CERAMIC INSULCOAT ROOF

Product Description

Ceramic InsulCoat Roof is a versatile and robust roof coating system that will protect your real estate investments and enhance pride of ownership. Provides a wise investment for building owners based on the most desirable characteristics including superior performance, ease of application, energy savings and life-cycle costing.

Ceramic InsulCoat Roof is a strong, tough coating formulated with twenty-three high performance ingredients in a complex 100% acrylic suspension with superior adhesion and abrasion resistance. Leading edge ceramic particulate plus high titanium content helps resist UV degradation and the movement of heat through roof systems. Provides significant resistance to cracking, chalking, peeling and weathering.

Ceramic InsulCoat Roof is intended to be a topcoat providing an extension to the existing roofing system and is not a stand-alone roofing material.

Benefits

- Extends the Life of the Roof System
- Green Product that Meets Increasingly Strict Environmental Guidelines
- High Solar Reflectance and Thermal Emittance
- Saves Energy and Reduces Utility Bills (Cooling and Heating)
- Lowers Operating Costs
- Year-Round Thermal Barrier (Warmer in the Winter and Cooler in the Summer)
- Provides Significant Life-Cycle Cost Savings
- Valuable Component of Emerging Sustainable Design Programs

Intended Uses

Ceramic InsulCoat Roof is ideal for use on Commercial, Industrial, Government, and Residential buildings. Roof systems include:

- Built-Up, Modified Bitumen, and Cold-Process Systems
- Asphalt and Fiber-Cement Shingles
- Synthetic Rubber Single-Ply Systems
- Concrete Roofs, Concrete and Fired Clay Tiles
- Galvanized Steel, Aluminum, and Enameled Steel
- Wood Shake and Shingles

Pastel/White base is recommended for peak thermal benefits.

CRRC COOL ROOF RATING COUNCIL RATED PRODUCT

ENERGY STAR

Approvals and Certifications

- EPA ENERGY STAR® Roof Product Partner
- Rated by the Cool Roof Rating Council – CRRC Product ID 0896-0001
- California Energy Commission Title 24 Compliant
- United States Green Building Council – Leadership in Energy and Environmental Design (LEED) Building Rating System. Qualifies for Points under Credit 7.2

Product Data

Characteristics	Test Method	Observation
Weight per US Gallon (3.78L)	FTMS 141 – Method 4184	11 LB (4.99Kg)
Non-Volatile Solids	FTMS 141 – Method 4041	By weight: 69.1% By volume: 60.9%
Viscosity	FTMS 141 – Method 4281	Stormer Viscosity: 100 revolutions in 8 seconds at 500 grams
Toxicity	FTMS 141 – Method 511	Material is non-toxic & requires no special ventilation during application. Contains no materials considered to be health hazards.
Flammability	ASTM 1360 – DOT – MVSS 302	In container: Non-flammable. On concrete: Self-extinguishing – does not support flame spread.
Package Stability		One year + after opening: no settling or other undesirable effects. Materials completely dispersed after stirring.
Abrasion Resistance	FTMS 141 – Method 6192 Tabor C17 Wheel - 100 grams - 1000 cycles	Weight loss in grams: InsulCoat Roof with aggregate 41 g InsulCoat Roof without aggregate 14 g Epoxy floor coating without aggregate 9 g (Typical)
Hardness	ASTM D2370	6H – This is the hardest value measured by this test and compares to a typical 2H hardness of hardwood floor finishes.
Impact Resistance	ASTM D2794	28 inch-pounds of impact with no break in the film surface. Typically, 20 inch-pounds of impact is considered to be a high performance test result.
Water Resistance (wind-driven rain)	TTC-555 Time for water to penetrate: Water driven against test surface at a dynamic pressure equivalent to 98 mph	Time for water to penetrate: One Coat 6.3 mils 30 minutes Two Coats 10.0 mils 11 hours Two Coats 12.0 mils none at 24 hours
High Humidity Resistance	FTMS 141 – Method 6201 100% condensing humidity at 107° F – 41.67° C	336 hours with no evidence of film deterioration, blistering or peeling from substrate (250 hours required to pass Federal Specifications).
Salt Spray	FTMS 141 – Method 811.1 100% condensing 5% salt fog at 95° F – 35° C	336 hours with no evidence of film deterioration, blistering or peeling from substrate. (250 hours required to pass Federal Specifications).
Fungus Resistance	FTMS 141 – Method 6271	No fungus growth when material tested in an environment of three organisms.
Cool Roof Rating Council		
Solar Reflectance	ASTM C1549	0.88 Initial / 0.68 Three-Year Aged
Thermal Emittance	ASTM C1371	0.87 Initial / 0.89 Three-Year Aged

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Volatile Organic Compounds (V.O.C.) by SCAQMD 304 / EPA 24		
V.O.C. gm/l (Less Water)	SCAQMD Method 304 (Equation 5.2)	42.0 gm/l
Volatiles, %	ASTM D2369	33.07
Water, %	ASTM D4017	30.08
Density, lb/gal	ASTM D1475	11.74 lb/gal
Density, gm/ml	ASTM D1475	1.407 gm/ml
California Energy Commission: Title 24, Part 6, Section 118(i)3, Table 118-C		
Initial Percent Elongation (break)	ASTM D2370 Minimum 200% at 73º F (23º C)	445%
Initial Flexibility	ASTM D522, Method B Minimum pass 1-inch mandrel at 0º F (-18º C)	Pass
Initial Tensile Strength (maximum stress)	ASTM D2370 Minimum 100 psi (1.38 Mpa) at 73º F (23º C)	210 psi
Initial Tensile Strength (maximum stress)	ASTM D2370 Minimum 200 psi (2.76 Mpa) at 0º F (-18º C)	220 psi
Final Percent Elongation (break)	ASTM D2370 Minimum 100% at 73º F (23º C) after 1,000 hours accelerated weathering	150%
Final Elongation after Weathering	ASTM D2370 Minimum 40% at 0º F (-18º C) after 1,000 hours accelerated weathering	130%
Permeance	ASTM D1653 Maximum 50 perms; wet cup method; inverted cup	24.9 germs A “perm” is a unit of measure expressing a coating’s ability to allow moisture vapor to pass through the film, or its “ability to breathe”. The lower the “perm” rating, the more likely the coating will blister over time.
Accelerated Weathering	ASTM D4798/G155 (a) No cracking or checking after 1,000 hours accelerated weathering	None Any cracking or chipping visible to the eye fails the test procedure.

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ASTM – (American Society for Testing and Materials)
EPA – (Environmental Protection Agency)
EPA ENERGY STAR® is only valid in the United States of America
FTMS – (Federal Test Method Standard)
SCAQMD – (South Coast Air Quality Management District)
TTC – (Federal Specification TT-C-555B)

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Application Characteristics

Installation	Ceramic InsulCoat Roof requires a two-coat system of 10-12 dry mils over a clean, dry and sound roof substrate.	
Material	Single component, ready-to-use from container. Do not alter product. Do not add water or thinners. If product consistency is stiff, stir air-free or shake before application. A squirrel mixer is an appropriate tool for on-site mixing.	
Approximate Coverage	Rough, porous surface	100 to 175 sq. ft./gallon
	Smooth, tight surface	175 to 225 sq. ft./gallon
Wet Film Thickness	Apply at 8 to 10 wet mils per coat. Use a wet film thickness gauge to measure applied coating. Gauge must satisfy ASTM D-4414 (Standard practice for measurement of wet film thickness of organic coatings by notched gauges).	
Dry Base Film Thickness	One coat Two coats	5 to 7 dry mils 10 to 12 dry mils
Substrate Preparation	As per Industry Standards, all surfaces must be clean, dry and sound. Repair all leaks and allow to fully cure. Follow National Roofing Contractors Association (NRCA) Guidelines for repairs and surface/substrate preparation of roofing systems. Pressure wash and clean, or airbrush and clean to remove all loose materials, granules, dirt, grease, oil, or other contaminants from substrate. Use appropriate TSP/water solution procedures to remove lichen, mosses, molds, and mildew. Rinse well and allow to dry thoroughly. Allow new roof systems or repairs to existing roof systems to fully cure before applying Ceramic InsulCoat Roof. Apply Ceramic InsulSeal to prime weathered and/or porous surfaces. Apply appropriate primers on metal and wood surfaces.	
Application Temperature Range	39° F (4° C) substrate to 80° F (29° C) ambient air in direct sunlight.	
Color	Box product to ensure uniformity of color.	
Eye Protection	Wear dark sunglasses to protect eyes when applying product.	
Application Method	1.5” nap roller – brush – or commercial airless sprayer. Commercial Airless Sprayer Specifications: Pump (Minimum Specifications): 2.5 gallons per minute 3000 PSI Hose: 3/8” Hose Gun and Tip: Airless Spray Gun (0.023” – 0.584mm tungsten-carbide tip)	
Initial Cure (tack-free)	Air dry, 15 to 30 minutes with moderate to low ambient humidity. Recoat when thoroughly tack free.	
Primary Cure	Air dry, 48 hours at 60° F – 15.5° C or greater surface temperature with moderate to low ambient humidity.	
Final Cure	90 to 120 days	
Clean-Up Solvent (before curing)	Water	
Cohesion Strength	Outstanding bond to dry or slightly damp surfaces. Strong cohesion to any clean, dry concrete, masonry, asphalt, clay and concrete tiles, modified bitumen, primed metal or wood surfaces, and various flexible membrane systems. Hydrostatic pressure will disrupt this bond.	

Roof Maintenance

Create a Maintenance Schedule	Roof systems are exposed to the elements and become dirty over time. It is simple to maintain Ceramic InsulCoat Roof by incorporating periodic sweeping, hosing off and/or power washing to remove accumulations of dirt, pollution, leaves, mud, etc. that accumulate on the roof system.