



# APPLICATION PROCEDURE

## PERMAKOTE® / PERMAKOTE PLUS®

### PERMAKOTE® SEMI-GLOSS

### METAL SLOPED ROOFING SURFACE

**Galvanized • Galvalum • Steel • Tin • Copper • Aluminum • & More**

 <b>ENERGY STAR PARTNER</b>	<b>APPLICATION PROCEDURE</b> <b>#PAK-M</b> Page 1 of 2
<b>7-12 YEAR LIMITED MATERIAL WARRANTY</b>	<b>02/21/11</b> <i>superseding: 02/17/10</i>

<b>MATERIAL ESTIMATION:</b>		Material Estimations are Approximate and Can Differ from Job to Job and Are Not Guaranteed to be Correct Due to Many Variables.
Chlorine	1 quart per 100 square feet	
PERMAPATCH™	1 Gallon fills 144 cubic inches	Caulk and Seal all cracks 1/8" or greater
PERMATAPE™ (2"1/4"/8"x100')	Tape any seams if necessary; Use PERMABOND or METAL-PRIME as Saturant*	
<i>*Add additional PERMABOND™ or METAL-PRIME as Saturant for Tape: 1/4 gal. per 2" Roll - 1/2 gal. per 4" Roll - 1 gal. per 8" Roll</i>		
PRIMER	100-150 square feet per gallon	PERMABOND™ or METAL-PRIME**
<i>**NO RUST: 1 Full Coat PERMABOND™, RUST GREATER THAN 40%: 2 Full Coats of METAL-PRIME RUST LESS THAN 40%: 1 Coat Spot Prime METAL-PRIME and 1 Full Coat METAL-PRIME</i>		
PERMACLEAR™	250-300 square feet per gallon	2 Coats are Required to Clear Seal Skylights
PERMAKOTE® FINISH***	100-125 square feet per gallon per coat	2 Coats are Required
<i>***FINISH COAT of PERMAKOTE®, PERMAKOTE® SEMI-GLOSS or PERMAKOTE PLUS®</i>		

**WARRANTY CONFORMANCE:**

A Warranty Registration Certificate Form Must Be Submitted within 90 days of Completed Application. Confirm Specific Minimum Acceptable Product Spread & Usage Rates for Warranties stated on the Warranty Registration Certificate Form. Roof Surfaces greater than 10,000 square feet requires a Job Completion Form. Request Forms before Application of Any Coating. SLOPED ROOFING SURFACE DEFINITION; These warranties and Application Procedure are for Well Drained, Sloped Roofing Surfaces Only. A Sloped Roof must have a slope greater than 1" per 24" or an angle greater than 4 degrees, otherwise inquire about PERMAKOTE PLUS® Limited Ponding Water Roof Coating. Warranty will be void if these criteria are not met.

**WARRANTY TERMS:**

A Limited Material Pro-Rated Warranty for Chipping, Cracking and Peeling, only. Available:

PERMAKOTE®	12 Years
PERMAKOTE® SEMI-GLOSS	7 Years
PERMAKOTE PLUS®	12 Years

*(SLOPED ROOFING SURFACES ONLY)*

**GETTING STARTED:**

All coatings must be stirred manually or mechanically before being used (except for PERMAPATCH™). Do not let products freeze. Do not use any of these products at temperatures below 45 degrees Fahrenheit. Apply all products to dry surfaces only and do not apply products when they will be subjected to rain, high humidity or heavy dew before they have had enough time to dry (check Product Data Sheets). Do not thin any products unless specifically mentioned in this Application Procedure or Product Data Sheets.

**STEP#1: VISUAL INSPECTION and REPLACEMENT of DAMAGED BUILDING MATERIALS**  
 The substrate to be coated must be in SOUND condition. Physically inspect the surface area for missing or damaged building materials. Replace and/or repair all damaged areas back to sound and solid condition. Check for loose or missing fasteners or screws and tighten or replace them. Inspect for any existing leaks and be sure to repair leaks prior to the application of coating. Roofing surface Must Have a Slope Greater than 1 inch per 24 inches or greater than a 4 degree angle, and not pond or hold any standing water at all. Roof must completely drain; proper drainage is essential before any coating is applied. Make sure roof is adequately vented, or condensation leaking can occur. This coating is not intended to stop and/or repair any past, present or future leaks and is not guaranteed to do so. Leaks, Labor and Quality of Workmanship are not warranted and will be the sole responsibility and liability of the applicator/contractor. This Application will not prevent or stop rust on underside of the Roof and Roofing Structure. Check with a licensed roofing contractor if necessary.

**STEP#2: PRESSURE CLEANING**  
 High Pressure Clean entire roof surface with at least 1500 P.S.I. of pressure using a water and chlorine solution (approximately 1 quart chlorine to 5 gallons of water). Thoroughly remove all dirt, oil, grease, residues, mold, mildew, algae and any other surface contaminants. Severe mildew requires a stronger concentration of chlorine and scrubbing with a broom, roof brush or other agitating apparatus. When roof is completely cleaned, rinse with water only. Let roof surface dry at least 12 hours before continuing. PERMAKOTE®, PERMAKOTE® SEMI-GLOSS and PERMAKOTE PLUS® have excellent mildew resistance, but these products WILL NOT KILL mildew already on the surface.

**STEP#3: SPOT PRIME or FIRST COAT PRIMER** *(If Roof has NO VISIBLE SURFACE RUST, Proceed to Step#4:)*  
 Rusted, Oxidized or Corroded metals need to be properly prepared to remove all flaking and scaling areas by scraping, sanding, wire brushing or sand blasting. If less than 40% Rust, Spot Prime prepared areas or, if Rust is Greater than 40% Full Coat with a liberal coat of METAL-PRIME using: 1- brush, 2- at least a one inch nap roller, or 3- at least a one gallon per minute piston type airless sprayer with a .027 minimum tip size. Remove all line filters and gun filters before spraying. Apply the METAL-PRIME at a rate of 100-150 square feet per gallon covering the prepared area or entire roof surface. Wet film thickness of 12-16 mils resulting in a dry film thickness of 8-12 mils. Let METAL-PRIME dry at least 4 hours before continuing.

As an ENERGY STAR® PARTNER, Nationwide Chemical Coating Mfrs., Inc. has determined that select products meet or exceed the ENERGY STAR® guidelines for Energy Efficiency.

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



# APPLICATION PROCEDURE

## PERMAKOTE® / PERMAKOTE PLUS®

### PERMAKOTE® SEMI-GLOSS

#### METAL SLOPED ROOFING SURFACE

Galvanized • Galvalum • Steel • Tin • Copper • Aluminum • & More



APPLICATION PROCEDURE  
#PAK-M  
Page 2 of 2

NATIONWIDE CHEMICAL COATING MFRS., INC. • 7106 24<sup>th</sup> Court East • Sarasota, Florida 34243 • U.S.A.

#### **STEP#4: REPAIRING SURFACE & PATCHING IMPERFECTIONS**

After surface has thoroughly dried, Patch and Caulk all cracks, crevices, fractures, holes, valleys, vents, voids, etc., with PERMAPATCH™. Use a trowel or stiff brush to apply. Multiple coats are better than one thick coat if possible. The thicker PERMAPATCH™ is applied, the longer it will take to dry. Wait at least 4 hours before applying a second coat of PERMAPATCH™ and let final application dry at least 24 hours before continuing to next step. PERMAPATCH™ dries from top to bottom, so be careful when working around a caulked area since it will be skin dry. There is no problem coating over PERMAPATCH™ even if it is not completely dry, since it is a high solids material. Do not apply PERMAPATCH™ to rusted areas, METAL-PRIME must be applied before using PERMAPATCH™ in any rusted areas. PERMAPATCH™ has minimal shrinkage, but the thicker PERMAPATCH™ is applied the more chance it has to shrink, check after 24 hours and apply additional PERMAPATCH™ if necessary.

#### **STEP#5: TAPING SEAMS** (If Applicable, otherwise proceed to STEP#5:)

Tape all visible seams, valleys, large cracks & fractures prone to water intrusion on roof surface. On rusted seams use METAL-PRIME, otherwise PERMABOND™ can be used as Fabric Saturant. Apply a liberal coat of PRIMER (METAL-PRIME or PERMABOND™) 12-16 mils wet film thickness, directly to the affected area using: 1- brush, 2- at least a one inch nap roller, or 3- at least a one gallon per minute piston type airless sprayer. Minimum tip size for PERMABOND™ is a .021 and minimum tip size for METAL-PRIME is .027. Remove all line filters and gun filters before spraying. Lay the PERMATAPE™ directly onto the WET PRIMER. Tape must be put down before PRIMER has had a chance to start drying (approximately 15 minutes). After all areas are taped let dry for 1 to 2 hours. Apply a second light coat of PRIMER at 6-8 mils wet over the top of the tape. Let dry for at least 2 hours before continuing. If a full PRIMER coat (Step#6:) is applied the second light coat of PRIMER is recommended but not required.

#### **STEP#6: FULL PRIMER COAT**

If Roof has NO RUST use PERMABOND™ as PRIMER, If Roof has ANY RUST this should be the Second Coat of METAL-PRIME over Spot Primed areas or if roof had GREATER than 40% Rust this should be Second Full Coat of METAL-PRIME. Apply PRIMER (METAL-PRIME or PERMABOND™) 12-16 mils wet film thickness using: 1- brush, 2- at least a one inch nap roller, or 3- at least a one gallon per minute piston type airless sprayer. Minimum tip size for PERMABOND™ is a .021 and minimum tip size for METAL-PRIME is .027. Remove all line filters and gun filters before spraying. This Coat of PRIMER must be applied perpendicular to the slope of the roof. Example: If the slope of the roof runs from North to South then the coating will be applied from East to West. This will be the start of a checkerboard application pattern. See diagram below. Apply the PRIMER at a rate of 100-150 square feet per gallon covering the entire roof surface. Wet film thickness of 12-16 mils resulting in a dry film thickness of 4-12 mils. Let PRIMER dry at least 4 hours before continuing.

#### **STEP#7: FIRST COAT of ROOF COATING** (PERMAKOTE®-PERMAKOTE® SEMI-GLOSS-PERMAKOTE PLUS®)

Be sure entire surface is clean and free of all moisture. Be sure the entire area to be coated is primed with a minimum dry film thickness of at least 4 mils. If not, then spot prime the deficient areas until the minimum dry film thickness is achieved. Apply First Coat of Roof Coating using: 1- brush, 2- at least a one inch nap roller, or 3- at least a one gallon per minute piston type airless sprayer with a .027 minimum tip size. Remove all line filters and gun filters before spraying. The first coat must be applied perpendicular to the coat of PRIMER to continue the checkerboard pattern. See diagram below. Apply the first coat at a rate of 100-125 square feet per gallon per coat over the entire roof surface. Wet film thickness of 14-16 mils resulting in dry film thickness of 8-10 mils. Let dry at least 12 hours before continuing.

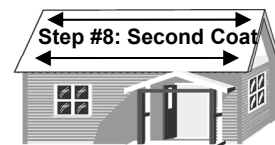
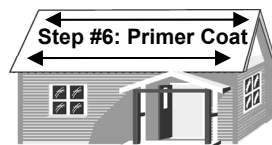
#### **STEP#8: SECOND COAT of ROOF COATING** (PERMAKOTE®-PERMAKOTE® SEMI-GLOSS-PERMAKOTE PLUS®)

Be sure entire surface is clean and free of all moisture. Be sure the entire area to be coated has a minimum dry film thickness of 12 mils (this includes 4 mils of PRIMER). If not, then spot coat the deficient areas until the minimum dry film thickness is achieved. Apply Second Coat of Roof Coating using: 1- brush, 2- at least a one inch nap roller, or 3- at least a one gallon per minute piston type airless sprayer with a .027 minimum tip size. Remove all line filters and gun filters before spraying. The second coat must be applied perpendicular to the first coat of ROOF COATING to complete the checkerboard pattern. See diagram. Apply the second coat at a rate of 100-125 square feet per gallon per coat over the entire roof surface. Wet film thickness of 14-16 mils resulting in dry film thickness of 8-10 mils. Let dry at least 24 hours before Final Evaluation.

#### **STEP#9: FINAL EVALUATION**

At this time a detailed evaluation of the completed job will determine the quality of the workmanship and whether strict application specifications have been met. The entire roofing surface must be completely coated & sealed. Be sure to check that all roof areas are completely coated & sealed under permanently placed roof items such as roof top air conditioning units. Divide roof into 1,000 square feet sections and randomly check one spot in each section for a dry film thickness of all three coats of at least 20 mils. Remember to touch up the penetration made by the dry film thickness gauge. If specifications have not been met, recoat the entire roof or deficient areas. Repeat evaluation and recoating until the required minimum dry film thickness is achieved. If rust bleeds through PERMAKOTE® FINISH, reapply two coats of METAL-PRIME and recoat with PERMAKOTE® FINISH.

**How to Achieve  
the Checkerboard  
Application Pattern**



In Any Event Nationwide Chemical 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