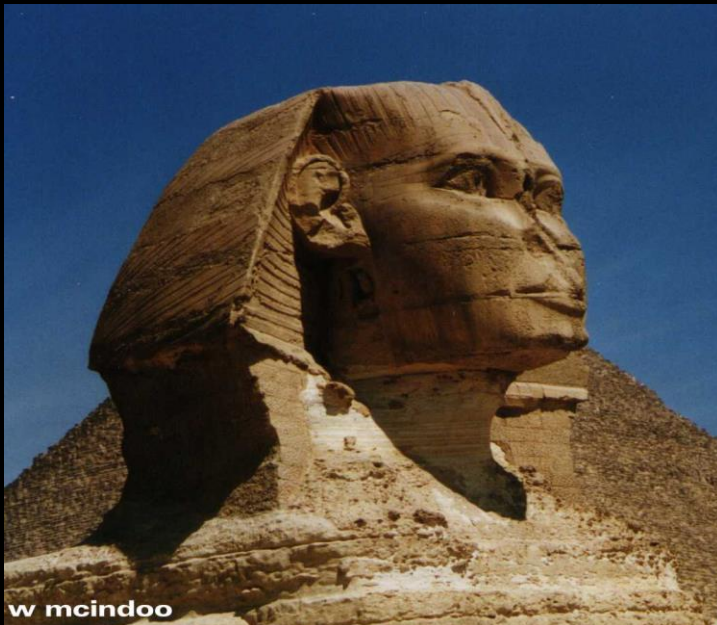
- Concrete 2nd Consumed Item in the World Behind:



MINI-HISTORY OF CEMENT/CONCRETE



- 12,000,000 BC Cement is formed by Nature
- 3000 BC Egyptians
- 1824 Joseph Aspdin Patents Portland Cement
 - Concrete Methodology Relatively Unchanged
- 1891 First Concrete Street Bellefontaine OH- Still Exists Today



CONCRETE INGREDIENTS:

- Portland Cement
- Water
- Coarse & Fine Aggregates
- Admixtures



PORTLAND CEMENT PRODUCTION



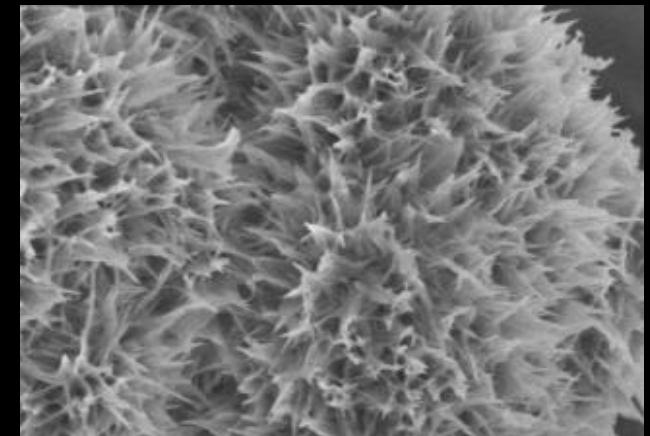
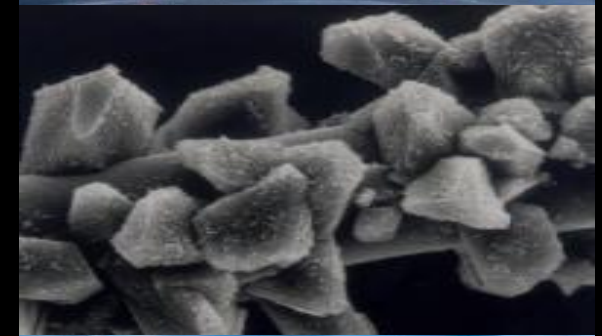
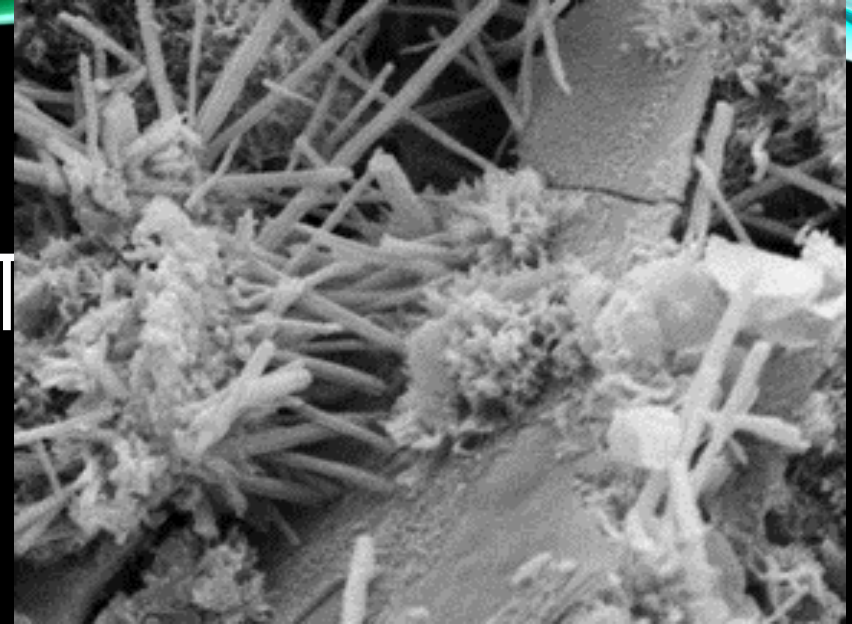
- Limestone, clay, gypsum
- Super Heat
 - 6 Million BTU's/Ton
- Grind Clinker

PORT

- Components:
 - Tricalcium silicate = 50%
 - Dicalcium silicate = 25%
 - Tricalcium aluminate = 10%
 - Tetracalcium aluminoferrite = 10%
 - Gypsum = 5%
- Concrete's strength is the result of 5 chemical reactions here are 2:

**Tricalcium silicate + water =
calcium silicate hydrate + calcium hydroxide
(provides early strength, 7 days)**

**Dicalcium silicate + water =
calcium silicate hydrate + calcium hydroxide
(provides long term strength, 28 days)**

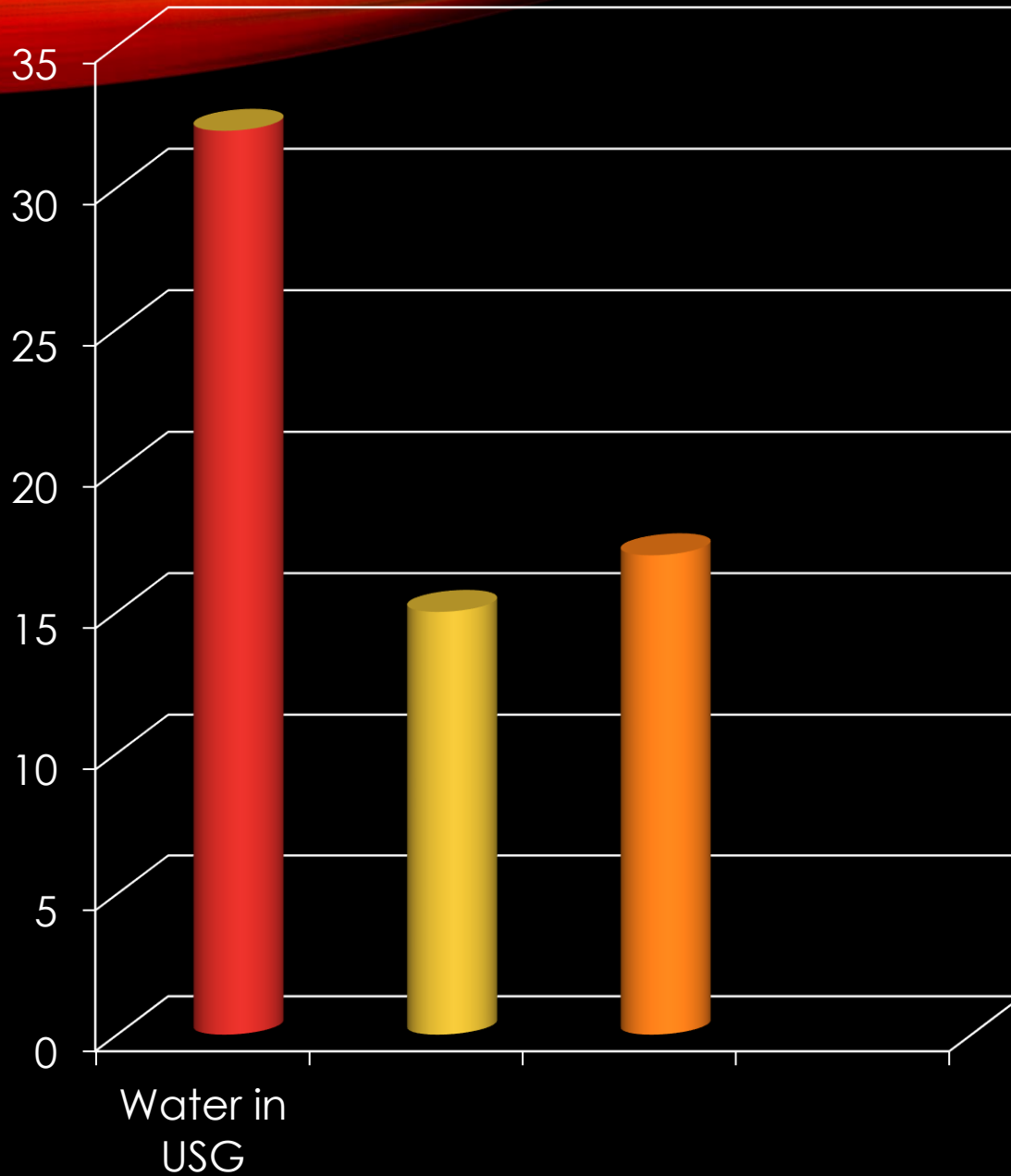


FREE WATER

■ Hydration Water

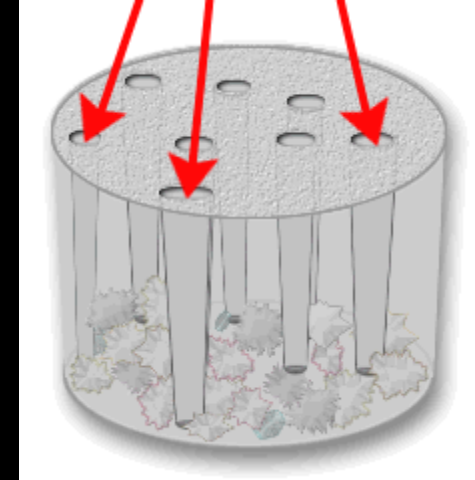
■ Free Water

■ Mix Water



CAPILLARY FORMATION BLEED CHANNELS

- Route of Moisture Vapor
- Emission
- Heavier Materials Settle
- Water is Pushed out, Bleed Channels
- Free Water/Moisture Vapor Emission has Perfect Path to Follow
- External Intrusion-Perfect Path



FLOORING ISSUES!



EPA -1999- ESTABLISHED VOC LIMITS-AIM



- P=Protection
- Present & Future
- Improve IAQ/IEQ
- Water-Based Materials
 - Paint
 - Flooring Adhesives
 - Topical Treatment-VOC
- Pitfalls & Challenges
 - Owner's & End-User's
 - Design Professionals
 - GC's & Sub-Contractors



FREE WATER -HERE

University of Michigan
Bio Science 330,000 sf

- 69,259 US Gallons
 - 4"-17 Gallons of Free Water every 81 sf
- 6" Slab 103,889 US Gallons
- Concrete Drying Times-40 days per inch
 - Ideal Conditions
 - Mix Design w/cm impacts Drying Times
 - External Conditions-Rain, Snow Melt, Sprinkler installer, plumber, tile guy



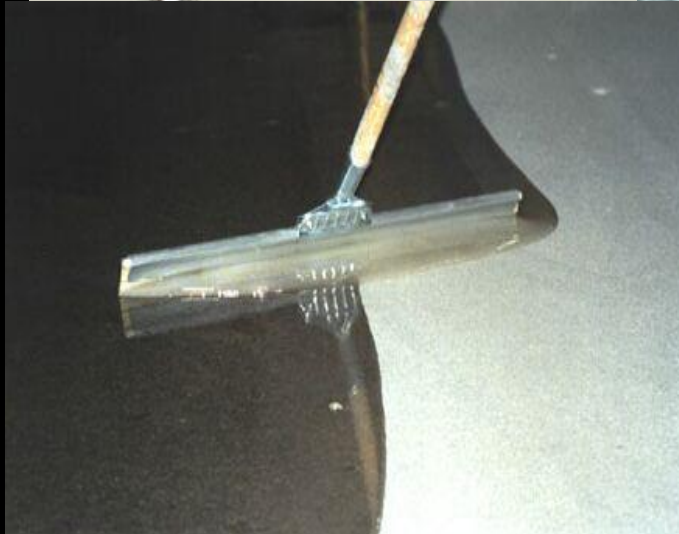
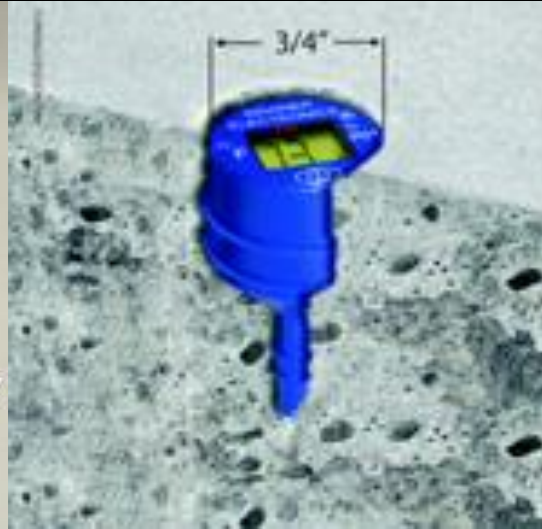


WHY ALL THE EXTRA WATER?



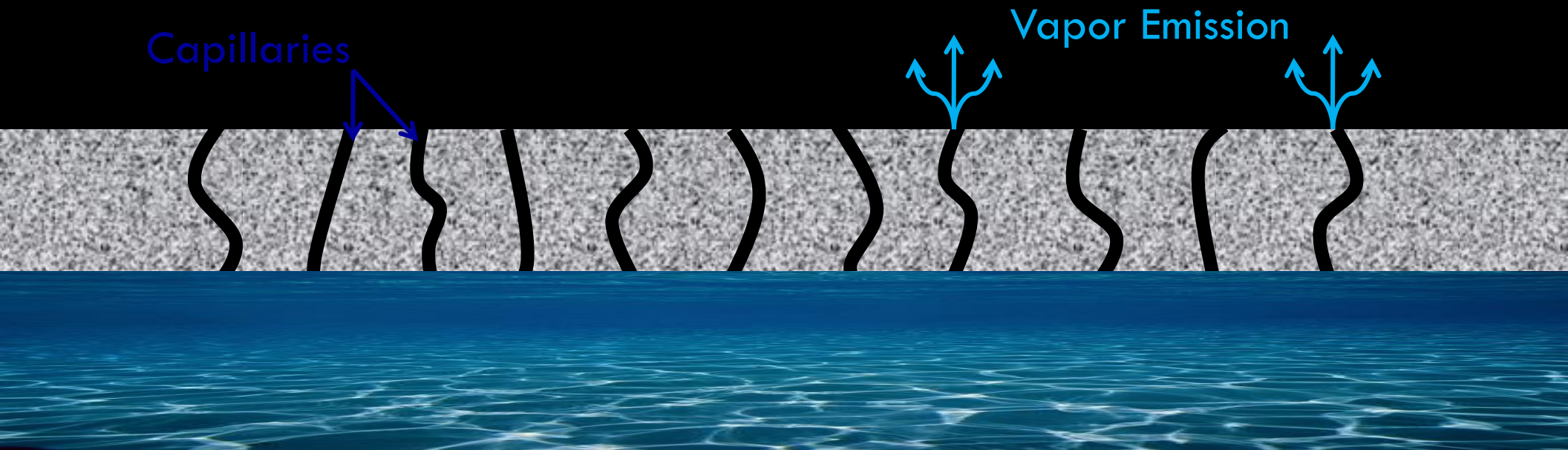
TOPICAL REMEDIATION SOLUTIONS FLOORING

Architectural Firm - 100%
Failed – 4 Years Moisture
Testing



CAPILLARY ACTION

- Moisture Vapor is released by way of the capillary system
- Moisture Vapor can travel into and out of the concrete through the capillary system



SOLUTION-CONCRETE CHEMISTRY

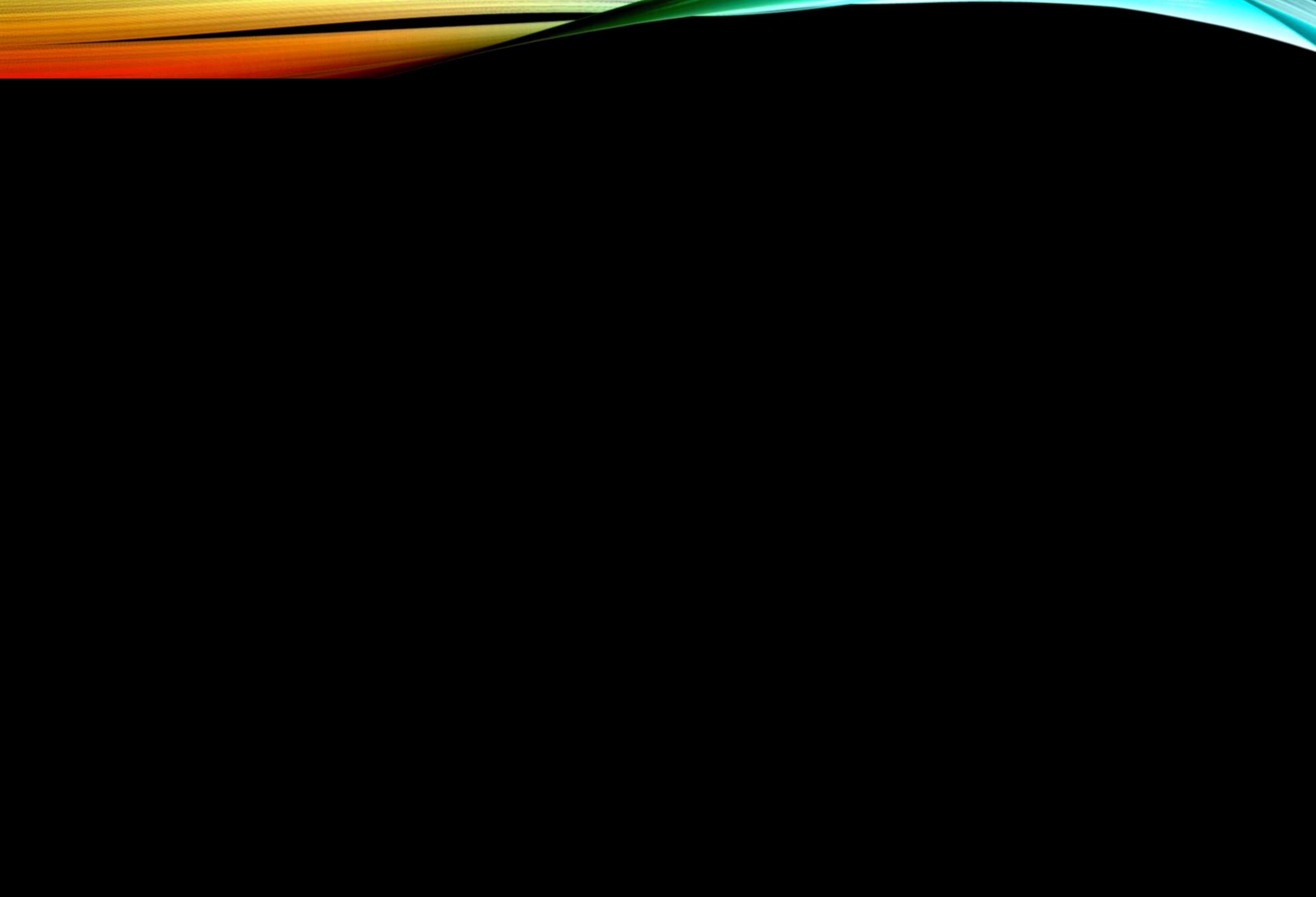
- Components:
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 - Dicalcium silicate = 25%
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 - Tetracalcium aluminoferrite = 10%
 - Gypsum = 5%

Tricalcium silicate + Mix Water = calcium silicate hydrate (CSH) + calcium hydroxide

Dicalcium silicate + Mix Water = calcium silicate hydrate (CSH) + calcium hydroxide

Water Vapor Reducing (WVRA) admixture + Free Water = calcium silicate hydrate gel (CSH)

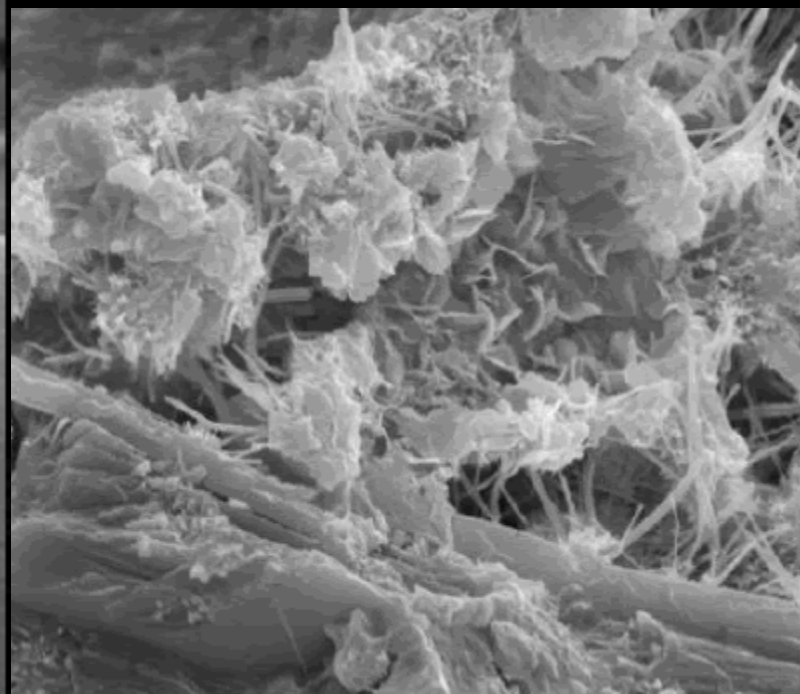
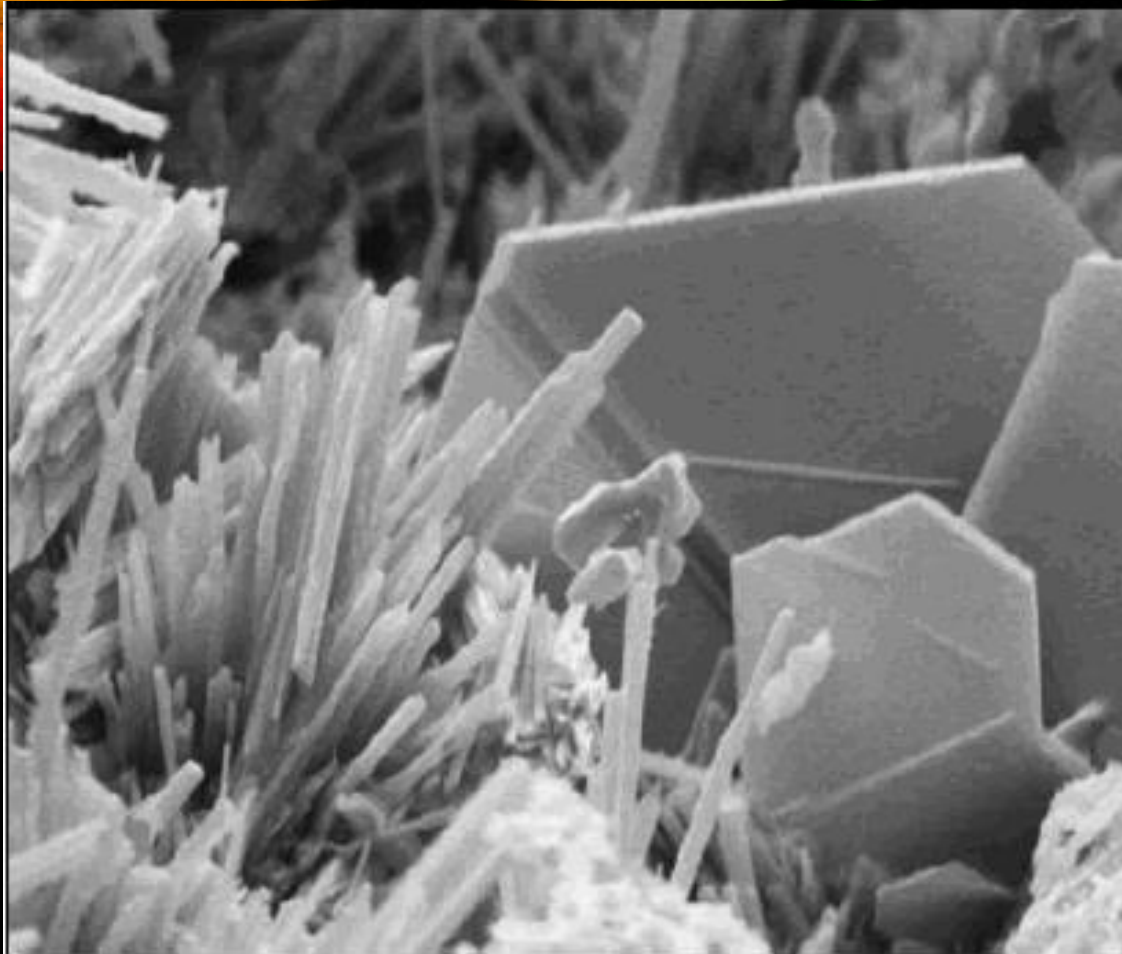
- **WVRA** creates the additional CSH needed to:
 - Eliminates the effects of the “free water”
 - Close the capillary system, which is the main source of moisture related flooring failures and concrete degradation



TIME & COST ANALYSIS

- 1,000,000 sf WVRA
 - \$750,000.00
 - 0 man hours
 - Schedule integrity
 - Cost certainty
 - Critical path savings
- 1,000,000 sf epoxy topical
 - \$3,500,000.00 est
 - 100,000 man hours est
 - Schedule?





CSH FORMATION

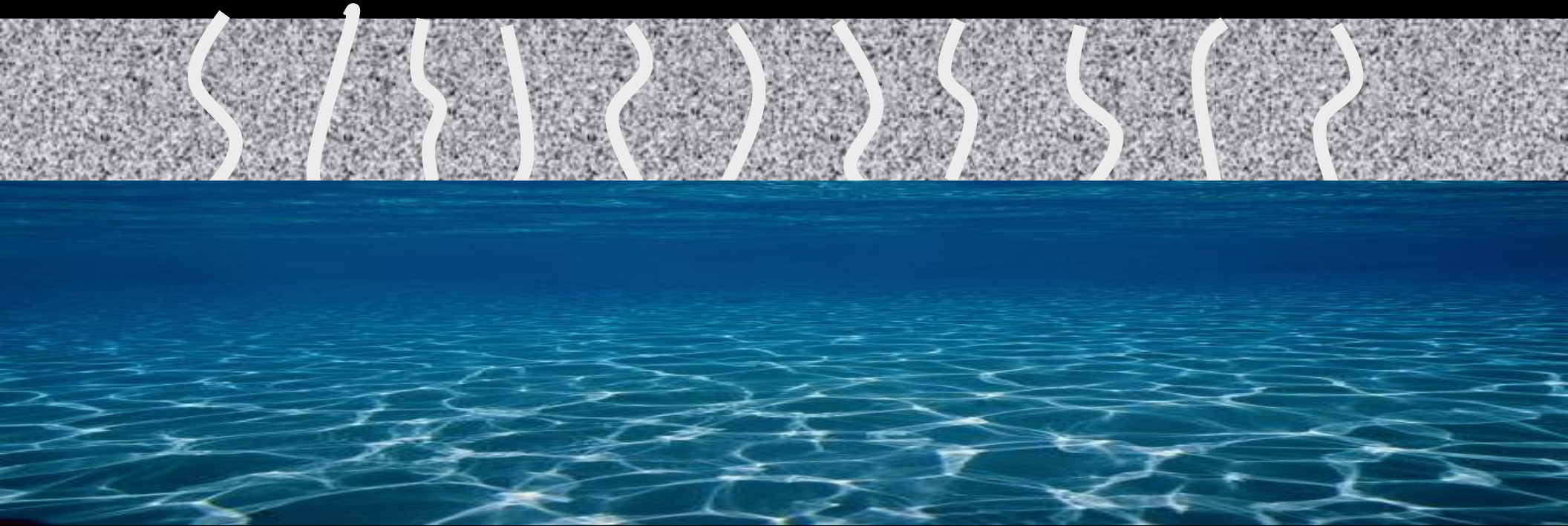
WVRA

+



=

Calcium Silicate
Hydrate (CaSiO_2)



CSH FORMATION

WVRA

+



=

Calcium Silicate
Hydrate (CaSiO_2)

CSH Gel is formed fills the capillary system,
shutting down vapor emission **Using Free
Water**

WHAT'S HAS BEEN THE PROBLEM W/ FLOORING- MOISTURE SENSITIVE COATINGS & ADHESIVES?

- Free Water
- Concrete-Porous
- Flooring-Impermeable
- Adhesive-Water-Based
- Air Pressure-Humidity
- Problem Solved WVRA
- Warranted Solution



HOW TO SELECT THE PROPER WVRA



- Project Specific Insurance
- Food Graded Reactive materials
- Factory Quality Control
- Field QA/QC
 - Moisture Test
 - Bond Test
- ASTM C494 Type S
- Factory Trained Ready Mix/Finishers
- Full Warranty/Legitimate
- Markers

Measurement of Water Permeability

- The measurement of permeability in the laboratory is very simple. The side of test specimen are sealed and water under pressure is applied to top surface only. The quantity of water flowing through a given thickness of concrete in a given time is measured and the permeability is expressed as a coefficient of permeability k given by Darcy's equation.



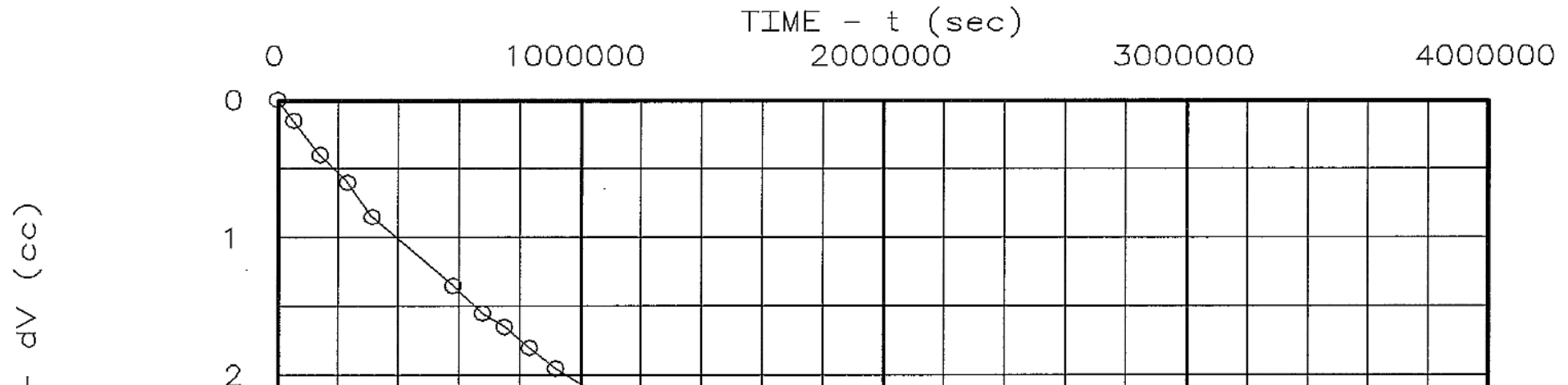
PERMEABILITY TEST REPORT

TEST DATA:

Specimen Height (cm): 5.79
Specimen Diameter (cm): 10.11
Dry Unit Weight (pcf): 138.6
Moisture Before Test (%): 3.7
Moisture After Test (%): 6.8
Run Number: 1 ● 2 ▲
Cell Pressure (psi): 95.0
Test Pressure (psi): 87.5
Back Pressure (psi): 72.4
Diff. Head (psi): 15.1
Flow Rate (cc/sec): 7.63×10^{-7}
Perm. (cm/sec): 5.17×10^{-11}

SAMPLE DATA:

Sample Identification: 4x8 Concrete Cyl.
with Vapor Lock 20/20
Visual Description: Concrete
Remarks: ASTM D 5084
Maximum Dry Density (pcf):
Optimum Moisture Content (%):
Percent Compaction:
Permeameter type: Flex Wall
Sample type: 4x8 cyl



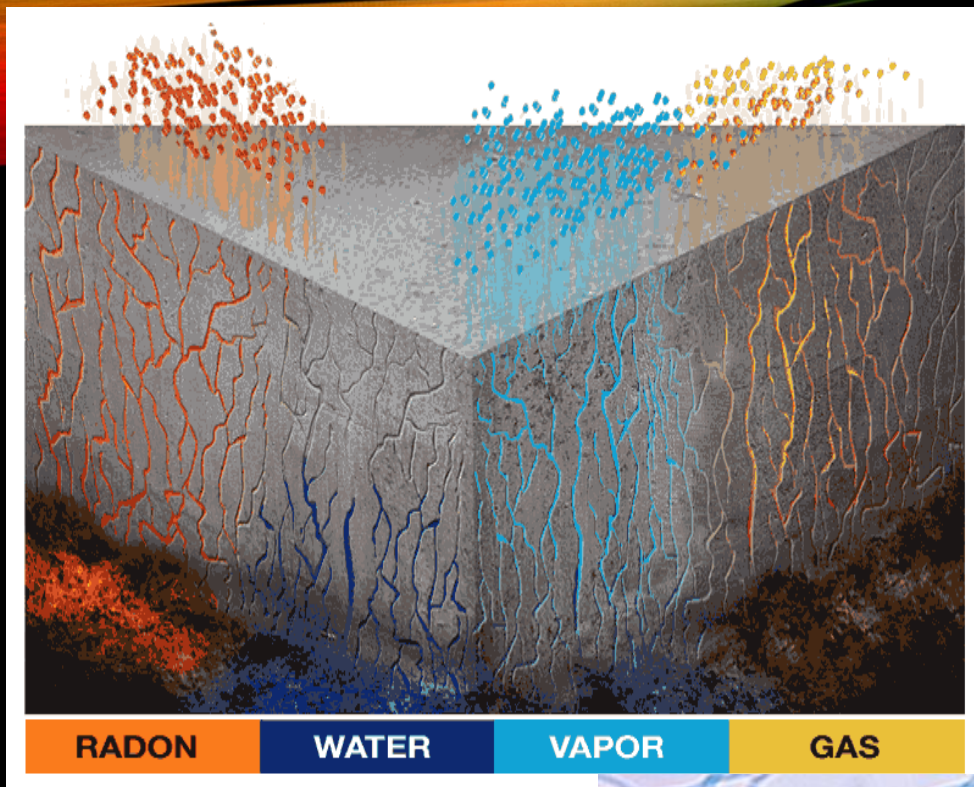
IAQ/IEQ-BUILDING DAMPNESS



Institute of Medicine,
Washington DC

- “One of the environmental factors most commonly associated with respiratory disease is building dampness.”





Eliminate the Moisture & Highway

Eliminate Moisture Sensitive Coating Failures

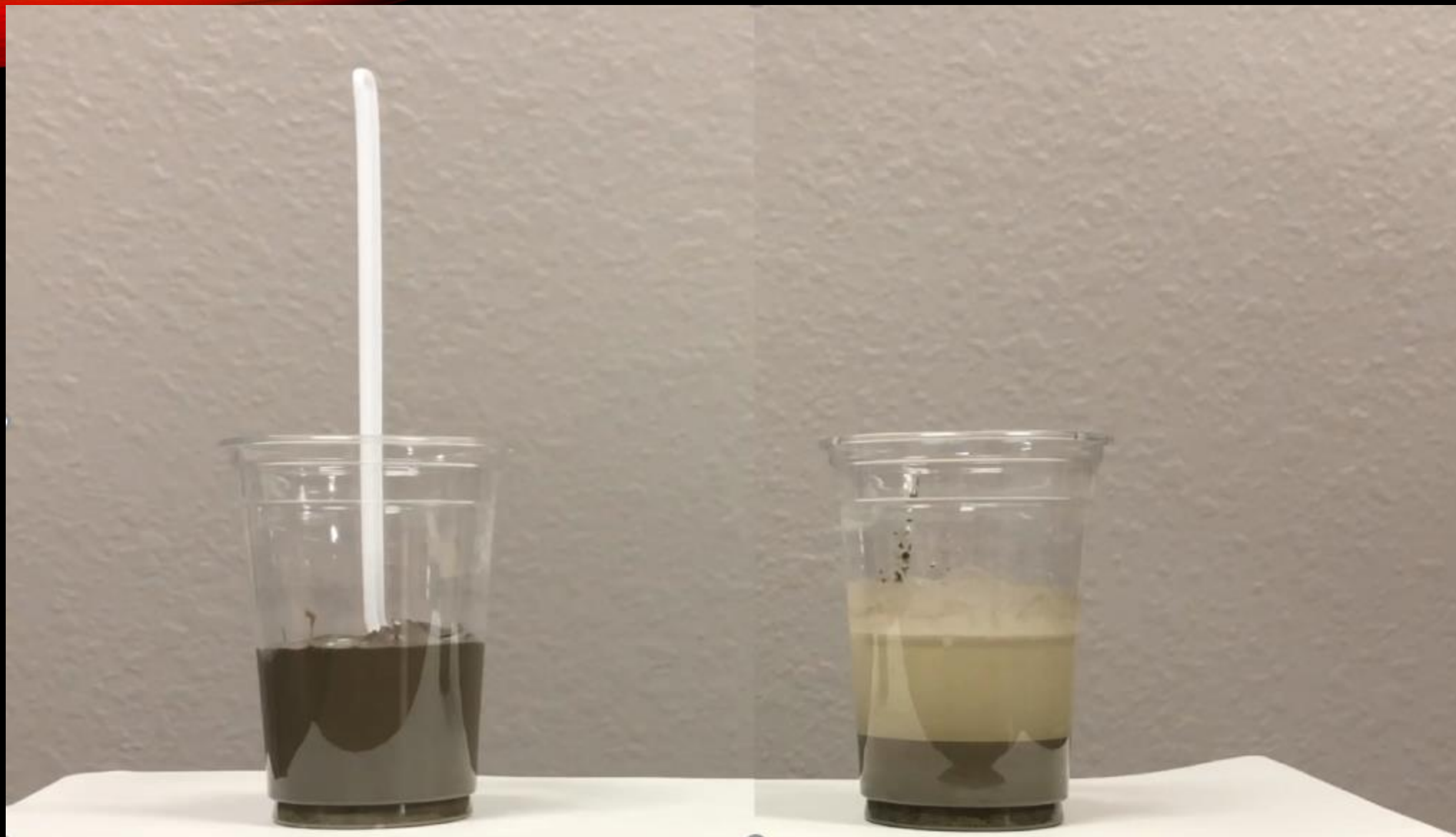
Eliminate Potential Growth Mold & Bacteria



ADMIXTURES- BRIEF HISTORY

- 300 BC- 476 AD- Romans-Blood, Milk, Animal Fat
- 1930 Air Entrainment Agents
- 1970 Fiber
- 1975 WVRA
- 1980 Super P's
- 1985 Silica Fume



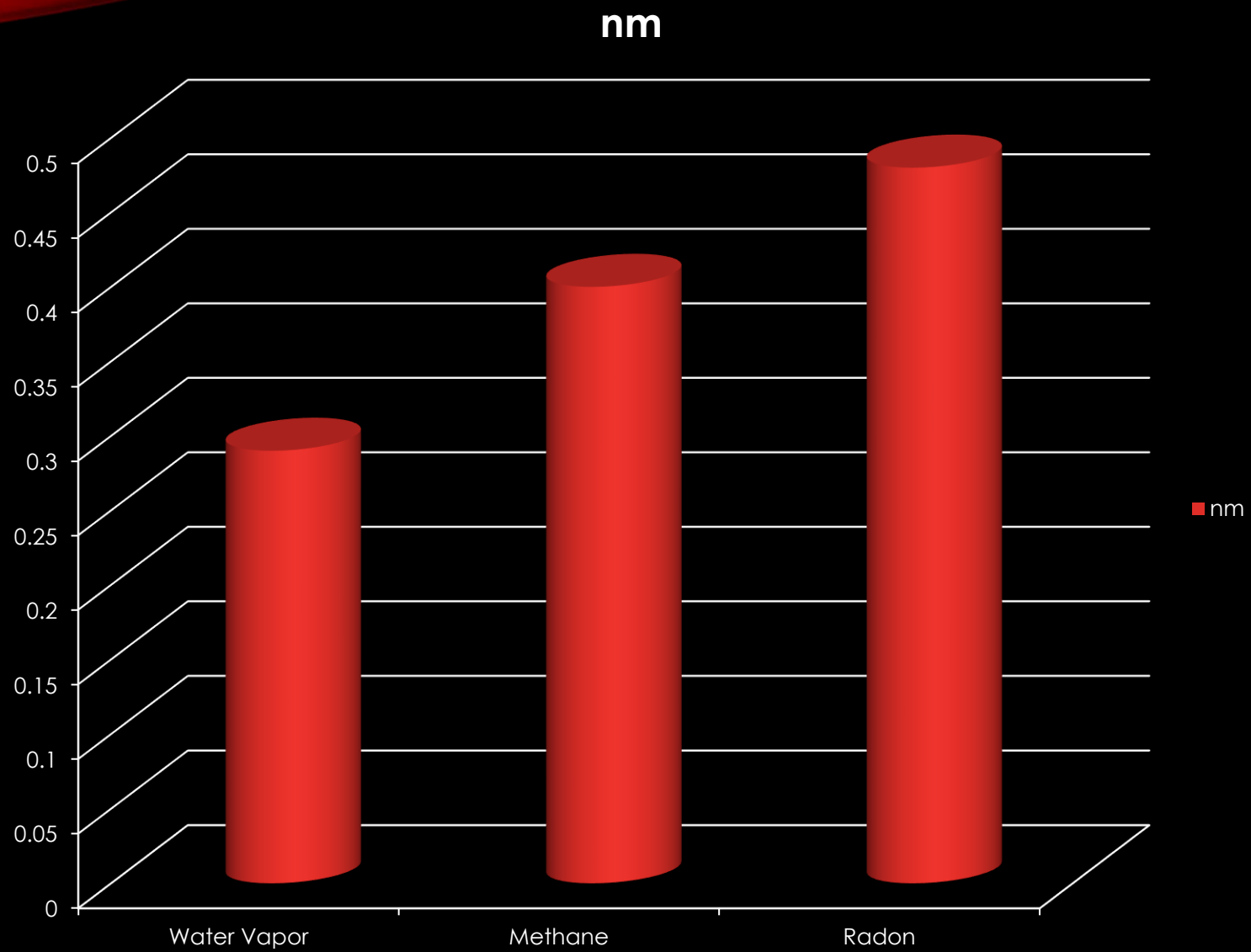


WHAT IS REALLY HAPPENING?

- Internal Curing
 - No extra curing steps in temperate climates
 - Shrinkage & Dry cracking-Virtually eliminated
 - Slab Curl greatly reduced
 - FF Dramatically increased
 - Uniform Color
 - Vapor proof
 - Waterproof
 - Extreme densification
 - Superior concrete

WHAT is Curing?

Curing is the maintaining of an adequate **moisture** content and **temperature** in concrete at early ages so that it can develop properties the mixture was designed to achieve.



Active Mitigation Methods

Active mitigation methods are typically more expensive than passive methods — anywhere between \$500 and \$2,500 to install, plus operating costs. (Appleton, 2005). However, such methods are important for structures with high radon levels (more than two or three times the 4 pCi/L limit), or if passive mitigation methods do not work. Active systems typically involve installing mechanical and electrical devices to reverse air flow and ventilate soil beneath the foundation. They are set up either to draw outdoor air toward the foundation or blow air in the soil away from the foundation (Henschel, 1993).

Precautions for Building Homes

When building a new home, there are also a number of measures that can be taken that cost less than installing radon mitigation in an existing home — \$350-\$500 for a new home vs. \$500-\$2,500 for an existing home (Appleton, 2005). Builders can place plastic membranes beneath the foundation, use a more dense concrete mixture for the foundation, and use solid masonry blocks instead of hollow blocks for the foundation walls that can prevent air containing radon from penetrating the home (Brown et al., 2000).

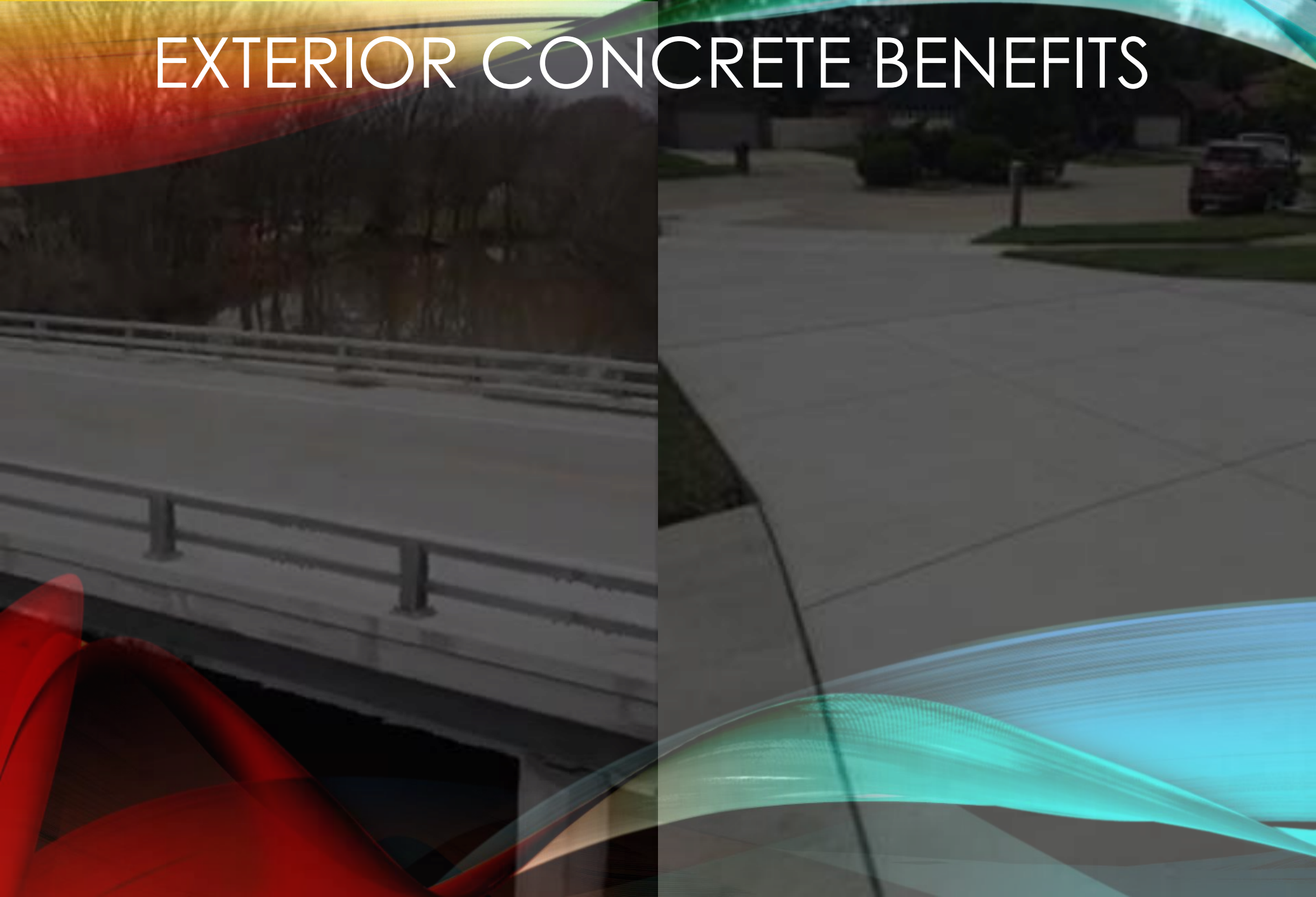


Figure 4. EPA Map of Radon Zones

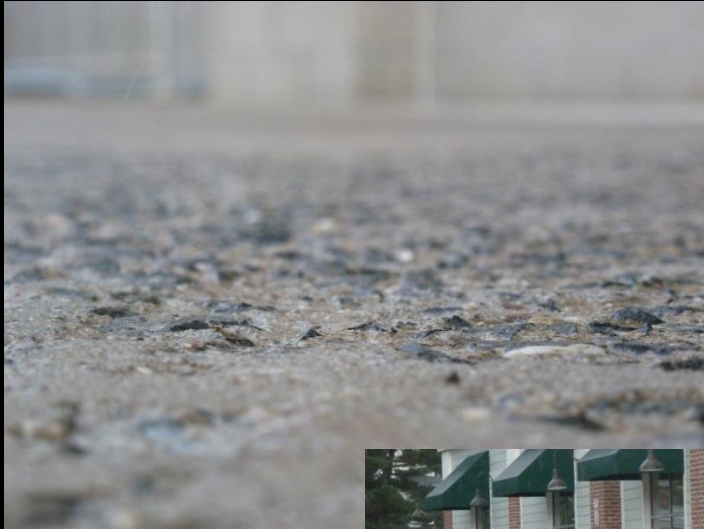
This EPA map estimates the relative levels of radon that may be present in Indiana homes. Homes built in red areas (Zone 1) are predicted to have radon levels greater than the maximum radiation levels the EPA sets, 4 pCi/L. Homes in orange areas (Zone 2) are predicted to have radon levels between 2 and 4 pCi/L.



EXTERIOR CONCRETE BENEFITS



ACI-DURABILITY OF CONCRETE



- ACI Quote: “From the materials standpoint, concrete durability is closely linked to concrete microstructure, more specifically to its impermeability.”







ROADS, BRIDGES, SIDEWALKS & STAIRS



PARKING GARAGES, LOTS, APRONS, GAS STATIONS



EXTERIOR BELOW GRADE WALLS, CURBS, STONework





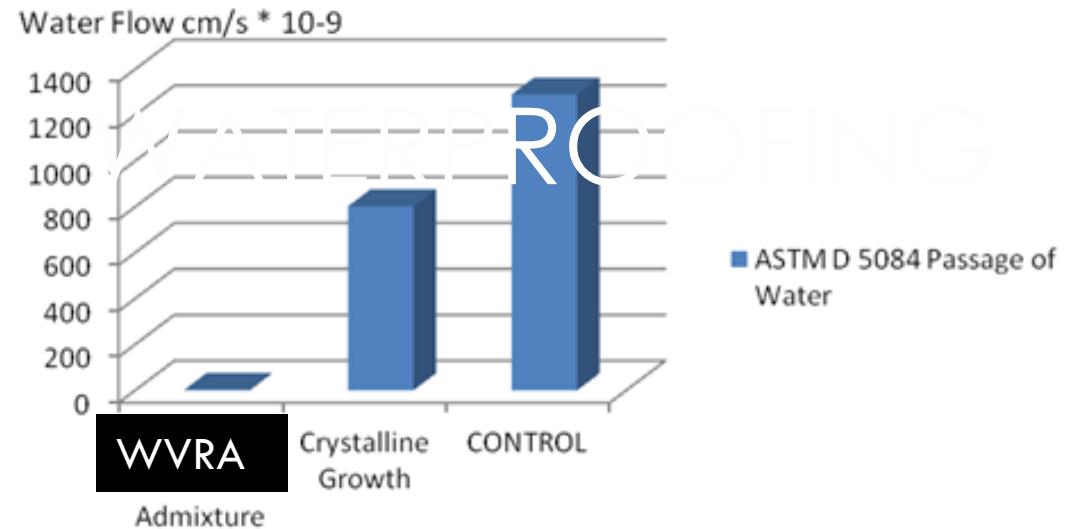
- Mt. San Antonio Gardens-Assisted Living Treatment Area
- Footings
- Walls
- Floors
- Roof Deck
- Sidewalks & Stairs

WATER PROOFING APPLICATIONS

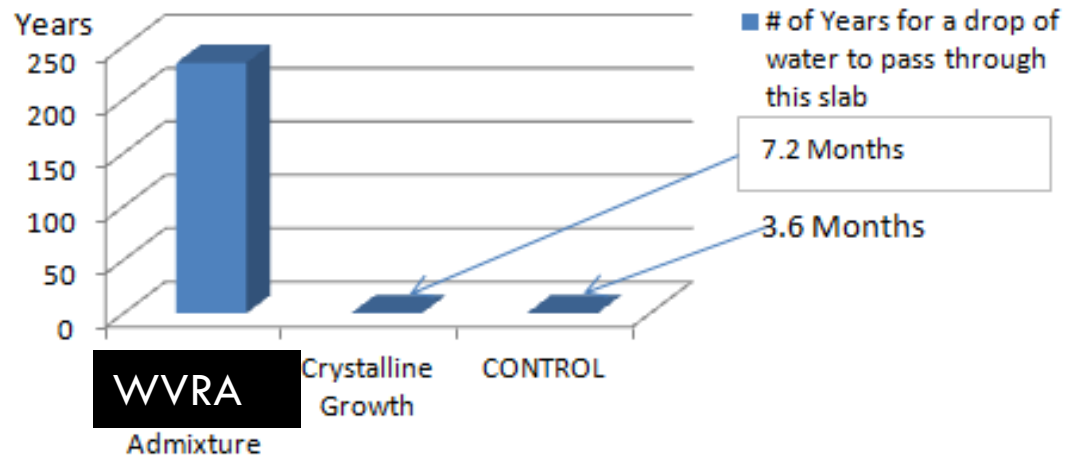


Waterproofing then and now

ASTM D 5084 Passage of Water



of Years for a drop of water to pass through this slab



2017 REPORT CARD

2017 Infrastructure Grades

 AVIATION	D	 PARKS AND RECREATION	 D+
 BRIDGES	C+	 PORTS	 C+
 DAMS	D	 RAIL	 B
 DRINKING WATER	D	 ROADS	D
 ENERGY	D+	 SCHOOLS	 D+
 HAZARDOUS WASTE	 D+	 SOLID WASTE	 C+
 INLAND WATERWAYS	 D	 TRANSIT	 D-
 LEVEES	 D	 WASTEWATER	 D+

America's
Cumulative
Infrastructure
Grade



A EXCEPTIONAL

B GOOD

C MEDIOCRE

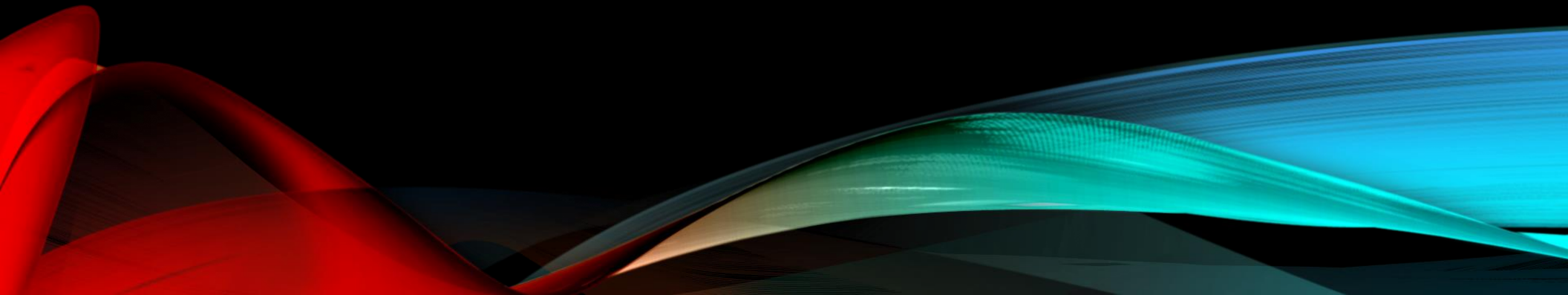
D POOR

F FAILING

ASCE-COMMENTS

- Patrick Natale, the group's executive director
- ASCE estimates that the government and the private sector need to invest \$3.2 trillion over five years, roughly two times the size of current US stimulus package being proposed.
- Natale says there's been a mentality in the United States of short-term fixes and hoping that they work -- "patch and pray," as he puts it.

NOW WE WILL DISCUSS REPAIR
MATERIALS-MOVING ON FROM
WVRA



CEMENTITIOUS PATCHES

- Cement Based Patches are Porous
 - Mfg. states-
“this material will allow the free passage of moisture”
- Prep Work
- Primers
- Shrinkage
- patch and pray-
Insanity
- Frequent replacement



ALTERNATIVE-INTERNALLY IONIC BONDED MATERIAL-PERMANENT

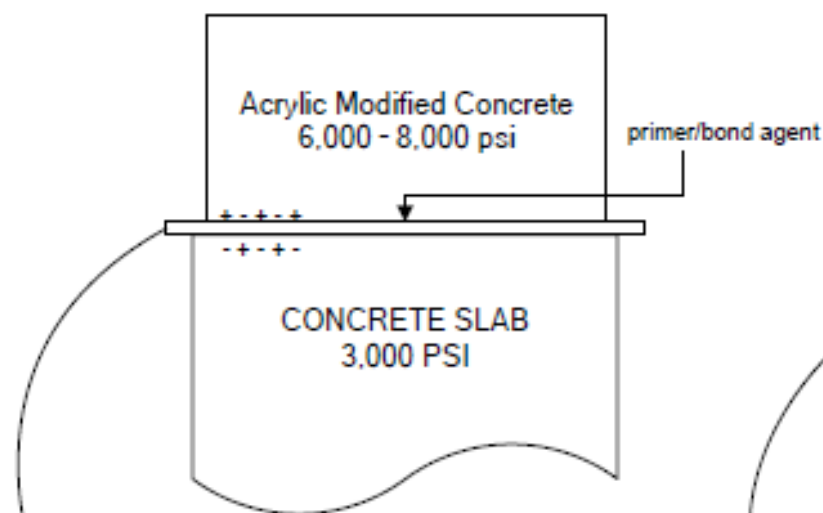
- 2 Component System
- Impermeable
- No Primers
- Limited Prep
- No keying in
- No Critical Mix Ratio



Covalent Bond

noun, *chemistry*

1. the bond formed by the sharing of a pair of electrons between atoms.



Van Der Waals Interaction/Force

weakest point of repair

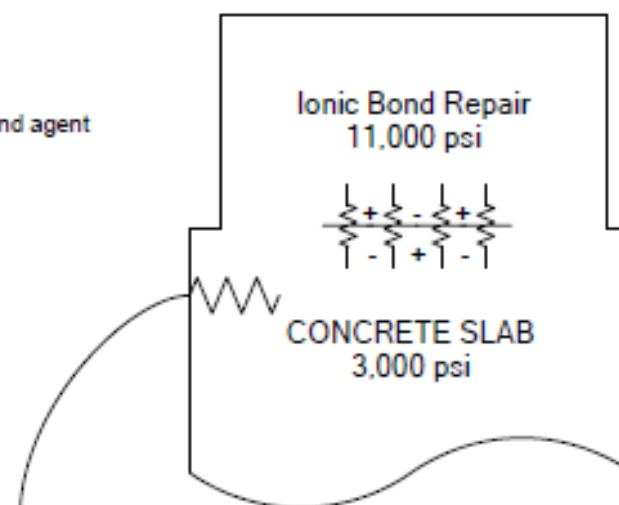
Delamination caused by:

- water
- chemicals
- tensile strength
- elongation

Ionic Bond

noun, *chemistry*

1. the chemical bond formed between two ions with opposite charges. An electrical *force* is generated that holds the atoms together.



*weakest point of repair
is the substrate*

REPAIR MATERIAL SUSTAINABILITY COMPARISON

Cement based patch

- Limited life cycle
- Porous
- Inadequate bond
- Shrinkage
- 2-3 days Back to service
- Extensive prep
- Expensive w/Life Cycle Costs

Ionic Bonded

- Long-lasting
- Impermeable
- Tenacious Bond
- Zero % Shrinkage
- Return to service (1-2 hours)
- Easy prep
- Economical

IONIC BONDED

EVERYDAY USE-EXTREME PERFORMANCE

- Enduring Quality
- Tenacious Bond
- Zero Shrink
- Fast Cure
- Self Priming
 - No Water
 - Unique
- Extensive DOT use
- Extreme Environments
 - All Temp Application -14-95F
 - Impermeable
 - Salt Water Resistant



EXISTING CONCRETE SOLUTIONS-REPAIR

- Repair Existing vs Replace
- Permanent Repair
- Fast Return to Service
- Salt ,Chemical & UV Resistant
- Economical



MAGNESIUM POLYPHOSPHATE PERMANENT SIDEWALK REPAIRS



MAGNESIUM POLYPHOSPHATE BRIDGE OVERLAY



SUNY BINGHAMTON















SUMMATION- IMPERMEABILITY

- Protect concrete WVRA
- Repair with Impermeable material







This concludes the generic
portion of our program!

THE SPECIALTY PRODUCTS GROUP

SPECIALTY PRODUCTS GROUP!



Regina, Canada
Repair Material Test

- MG-Krete
 - Zero Shrink
 - Bonds Tenaciously
 - 45 min-2,600 psi-28 days
11,000 psi
 - 14 F Working Temp.
 - Thick to Thin
- Strip This Too!
- Microbes
- Mold Assassin



I-64 Charleston
WV



JET SET 100 EPOXY

Description

JETSET 100™ Traffic Coating is a low odor, zero VOCs and 100% solids solvent-free, two-component epoxy for heavy duty protection. It is designed for new or old concrete or steel. Consult with the manufacturer for additional acceptable substrates. JETSET 100™ is high gloss and chemical resistant.

Basic Uses

This high performance coating system is for new, old, uncoated or coated concrete. It is used for heavy foot and rubber wheeled vehicle traffic areas. JETSET 100™ has excellent intermittent chemical resistance for spills and can be power washed. It also has high impact resistance.

Major Advantages

100% solids, no VOC's

- Adjusted set times for project specific applications, minimum amounts required
- Good Chemical resistance
- High Gloss reflective coating
- Non porous
- Easily cleaned
- Fast application (brush, roller, squeegee)
- Good abrasion resistance
- Good heat deflection
- Good impact resistance and hardness

VAPOR LOCK CONCRETE ADMIXTURES

- Quality Manufacturer
 - 100% Inspection
 - 100% Batch Retains
- Best Tested Product
- QC/QA/QC
- Markers
- Labor & Material Warranty





6254 Skyway Road, PO Box 915
Smithville, Ontario, L0R 2A0, Canada
877.957.4626

Manufacturers' Warranty: Vapor Lock™ 20/20

The Specialty Products Group (manufacturer) warrants its product, Vapor Lock™ 20/20, to be free from material defects and that the product conforms to its current applicable specifications of stopping moisture vapor emission from the concrete itself, for a period of **ten years**. The warranty period starts from the date of the substantial completion. This warranty covers only those Flooring or patching compound failures associated with moisture vapor emission related bond loss and is provided if the Vapor Lock™ 20/20 is installed according to, and in compliance with the instructions and the requirements of the manufacturer. In the event there is a moisture vapor emission related bond loss claim, manufacturer reserves the right to inspect and test any and all materials to determine the source of the problem. The sole and exclusive remedy of purchaser for any claim concerning Vapor Lock™ 20/20, including, but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the **labor and materials** (like the original installed products) required for the removal, replacement or repair of floor covering materials damaged by moisture vapor emission. Manufacturer shall be responsible for the application of a fully warranted topical moisture remediation system in the event of a moisture related failure. Repair or replacement of the damaged flooring material is at the sole discretion of the manufacturer. The manufacturer shall in no way be responsible for any acts of nature, inferior workmanship, inferior concrete, concrete additives, design flaws, conditions of excess high or low temperature, excessive swings in relative humidity, contaminants in the concrete, cracks or voids resulting after the product application, any incidental or consequential damage, including without limitation, damage for lost profits, business interruption, property damage, economic loss or injuries to the person. Manufacturer shall not be liable to the buyer for contribution, or indemnity, or for other losses arising from the use of Vapor Lock™ 20/20. Any and all disputes or claims arising out of these products or relating to the provisions of the warranty must be arbitrated utilizing the services of a neutral dispute resolution service upon which buyer and seller agree in the state or province where the project is located. In the unlikely event of litigation SPG agrees to a venue where the project is located and agrees to abide by the rulings of a local court having jurisdiction. Manufacturer claims policy is as follows: Claims will not be considered until the flooring material and adhesive has been inspected by one or more of the following: Company representative, or independent inspection service of manufacturer's appointment. There are no other warranties expressed or implied including, but not limited to, any implied warranty of merchantability or warranties of fitness for a particular purpose. All accounts must be paid in full prior to any warranty being issued or enforced. There is an expanded Warranty that must accompany this certificate Warranty, refer to the expanded Warranty for any special conditions, exclusions, or considerations in this project.

Project Name:



Vapor Lock™ 20/20 Project #:

Scott Bergsbaken, President

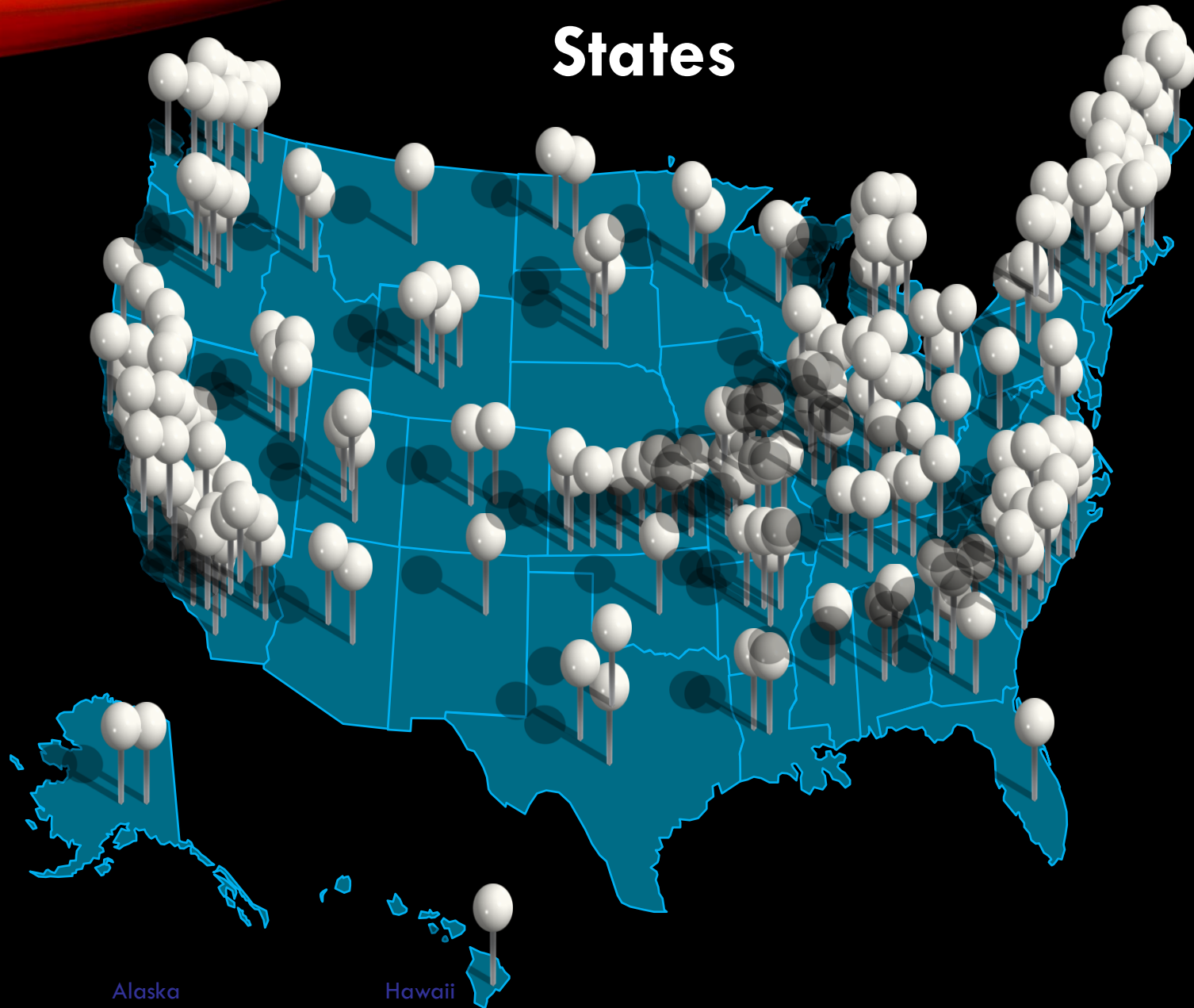
Date

Greg Hart, CEO

Date

CERTIFICATE OF INSURANCE					DATE (MM/DD/YYYY) April 16, 2017	
BROKER  88 Woodlawn Road West Guelph ON N1H 1B2			This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policies below.			
INSURED'S FULL NAME AND MAILING ADDRESS Specialty Products Group Inc. 8254 Skyway Drive PO Box 915 Smithville ON L0R 2A0			ISSUING COMPANIES AFFORDING COVERAGE			
			COMPANY A	Provided by Certain Lloyd's of London Underwriters		
			COMPANY B	B068860277H16A		
			COMPANY C			
			COMPANY D			
COVERAGES This is to certify that the policies of insurance listed below have been issued to the insured named above for the policy period indicated. Notwithstanding any requirements, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies. <p style="text-align: center;">LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.</p>						
CD LN	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS (Canadian dollars unless indicated otherwise)	
A	GENERAL LIABILITY	CHES0020	04/16/2017	04/16/2018	EACH OCCURRENCE	\$ 20,000,000
	COMMERCIAL GENERAL LIABILITY				GENERAL AGGREGATE	NO AGGREGATE
	CLAIMS MADE FORM				PRODUCTS & COMPLETED OPS.	\$ 20,000,000
X	OCCURRENCE FORM				PRODUCTS AND COMPLETED OPS. AGGREGATE	\$ 20,000,000
	CROSS LIABILITY				BIODIESEL INJURY & PROPERTY DAMAGE	\$ 20,000,000
	TENANTS' LEGAL				RIP AND TEAR	\$ 250,000
	LIABILITY NON-OWNED		POLLUTION	\$ 100,000		
	AUTOMOBILE			ERRORS & OMISSIONS	\$ 500,000	
A	AUTOMOBILE LIABILITY				\$	
	DESCRIBED AUTOMOBILE FORM				\$	
	ALL OWNED VEHICLES				\$	
	ALL LEASED VEHICLES				\$	
	EXCESS / UMBRELLA LIABILITY				EACH OCCURRENCE	\$
	UMBRELLA FORM				AGGREGATE	\$
	OTHER -				RETAINED LIMIT	\$
	PROPERTY					\$
	BROAD FORM					\$
	NAMED PERILS					\$
	OTHER					\$
						\$
ADDITIONAL INSURED The following is hereby added as Additional Insured(s) on the Commercial General Liability but only with respect to liability arising from operations performed by the Named Insured - N/A				DESCRIPTION OF OPERATIONS/LOCATIONS/ SPECIAL ITEMS OPERATIONS: Ad-Mixture Manufacturer		
CERTIFICATE HOLDER None				CANCELLATION Not applicable		
				AUTHORIZED REPRESENTATIVE  Matt Nelson, Account Executive		

WVRA Projects in the United States





VAPOR LOCK 20/20 CONCRETE ADMIXTURES

- Quality Manufacturer
 - 100% Inspection
 - 100% Batch Retains
- Best Tested Product
- QC/QA/QC
- Markers
- Labor & Material Warranty
- Lloyd's of London 3rd Party Insurance Underwriting SPG



VAPOR LOCK 20/21

- Warranted Waterproofing admixture
- 500% more effective than crystal growth material
- NSF Approved
- Extreme densification
- Exterior Warranty



MAJOR ADVANTAGES VAPOR LOCK 40/40

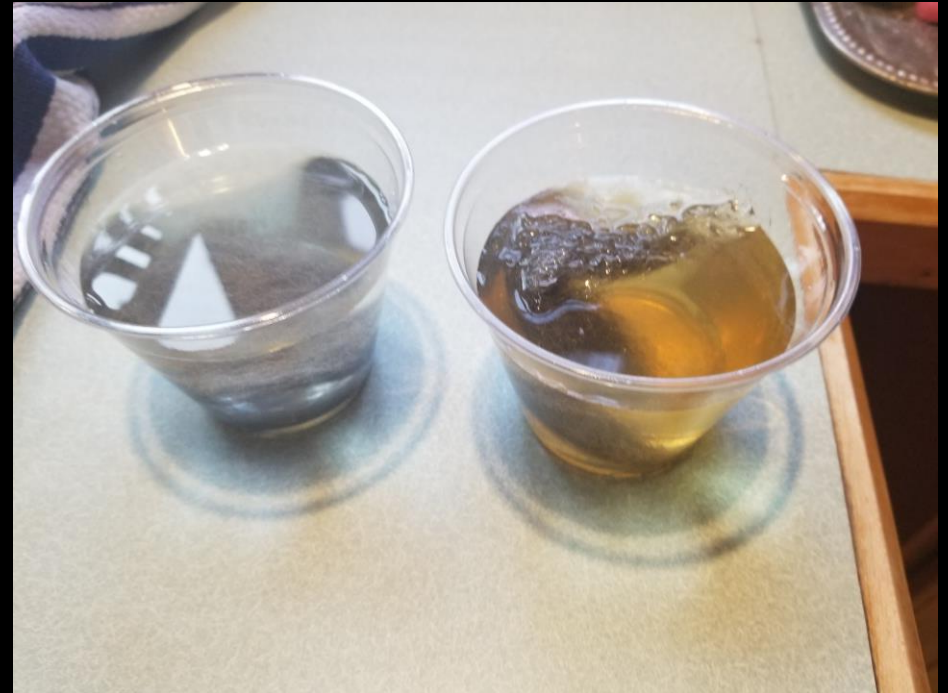
- ☐ Virtually eliminates oxidation of steel reinforcement bar Inside the concrete matrix
- ☐ Protects exposed steel reinforcement bar in cracked concrete
- ☐ Waterproofs concrete (.0017 US Perms)
- ☐ Increases concrete density and hardness
- ☐ Increased abrasion resistance
- ☐ Requires no Chemical Curing
- ☐ Stops ASR
- ☐ Effective in reducing:
 - ☐ Corrosion of unexposed & Exposed steel reinforcement bar
 - ☐ Plastic & Drying Shrinkage Cracking
 - ☐ Efflorescence
 - ☐ Freeze-thaw spalling
 - ☐ Delamination
 - ☐ Slab curl



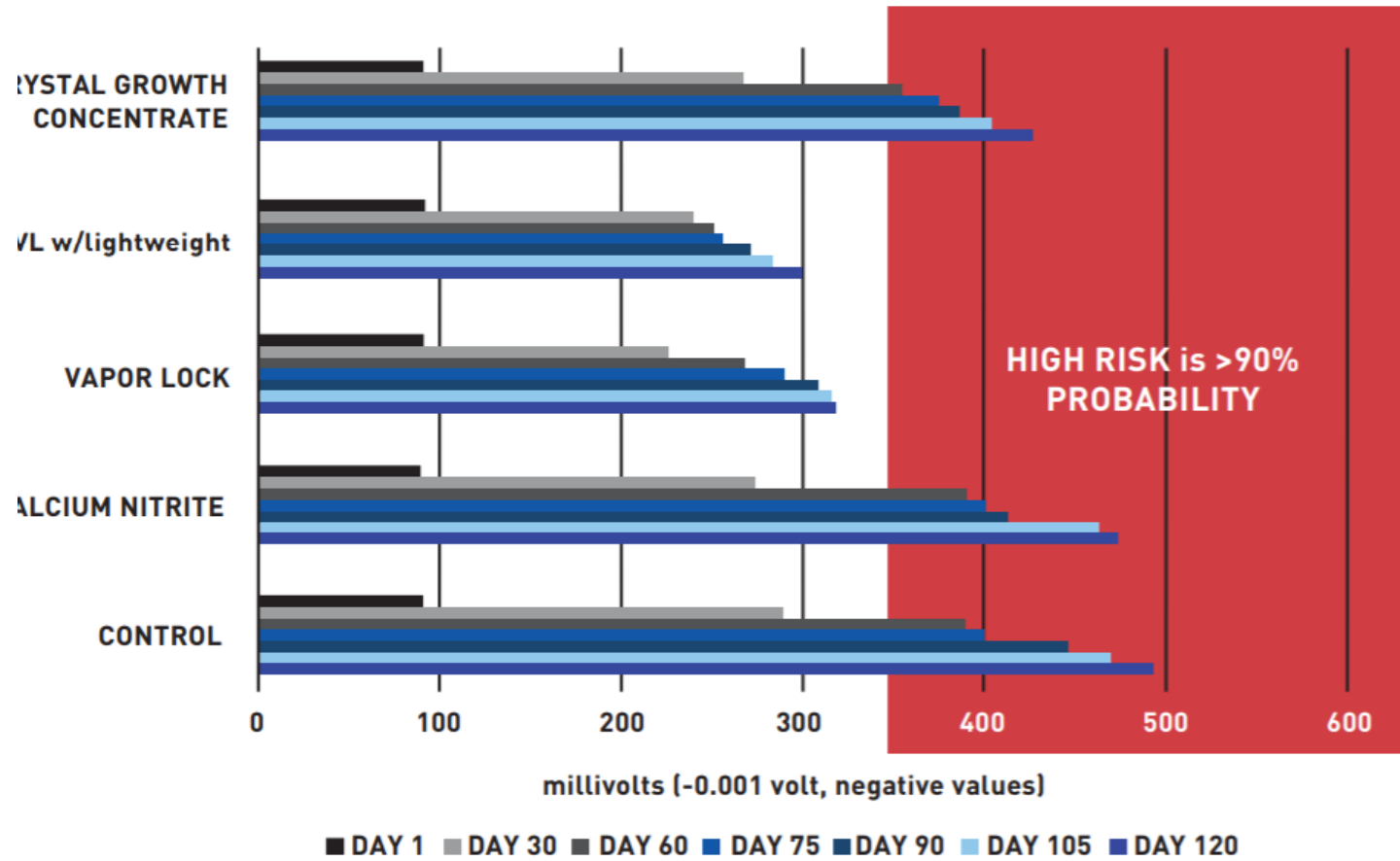
VAPOR LOCK 40-40 CORROSION INHIBITOR AFTER 500 WET DRY CYCLES



40/40 DEMO



CORROSION POTENTIAL





SURFACE HARDENING - DENSIFICATION

- The Vapor Lock 401 Surface Hardening system is 2 ½ times more effective than post applied products.
- This system can provide 2-4 weeks in critical path savings

SURFACE HARDENING - DENSIFICATION

VAPOR LOCK
20-20 & VAPOR
LOCK 1 =

VAPOR LOCK
401 SURFACE
HARDENING
SYSTEM

Vapor Lock™ 401 Surface Hardening System
does not require a curing agent in moderate temperatures.

Vapor Lock™ 401 Surface Hardening System
is compatible with wet curing or chemical curing.



It all starts when the first yard of concrete is placed.

Vapor Lock™ 401 Surface Hardening System reduces damaging moisture vapor transmission and concrete dusting into the building. This is imperative for all of today's buildings that contain critical computer and chip technology and/or robotics, high-value pharmaceuticals and food cold storage. Reducing or even eliminating the risk factors associated with moisture and particulate contamination starts with sustainable building design and continues through corporate risk management and business continuity protocols.

In a typical 100,000 square foot building there are an additional 30,000 gallons of free water that will eventually make its way into the occupied space. Vapor Lock™ stops this from happening.



Controlling the Physical Environment Increasing Equipment Reliability - Reducing Maintenance - Maintaining Quality



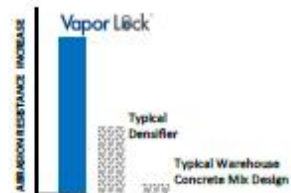
Data Centers



Cold Storage



Warehousing



DECREASING CRITICAL PATH TIMELINE...

Conventional topicals published claims they increase densification by 30% as measured by an abrasion test (ASTM C779.) The Vapor Lock™ 401 Surface Hardening System, consisting of Vapor Lock™ 20/20 in conjunction with Vapor Lock™ 4, increases densification by 70% - two and half times more effective.

This process is completed at the time of finishing, no additional applications will be required, this represents a 2-4 week savings on critical path to completion of the project.

...INCREASING DURABILITY

For additional, in-depth information, please request the following resources:

Your local Vapor Lock™ area application specialist
Application Specific Technical Bulletin-6.3.2017
Board Creep Technical Bulletin



NSF-61 Approval

QUALITY PROCESS VAPOR LOCK 20-20, 20-21, 40-40 & 401 SHS

- Project must be registered with SPG. This will be done by SPG personnel.
- Concrete supplier will be certified to use Vapor Lock 20/21 and adhere to all requirements specified in certification process.
- Finisher will be certified to use Vapor Lock 40/40 and adhere to all requirements specified in certification process.
- SPG approval of mix design.
- Notification of concrete placement minimum 5 days prior to placement by General Contractor or other responsible parties is necessary to ensure the job is manned by SPG Representative. The earlier this can be scheduled the better for all parties.
- ASTM D 5084-Minimum requirements, 6×10^{-8} cm/s Permeability.
- Moisture testing conducted by manufacturer (SPG). Approval must be in writing from manufacturer (SPG) prior to installation of moisture sensitive coatings and adhesives in order to maintain warranty.
- Bond test of moisture sensitive coatings and adhesive materials installed by contractor under similar conditions and materials used in final installation, this installation must be pulled off by SPG personnel to verify strength of bond. Adhesive selection should be for non-porous substrates.
- Concrete must be free of laitance and if detected must be removed.
- Ph testing will be conducted by SPG personnel to ensure Ph is in line with flooring manufacturers' tolerance.
- Authorization to proceed must be obtained in writing prior to installation of Warranted moisture sensitive coatings and adhesives.
- All requested information for purposes of Warranty documentation must supplied to SPG as requested.
- Verify with manufacturer use of current technical bulletins. This will be supplied in writing prior to issuance of authorization to proceed.

SUB-GRADE FOUNDATION WALLS-TANKS-TUNNELS-WASTE WATER HOLDING PONDS



SUB-GRADE FOUNDATION WALLS-TANKS-TUNNELS-WASTE WATER HOLDING PONDS



SHIELD WALL 39 JET SET

Description

Shield Wall 39 is a water-based elastomer modified bitumen liquid rubber applied as a two-component system combining with an inorganic salt to form an "instant-set", 1 minute, water proof coating. When cured this seamless flexible coating functions as a high quality, protective membrane providing excellent protection from water penetration, salt and/or other chemical attack on all concrete exterior surfaces.

Basic Uses

Shield Wall 39 Jet Set should be used in conjunction with Vapor Lock 20-21 / Vapor Lock 40-40 when below grade waterproofing / water-damping requires an additional membrane to insure 0% intrusion from a water source through any crack or joint in tilt up construction or further concrete shrinkage after installation

MAJOR ADVANTAGES

Waterproof permanent impermeable membrane

VOC Free

Excellent Elasticity & Elongation

Sets in minutes

Accelerate application schedule

Backfill 24-48 hrs

Single Application to 80 mils

Superior Impact, chemical, puncture resistance

NSF 61 Approved

Class A Fire Rating

GEO-TEXTILE





SHIELD WALL 39



SPG DOUBLE-GUARD +1 WATER AND DAMPROOFING SYSTEM COMBINING VAPOR LOCK 20-21 & SHIELD WALL 39 JET SET

- **Vapor Lock** is a concrete admixture that waterproofs concrete to an unprecedented degree. This admixture allows the warranted accelerated application of moisture sensitive coatings and adhesives, allowing the project to stay on schedule
- **Shield Wall 39 Jet Set** is a water-based elastomer modified bitumen liquid rubber applied as a two-component system combining with an inorganic salt to form an “instant-set”, 1-minute, waterproof coating. When cured this seamless flexible coating functions as a high quality, protective membrane providing excellent protection from water penetration, salt and/or other chemical attack on all concrete exterior surfaces.

QUALITY PROCESS SHIELD WALL 39 JET SET

- Shield Wall 39 Jet Set will be installed by Certified SPG contractors
- Authorization to proceed with installation must be received prior to application of Shield Wall.
- Certification by SPG personnel that the product is current and within the manufacturers acceptable shelf life.
- SPG will inspect and approve or recommend additional and appropriate surface preparation as required.
- Weather conditions must be appropriate for application of Shield Wall to exterior surfaces.
- Mil thickness will be periodically inspected by SPG to ensure proper depth is being applied.
- Upon completion or in phases as appropriate SPG will inspect application and issue authorization to proceed with backfilling.

DOUBLE GUARD +1



- Water proofing with a labor & material Warranty
- Superior concrete
- Water proofs even if concrete cracks 5/16"
- Seamless
- Time savings
- \$ Savings



DUST CONTROL
SOIL STABILIZATION
HAUL ROAD
RETENTION PONDS

DUST CONTROL



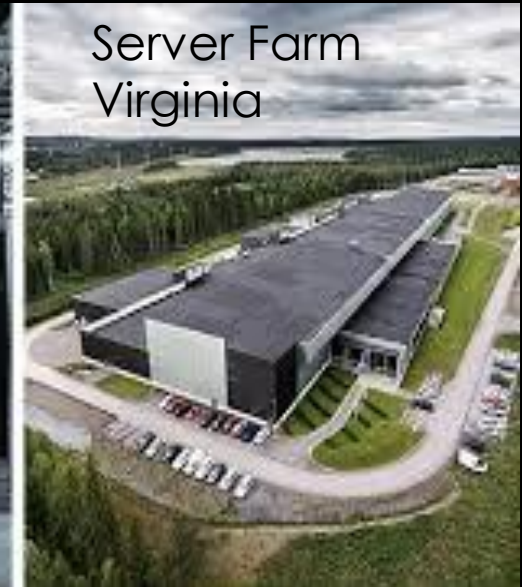
- Vapor Lock 555
- 3-6 months between treatments
- Water savings of 50,000 US Gallons
- Labor savings of \$125,000.00
- Rock savings \$75,000.00

DRIVING FROM 555 TREATED ROAD SURFACE ONTO AN UNTREATED ROAD SURFACE



SYSTEMS WORKING IN HARMONY

- Vapor Lock 20-20 Flooring – Roofing – Coatings
- Vapor Lock 20-21 Waterproofing
- Vapor Lock 40-40 Corrosion Inhibiting / Waterproofing
- Vapor Lock 401 Surface Densifying System
- Shield Wall 39 Jet Set Rubberized Spray Coating Membrane
- Jet Set 100 Epoxy Coating
- Vapor Lock SCS 120 soil waterproofing
- Vapor Lock 555 Soil Stabilization
- Double - Guard +1 Waterproofing & Dampproofing system with Vapor Lock 20-21 Waterproofing & Shield Wall 39 Jet Set
- Double-Guard X2 Waterproofing & Dampproofing system with Vapor Lock 40-40 Corrosion Inhibiting admixture and Shield Wall 39 Jet Set
- Dust Control
- Soil Stabilization
- Triple Guard Watertight Fusion Retention Pond Liners
- All products / systems carry 10 year 3rd party underwritten insurance policy from Lloyd's of London for \$20,000,000.00 (CAD) direct to the end user and general contractor will be added as additional insured



PRESERVE THE FUTURE

The End

Wild
Applause!!

Questions??



