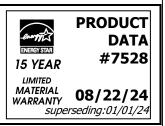


ELASTOMERIC ACRYLIC CERAMIC PERMAKOTE[®] SHINGLE WATERPROOFING & INSULATING MATTE FINISH PROTECTIVE ROOF COATING



Coating

PRODUCT DESCRIPTION:

PERMAKOTE® SHINGLE is a Matte Finish, Bright White, Elastomeric Acrylic, Insulative and Reflective Ceramic, Waterproofing Protective ENERGY STAR® Roof Coating. It is a water-based, high build formula that possesses waterproofing, insulating and soundproofing properties that beautifies, protects and extends the life of most any sloped roofing surface. Designed for asphalt shingle and roll roofing surfaces PERMAKOTE® SHINGLE is formulated with highly breathable elastomeric resins. Forms a thick rubber like ceramic shield of protection that expands and contracts with varying hot and cold temperatures, plus excellent resistance to thermal shock. Unsurpassed in technology, PERMAKOTE® SHINGLE is an energy saving reflective coating that offers superior mildew resistance, ceramic insulation & soundproofing, excellent adhesion, U.V. ray reflectivity and a beautiful matte finish. An energy saving coating that combats the destructive environmental forces of nature. PERMAKOTE® SHINGLE passed the CLASS A Fire Rating Test as per ASTM E84-01, NFPA 101 Life Safety Code. This easy to apply roof coating system will provide many years of durable protection and outstanding beauty, and will extend the roof's life. PERMAKOTE® SHINGLE is an inexpensive alternative solution to roofing and reroofing. PERMAKOTE® SHINGLE offers a 15 YEAR LIMITED MATERIAL WARRANTY (see Warranty Compliance Information Section Below).

PERMAKOTE[®] SHINGLE USES:

Recommended for well draining, SLOPED roofing surfaces only (see Warranty Compliance Below). Excellent adhesion on weathered wood, shakes, plywood, clapboard, primed metal, galvanized, aluminum, tin, copper, asbestos, asphalt, urethane, polyester, primed styrofoam, fiberglass, built-uproofs, bonded roof gravel, rolled roofing, modified bitumen membranes, mineral surfaced roofing, concrete tiles, clay tiles, masonry tiles (flat or barrel), primed synthetic or aluminum, adobe, slate, slab, properly prepared EPDM, and various other substrates. PERMAKOTE® SHINGLE is ideal for residential, commercial and industrial applications. For flat roofs or limited ponding water situations inquire about PERMAKOTE PLUS®, Limited Ponding Water Roof Coating.

SURFACE PREPARATION:

Apply only to a sound, completely dry, well prepared roof surface. Leaks must be repaired before any coating is applied. If primer was applied, it is essential that the primer surface is clean and dry and free of all moisture. If no primer was applied, prepare surface by thoroughly pressure washing with a water and chlorine mixture using at least 1500 P.S.I. to remove any previous coatings, dirt, grease, and other foreign materials, especially mold, mildew and algae. PERMAKOTE[®] SHINGLE will resist mildew growth, but will not kill mildew already on the surface. Patch any holes, cracks, flashings, valleys, vents, etc., with PERMAPATCH™, a Waterproof Caulk and Sealant. Tape & seal all seams with PERMATAPE™, a Polyester Fabric Tape.

Metal: Clean surface of all grease, oil and foreign matter before priming. Rusted metal and uncoated metal must be primed with METAL-PRIME RED-OX™, a Red Iron Oxide Primer Sealer. Use a degreaser on galvanized or coated metals which have oils or surface treatments. Check PERMAKOTE® SHINGLE adhesion on galvanized or coated metal by applying to a small area and evaluating after 48 hours. If lack of adhesion is present after evaluating, metal must be lightly scuffed without penetrating the coated finish or galvanizing. If applicable, use METAL-PRIME RED-OX™ to spot prime the penetrated areas, then use PERMABOND™ Primer for entire coated or galvanized surface.

APPLICATION PROCEDURE:

Stir well before using. Do not thin, use product as is. Mix multiple containers of color together for greater color consistency. Do not apply when temperatures are below 45 degrees Fahrenheit or when humidity is very high. Do not apply when coating will be subjected to rain or heavy dew before it has had enough time to dry (approx. 2 to 4 hours). Drying time will vary depending on temperature, humidity and location. Apply using brush, roller or spray. Spread coating uniformly. Spread Rate will vary depending on surface. Apply each coat between 12 to 16 mils wet film thickness. Wait at least 12 hours before applying a second coat. Two coats resulting in a minimum 16 mil total dry film thickness is required Airless Sprayers: Use at least a 1 gallon per minute piston type airless sprayer with a recommended tip size of .025. Remove all line filters and gun filters before spraying.

Clean Up: Clean up all spills, tools and overspray immediately while the coating is still wet with warm soapy water.

"As an ENERGY STAR® PARTNER, Nationwide Protective Coating Mfrs., Inc. has determined that this product Meets or Exceeds the ENERGY STAR® Guidelines for Energy Efficiency."

WARRANTY COMPLIANCE INFORMATION:

The PERMAKOTE® SHINGLE 15 YEAR LIMITED MATERIAL WARRANTY is for Product Only and applies to chipping, cracking and peeling, only. Labor is not covered by this warranty. This product is not guaranteed to stop or prevent leaks; all leaks must be repaired prior to the application of any coating. The WARRANTY is available only when product is applied according to Manufacturer's Application Procedures and Strict Material Requirement Specifications and a Warranty Registration (and a Job Completion Form if coated area exceeds 10,000 square feet) is submitted to Manufacturer within 90 days of completed coating

application date (Application Procedure Sheets available upon request). SLOPED ROOFS ONLY: This Warranty is available for well draining, sloped roofing surfaces only. Slope of roof must be greater than 1" per 24" or an angle greater than 4 degrees, otherwise inquire about PERMAKOTE PLUS[®] Limited Ponding Water Roof Coating for Flat Roofing Surfaces. MIL THICKNESS: Two coats of PERMAKOTE[®] SHINGLE must result in a minimum 16 mil total dry film thickness. MILIMUM SPREAD RATES: PERMAKOTE[®] SHINGLE must be applied at no more than 150 square feet per gallon per coat, resulting in an aggregate spread

rate of 75 square feet per gallon for both coats.

Ambient Temperature of 77°F and RH of	Rates & Times May Vary Beyond Specifications					
FINISH:	Matte	SPREAD RATE:	100 - 150 sq.ft. per gallon			
COLOR:	White, Deep & Clear Base	DRY to TOUCH:	2 to 4 Hours			
VEHICLE TYPE:	Copolymer Emulsion	RECOAT:	12 Hours			
SOLIDS by WEIGHT:	65% +/- 2%	CURE TIME:	5 to 7 Days			
SOLIDS by VOLUME:	51% +/- 2%	SIZES:	1 Gal., 5 Gal., 55 Gal.			
V.O.C.'s (averages):	.38 lbs./gal. • 46.0 g/liter	GALLON WEIGHT:	11.9 lbs. +/3 lbs.			
Information presented on this Data Sheet has been compiled from sources to be reliable, and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so.						

In Any Event Nationwide Protective Coating Manufacturers, Inc. will not be liable or responsible for any past, present or future leaks or any resulting consequential or incidental damages.

Phone: 941-753-7500 • U.S. Toll Free: 1-800-423-7264 • Fax: 941-753-1773 • E-Mail: info@natcoat.net



MATERIALS HEALTH, SAFETY AND ENVIRONMENTAL DATA SHEET



	Manufacturer's Name: Nationwide Protective Coating Mfrs., Inc. Address: 7106 24th Court East; Sarasota, FL 34243-3993			SHORT TERM EXPOSURE	
Product Identification Manufacturer			Health	Route of Entry: Inhalation: Skin: Eyes:	Precautionary Treatment Expected None Expected None Flush Immediately with large amounts of water for at least 15 minutes, holding eyelids open. Call a physician if irritation persists
Manufacturer Emergency Telephone: 1-800-423-7264 or 941-753-7500 Information Information: 1-800-423-7264 or 941-753-7500 Web Site: www.nationwidecoatings.com E-Mail: info@natcoat.net Date Effective: January 1 st , 2005		Hazard	Ingestion:	Call a physician if significant amounts have been Swallowed Give patient large amounts of water or milk for dilution.	
Physical Properties	Color: White Physical State: Liquid	Odor: Pungent Odor Odor Threshold: Unknown Melting Point: N/A Freezing Point: 32 Fahrenheit Solubility in H ₂ O: Soluble pH (undiluted): 8 to 8.5 Vapor Density (Air=1): <1		LONG TERM EXPOSURE	
	Boiling Point: 212 Fahrenheit Specific Gravity (H ₂ O=1): >1 Vapor Presence: about same as H ₂ O Percent Volatile: 30-35% Evaporation Rate (Butyl Acetate=1): <1			Carcinogen: Target Organ Effects: Other Health Hazards:	None None None Known
IngredientsModified Acrylic Polymer Titanium Dioxide Calcium Carbonate Zinc OxideC.A.S.Ethylene Glycol Ammonia Trimethyl Pentandiol Monoisobutyrate Mineral Spirits Ceramic Micro Spheres	Proprietary (non-hazardous) C.A.S. #: 13463-67-7 C.A.S. #: 1317-65-3 C.A.S. #: 1314-13-2 C.A.S. #: 107-21-1 C.A.S. #: 7664-41-7 C.A.S. #: 25265-77-4	Personal Protection	Respiratory Protection: Protective Clothing: Ventilation: Other Protective Measures: Eye Protection:	No inhalation hazard expected None Required Local None Safety Glasses	
	Mineral Spirits	C.A.S. #: 8052-41-3 C.A.S. #: 66402-68-4	Spill or Leak Protection	Accidental Release or Spill:	Collect liquid or solidify with absorbent package for dispose
Fire Protection Information	Decomposition/Combustion: Flash Point: Recommended Extinguishing Media: Flammable Limits:	N/A N/A; Does Not Burn N/A N/A		Neutralizing Chemical/Media:	N/A
Storage and Reactivity	Hazardous Polymerization: Storage Conditions: Toxic Products Which May Form:	WO Will Not Occur Keep from Freezing None	Treatability	Biodegradability: With water prior to cure. Influence on Biological Wastewater Treatment: None Other Impacts on Wastewater Treatment: None Recommended Wastewater Treatment: Dilutable Constituents Interfering With or Not Amenable to Biological or Wastewater Treatment: None	
Transportation	Hazard Classes: Hazard Labels: Hazard Determination:	None; Not Hazardous Not Required MSD Sheet	Labeling	Explanation of Unique Labeling System: None Used	
Shipping Containers: Shipping Class:		Varies Class 55; Water Based Paint	Waste Disposal	Dispose of in accordance with Federal, State and Local guidelines.	

EMERGENCY & INFO: 1-800-423-7264

Form based on O.S.H.A. Form 20. Information presented herein has been compiled from sources to be reliable and is accurate and reliable to be the best of our knowledge and belief but is not guaranteed to be so.

EMERGENCY & INFO: 941-753-7500