

CeramycGuard™ Technical Data Sheet

CeramycGuard™

Chemically-Bonded Inorganic Coating for Concrete Part A Liquefier • Part B Ceramic Powder • Part C Densifier

Designed for repairing and protecting horizontal, vertical, and overhead concrete surfaces from corrosion.

- Bridges (beams, piers, abutments)
- Cinderblock walls
- Condominiums
- Dams
- Parking garages (decks, walls)
- Precast Products (slabs, pipes)
- Retaining Walls
- Sound barrier walls
- Stormwater infrastructure
- Seawalls
- Tunnels
- Wharfs
- Wastewater Treatment infrastructure

Zirconia's CeramycGuard[™] is a Ceramic Surface Treatment (CST) coating which uses an inorganic nanoscale alumina-zirconia-silicate polymer to restore and protect concrete surfaces from corrosion. Once cured, this inorganic coating is permanently chemically bonded to the concrete which results in it never chalking, peeling, or delaminating from the concrete surface over time, unlike organic coatings such as epoxies or urethanes. This new technology stops attack from carbonation, salts, biological infection, weathering, and other causes of concrete corrosion. An analogue of granite, this coating forms a "skin of granite" with the concrete surface which eliminates porosity and chemically stabilizes the concrete within a ceramic composite. This inorganic coating technology is inert and will extend the life of the concrete structure significantly. CeramycGuard provides superior performance properties while maintaining ease of application.

AFTER: Concrete image a

- Immune to UV light, salts, and carbonation
- Penetrating chemical bonding
- Will not chalk, peel, or disbond

Product Characteristics

Finish:	Matte
Color:	Light Gray
Weight Solids:	80% ± 2%
VOC:	<0.408 g/L; 0.003 lb/gal

Drying Schedule @ 7 mils thick

@ 50% RH	55° F	70° F (50% RH)	85° F
To Touch:	1 Hour	45 Min	30 Min
To Topcoat:			
Minimum:	24 hours		
Maximum:		N/A	
Initial Cure:	24 hours		
Full Cure:	7 days		
Foot Traffic:		6 hours	
Heavy Traffic:		48 hours	

- Biologically Impervious®
- Eliminates cracks
- Water Based

Recommended Spread Rate per Coat					
	<u>Minimum</u>	<u>Maximum</u>			
Wet/Dry Mils (microns)*	7.0 (175)	9.0 (230)			
Coverage sqft/gal	150	230			
Coverage m2/gallon	14.0	21.4			

*Coating does not shrink during drying

NOTE: Only a single coat is needed to achieve properties.

Drying time is temperature, humidity, and film thickness dependent		
Pot Life:	>1 hour @ 70°F	
Shelf-life:	2 years, Store indoors at <100°F	
Flash Point:	None (water based)	
Clean Up:	Water	



Product and System Recommendations

PERFORMANCE CHARACTERISITICS

Substrate: Concrete
Surface Preparation: Clean

PHYSICAL TESTING

Dry Film Thickness 7-9 Mils (175-225 Microns)

Chemical Bonding [ASTM D4541] (Direct Pull-Off) >1000 PSI (concrete failed)

Thermal Expansion Concrete Compatible

Freeze Thaw [ASTM D6944] Thermal Cycling No Checking Occurred No Cracking Occurred No Blistering Occurred

Split Tensile Test Pass

Hardness, Shore D [ASTM D2240] 83.0 ± 5.0

Advanced Weathering UVA/B 370nmλ UVC 200nmλ No Chalking Occurred No Cracking Occurred No Delamination Occurred

High Temperature Service [ASTM D2485-13] 2000°F (No Degradation)

Fire Rating [ASTM E84 – 15b] Zero (0) Flame Spread

Smoke Generation [ASTM E84 – 15b] Zero (0) Smoke

DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of Zirconia Inc. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication.

RECOMMENDED COATING SYSTEMS

Film Thickness		
MILS	(Microns)	
0-<1 mils	0-<25 microns	
7.0-9.0	(175-225)	
	Film Thickr MILS 0-<1 mils 7.0-9.0	

SURFACE PREPARATION

- Surface must be clean, Saturated Surface Dry (SSD) or drier, and in sound condition.
- Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Refer to CeramycGuard Application Specification for detailed surface preparation information.

Do not use hydrocarbon solvents for cleaning.

Minimum recommended surface preparation: Concrete & Masonry: SSPC-SP13/NACE 6, or ICRI No. 310.2R, CSP1-3

APPLICATION CONDITIONS

Temperature: 55°F minimum, 85°F maximum (air, surface, and material) At least 5°F above dew point

Relative humidity: 30% minimum, 85% maximum

ORDERING INFORMATION

Packaging: 1 gallon Weight: 17 ± 0.2 lb/gallon

SAFETY PRECAUTIONS

Refer to the SDS sheets before use.

ENVIRONMENTAL FACTORS

CO₂ generated from manufacture: 8.33 pounds CO₂ per gallon, 200 sq ft gallon 2.2 kg CO₂ per liter, 4.9 square meters per liter

Warranty

Zirconia warrants (i) its title to the product, (ii) that the quality of the product conforms to Zirconia's standards at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT ZIRCONIA MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY ZIRCONIA. Any claim under this warranty must be made by Buyer to Zirconia in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify Zirconia of such non-conformance as required herein shall bar Buyer from recovery under this warranty. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Zirconia. Zirconia is not responsible for any consequential damages.