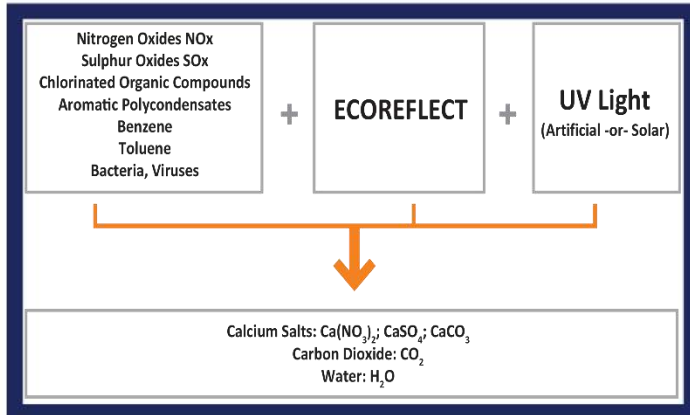




ECOREFLECT

PHOTOCATALYTIC SELF-CLEANING COATING



APPLICATIONS

INTERIOR & EXTERIOR PASSIVE POLLUTION CONTROL
 RESTORATIVE ROOFING WATERPROOFING COATING
 ELASTOMERIC WHITE ROOF COATING
 SELF-CLEANING COATING

KEY FEATURES

DEGRADES AIR, INDUSTRIAL, AND VEHICLE POLLUTION
 RESTORATIVE WATERPROOFING & WHITE ROOF APPLICATION
 NO PRIMER, NO VOC'S, WATER-BASED TINTABLE COATING
ASTM TESTED, UV-REFLECTIVE (SRI = 103)

Ecoreflect is a self-cleaning photocatalytic liquid coating formulated with water based synthetic resins and special titanium dioxide additives. Using active and reflected UV light, Ecoreflect creates a photocatalytic reaction that safely degrades airborne pollutants. For roofing applications, Ecoreflect reduces solar heat absorption and exhibits high UV reflectivity (SRI=103). This creates a net reduction in overall energy cooling costs. Ecoreflect is a single-component coating that can be applied over horizontal, vertical, and sloped surfaces. Ecoreflect strongly adheres to ballast, bituminous, built-up, slated, and tile roofing systems, as well as concrete and wood surfaces.

APPLICATIONS:

Ecoreflect is utilized as a VOC-free, water-based protective coating for flat or pitched roofs, and also for horizontal, vertical, and sloped surfaces in places with high concentration of airborne pollution. It adheres well to numerous substrates, including ballast roofing, bituminous or built-up membranes in good condition, concrete surfaces, metal surfaces in combination with an approved primer, waterproofing systems based on synthetic resins, wood structures, and polyurethane panels. Ecoreflect can be applied via brush, roller, or airless paint sprayer [Graco Tex Spray Mark V, nozzle 427 or 527 – 10% H₂O dilution @ 150 bar (2175 psi)].

Features	Results
Viscosity (Brookfield viscometer DV-E s04, 6 rpm, t=68°F, UR 75%)	24 Pa-s [24000 mPa-s]
Application Temperature	+40 – 95°F [+5 – 35°C]
Max. Humidity	70%
Waiting time between 1 st and 2 nd coats (T=68°F, RH 40%)	5 hours
Drying Time (T=68°F, RH 40%)	5-7 hours
Wet Film Thickness (Each Applied Coat / Total Thickness)	16 mils / 32 mils [406 microns / 813 microns]
Storage	24 months in original containers (dry location)

Yield: 0.02 gal/ft² – 4-gallon bucket @ 2 coats (total wet film thickness @ 32 mils) = 200 ft² [0.75 liter/m²; 4-gallon = 15 liters]

Color: White (can be pre-tinted or tinted with water-based paint tint. Dark colors will lower the SRI-Value of the coating.)

Packaging: 5-gallon plastic buckets [15 liters] (Contact Kingfield for larger containers).

Shipping: Contact Kingfield for orders requiring less than a pallet.

- 4-gallon bucket: 48 units per pallet (2116.44 lb) [960 kg]

Storage: Store in original, air-tight container in well-ventilated areas away from moisture and sunlight between 40 and 95°F.

Health&Safety: See SDS for safety information. Use standard Personal Protective Equipment for applying paints and coatings.

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KINGFIELD CONSTRUCTION PRODUCTS – 20 NORTH 4TH STREET, SUITE 300, MINNEAPOLIS, MINNESOTA 55401



TECHNICAL PERFORMANCE DATA

	Results	Conclusion	Regulations
Isopropanol conversion (simulated smog) with broad spectrum lamp [300W Vitalus – Osram]	80% reduction after 24 hours of radiation	Air Cleaning	
Smoke Test (yellowing 15 days + 3 hours of UVB rays)	Significant whitening	Self-Cleaning	
Solar Reflectance	82%		ASTM E903
Thermal Emittance (E)	90%		ASTM C1371
Solar Reflex Index (SRI)	103		ASTM E1980
Weather Test	1680 hours (>10 years)	No degradation	UNI EN ISO 11507
- Elongation at Break (after weathering test)	166%		
- Traction resistance (after weathering test)	162 psi [1.2 Mpa=N/mm ²]		
- Ponding Water Resistance (9 months)	No degradation	Very Good	
Hydrostatic Head Resistance	238 ft [103 psi / 7.0 atm]	Rewaterproofing	UNI EN 8202/21
Resistance to 50 Freeze-Thaw Cycles (+5 – 60°F)		Unchanged	UNI EN 202
Bend Test	0.47 in [12 mm]	Good	ISO 1519
Elongation at Break	327%		ISO EN 527-3
Adhesion to bituminous membrane Adhesion Test pull – off	>1000 psi [>7.0 Mpa=N/mm ²]	Excellent	ASTM D4541 ISO 4624
Adhesion to slated membrane Adhesion Test pull – off	624 psi [4.3 Mpa=N/mm ²]	Excellent	ASTM D4541 ISO 4624
Adhesion to galvanized sheet Adhesion Test pull – off	247 psi [1.7 Mpa=N/mm ²]	Good	ASTM D4541 ISO 4624
Adhesion to slate Adhesion Test pull – off	363 psi [2.5 Mpa=N/mm ²]	Good	ASTM D4541 ISO 4624
Adhesion to polyurethane panel (PU) Adhesion Test pull – off	218 psi [1.5 Mpa=N/mm ²]	Good	ASTM D4541 ISO 4624

SUBSTRATE PREPARATION:

The substrate must be completely cured, dry, and with all loose material removed. For roofing applications, the surface must be thoroughly clean, well consolidated, without debris or delamination, and with adequate sloping.

Pre-Application Cleaning Recommendations: Remove dust, grease, and oil by washing the surface with water-based, non-solvent cleaners and let dry. In case of very dirty or degraded surfaces, it is recommended to clean it mechanically. Any cracks or deteriorated areas of the support must be restored before application of Ecoreflect. After surface preparation, cover and protect all thresholds, fixtures, and any element that should not be coated before application of the product.

*Ecoreflect adheres to various substrates without primer (exception are some metals), but it is highly recommended to perform a preliminary adhesion test on all surfaces to determine if it is necessary to use a Kingfield approved primer.

Mixing: The product is a single component, ready to use coating. If applied by airless paint sprayer, dilute the product with a maximum of 10% clean water. Before application, mix the product with a drill mixer at low speed in order to prevent air entrapment, obtaining a lump-free homogeneous mixture. Do not add solvents.

Application: Apply in 2 coats. (1) Apply 1st coat (16 mils) [406 microns] over entire surface. Let dry for approximately 5 hours. (2) Apply 2nd coat (16 mils) [406 microns], cross-coating for a uniform finish. **Total coating thickness = 32 mils [813 microns]**

Post-Application: Drying time will change based on relative humidity levels and temperature. Protect coating from water/freezing for 3 days to ensure a completely cured coating. (Ecoreflect dries slower on metal.)

Cleaning: Clean application equipment with water immediately after use. Non-aggressive, non-solvent cleaning products can be used to clean the membrane once it has fully dried. Test membrane prior to cleaning.

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