ZIRCONIA™
*Ending Concrete Corrosion*

MIAMI-DADE COUNTY APPROVED
Miami-Dade County, FL
NOA No. 24-0626.03
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# CeramycGuard™ Product Sheet

*Treated tower*

*Untreated tower*

## CeramycGuard™ Ceramic Surface Treatment

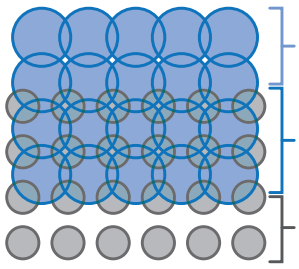
CeramycGuard seals and protects concrete from carbonation, salts, and weathering, stopping concrete corrosion. It is an ideal solution for both new concrete protection, and long-term corrosion repair.

### Product Description

Zirconia's CeramycGuard™ Ceramic Surface Treatment (CST) is an inorganic, nano-alumina-silicate coating, which chemically bonds with the concrete surface, forming a permanent composite layer. This technology restores and protects concrete surfaces from corrosion indefinitely.

This coating is an analogue of granite, or Roman Cement.

**Corrosion Stops Here**. CeramycGuard eliminates porosity, and is immune to carbonation, salts, UV, and moisture. This means that once applied and cured, it permanently modifies the surface characteristics of the treated concrete asset, eliminating corrosion pathways and surface vulnerability to environmental attack. With a surface that cannot corrode, structural concrete and reinforcing steel are protected.




### Product Features

- Chemically bonded (will not peel or delaminate)
- Immune to carbonation and salt
- Immune to UV
- Immune to moisture
- Impervious to heat and cold (freeze-thaw)
- Repairs surface corrosion damage
- Permanently fixes cracks and spalls
- Non-porous yet breathable
- Biologically Impervious
- Harder, denser, and more durable than concrete
- Waterborne, non-toxic (near-zero VOC)
- High temperature service (2000°F no degradation)
- Stabilizes concrete (chemically and physically)

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WRAS APPROVED MATERIAL

## CeramycGuard™ Ceramic Surface Treatment

| FEATURE | ADVANTAGE | BENEFIT |
|---|---|---|
| **Ultra-Durable Ceramic** | Concrete gains long-term performance of a geopolymer (Roman cement) at a fraction of the cost | Can double, triple, or quadruple, the life of the concrete asset |
| **Chemically Bonded** | Will not delaminate, chalk, or peel | Coating has indefinite lifespan; drastically reduces long-term maintenance costs (for life of asset) |
| **Non-porous** | Disallows ingress of corrosive chemicals | Protects concrete and and helps protect embedded reinforcing steel |
| **Breathable** | Won't trap water vapor | Allows water vapor to escape freely, discouraging rebar corrosion |
| **Carbonation Immune** | Will not degrade from carbonic acid exposure | Treated area no longer vulnerable to carbonation corrosion |
| **Salt Immune** | Strongly inhibits salt ingress | Reduces or eliminates salt corrosion in concrete, helps preserve steel |
| **Biologically Impervious** | Active antimicrobial surface | Microorganisms cannot proliferate, or create biofilm on a coated surface |
| **UV Immune** | Will not degrade from UV exposure | Coating becomes denser and stronger over time from UV exposure; photocatalytic |
| **Thermally Compatible w/Concrete (freeze-thaw immune)** | Will match expansion and contraction of concrete through thermal cycles | Coating exposure will not delaminate from concrete |
| **Oxidative/photocatalytic** | Self-cleaning properties, especially in the presence of direct sunlight | Reduces the need for cleaning, and improves aesthetics |
| **Waterborne, non-toxic** | Near-zero VOC | Can be applied during normal hours of operation and improves worker safety |

Zirconia is a green-tech company that manufactures Ceramic Surface Treatment (CST) coatings for restoring and preserving the inorganic surfaces of concrete infrastructure. CSTs are a new type of inorganic, nano-ceramic coating that leverages the quantum effects of nanoscale ceramic particles to chemically bond and form ultra-durable ceramic composites with the surface of concrete. This new inorganic coating technology offers multiple benefits, including repairing corrosion damage and preventing corrosion from occurring on concrete surfaces permanently.

Zirconia's technology is a revival of Roman Cement as a nano-ceramic coating, with the same lifespan as Roman Cement mortars that built the Colosseum and Pantheon, still standing after 2,000 years.

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