

# PERMACOOL COATINGS

## ACRYLIC SYSTEMS APPLICATION INSTRUCTIONS

### EQUIPMENT

- Gloves
- Safety Glasses/Goggles
- Masking Tape
- Straight Edge
- Utility knife
- Wire brush
- Wet Millage Gauge
- Scissors
- Dye-free Cloths/Rags
- 1/4 nap rollers
- 4" Chip Brush
- Trowel
- Power Drill with mixing
- Roller sleeves & Handle

### DESCRIPTION

PermaCool is a highly elastomeric, 100% acrylic protective coating designed for use may be applied as a reflective coating over clean, sound, and dry single ply, modified bitumen, BUR, metal roofing and/or other approved existing coatings. Upon cure PermaCool forms a durable, flexible coating that is highly reflective and resistant to natural weathering.

This guide discusses basic techniques, environmental conditions, safety considerations, and limitations for the application of the PermaCool System Coatings and components.

### WORKING TIMES\* (at 75 °F and 50% RH)

PRODUCT	DRY TIME	NEXT COAT	FULLY CURED
PermaPrime BleedBlock	90 min	6 hrs	24 hrs
PermaPrime BleedBlock-SS	—	6 hrs	30 days
PermaPrime M	—	6 hrs	24 hrs
PermaPrime SP	45 min	6 hrs	30 days
PermaCool AC	90 min	6 hrs	30 days
PermaCool HT	90 min	6 hrs	30 days
PermaCool AC Flash	4 hrs	6 hrs	24 hrs

\*All working and cure times are approximate and may vary upon humidity, ambient/surface temperatures and application thickness.

### STORAGE & HANDLING

**Coatings/Primers:** Store materials between 55 - 80°F. PROTECT FROM FREEZING. Do not store in direct sunlight. Storage outside the recommended guidelines for an extended period of time could affect performance of the material.

**Fleece:** When not in use, store fleece in a sealed wrap or container to protect from contaminants. Exposure to moisture, dust, dirt and debris will compromise and may cause failure of the finished application.

### SAFETY PRECAUTIONS

Prior to starting work, read and follow all product labels, Product data sheets and published specifications for recommended application guidelines. Refer to product Safety Data Sheets (SDS) for health, safety and environment related hazards. The applicator is responsible for ensuring conditions are appropriate to proceed and proper application methods are followed.

### QUALITY ASSURANCE TIPS

- ▶ Adequate surface preparation is the key to proper adhesion with the substrate.
- ▶ Check weather conditions prior to start of work. PermaCool coatings are UV radiant curing material and should be applied on warm sunny days for best results.
- ▶ Use precautions and protect all surfaces that are not to be coated. Mask off sensitive areas such as windows or equipment, and provide protective screening as needed to prevent overspray.
- ▶ Route all HVAC condensate lines to roof edges or into roof drains to prevent moisture contamination and damage.
- ▶ Do not thin this product. Thinning will affect performance and may coagulate the coating.
- ▶ At steep slopes 2:12 or greater application may require multiple thin coats to achieve the desired mil thickness.

### DISCLAIMER

The applicator is responsible for ensuring conditions are appropriate to proceed with proper application methods. Refer to DERBIGUM product, specifications and guides for additional information. Materials and methods should be adjusted as necessary to accommodate varying project conditions. Materials should not be installed when conditions are unacceptable to achieve the specified results.

For complete application instructions and specifications contact DERBIGUM Technical Services.

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### SUBSTRATE CONSIDERATIONS

**General:** The applicator is responsible for determining whether an existing roofing system is a suitable candidate for a roof coating system. To determine if a roof is a good candidate,

**Slope/Drainage:** Roof must have positive drainage. Substrate should not pond water for more than 48 hours after precipitation stops.

**Moisture Survey:** DERBIGUM advises that a moisture survey be performed prior to application to verify if the existing roofing assembly is dry and free from trapped moisture. Approved methods include using infrared, electronic capacitance, nuclear scans or cutting core samples.

**Adhesion Tests:** DERBIGUM advises that adhesion/peel tests be performed prior to application to ensure adequate bond can be achieved or if a primer or other specific surface preparation is required.

**Repair:** Any unsound areas in the roof, including blisters, ridges, delamination, deterioration, moisture saturation and sharp projections shall be repaired or replaced prior to coating. Substrates and penetrations may require sandblasting or grinding in some cases to achieve a suitable surface.

**Metal:** Replace all missing, stripped and deteriorated fasteners using appropriate fasteners with EPDM-backed washers. Fasten all metal roofing and flashing over-lapped seams as required to prevent movement/opening of seams under foot traffic.

**Single Ply:** Remove and replace wet insulation and/or defective materials, cut membrane on three sides; fold back and replace with like-materials.

**Modified Bitumen/Smooth BUR:** Remove and replace wet insulation and/or defective materials with like-materials and tie into existing roofing in accordance with NRCA.

**Environmental Conditions:** Environmental conditions such as temperature, dew point, humidity, precipitation, sun, cloud cover, wind and shade can affect application of PermaCool Coatings and Primers. Monitor and confirm all environmental conditions are satisfactory before beginning work. Ambient and surface temperatures must be between 50 - 95°F and a minimum of 5° above dew point. Do NOT apply if rain or freezing temperatures are predicted within 24 hours.

### SUBSTRATE PREPARATION

**General:** All surfaces must be free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, paints, coatings, lacquers, excess granules, or any other condition that would be detrimental to adhesion of the primer and membrane.

**Cleaning:** To remove dirt, biological growth and other residue apply PermaPrime Roof Wash. Power wash all surfaces with a minimum of 2000 psi using a wide fax tip. Completely remove the cleaning solution, failure to do so could result in poor coating adhesion. Water should be clear with no soap bubbles. Allow surface to completely dry before applying any primers or coatings.

**Primer:** Primers are highly recommended to prevent asphalt bleed through, inhibit rust or promote adhesion of PermaCool Coatings. Not using a primer may result in aesthetic concerns or potential adhesion issues. After mixing, apply primer per the application coverage rate and recommended mil thicknesses listed below using a roller or airless sprayer. Allow surface to dry for a minimum of 4 hours. Inspect surface and laps for insufficient coating thickness. Corrective action requires additional coating application at specified rates.

SUBSTRATE	PERMACOOL SYSTEM PRIMER	APPLICATION RATE (GAL/100 SF)
Asphalt, BUR & Modified Bitumen	PermaPrime BleedBlock	0.75 @ 16 wet mils
Smooth Surfaced MB & BUR	PermaPrime BleedBlock-SS	1.5 - 2.0 @ 16 wet mils
Metal	PermaPrime M	0.5 @ 8 wet mils
TPO	PermaPrime SP	0.5 @ 8 wet mils
PVC	PermaPrime SP	1.0 @ 16 wet mils

**IMPORTANT:** Primers must be top coated within 24 hours of application to ensure proper coating practices.

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### FLASHING DETAILS

**Seams:** Roof seams can be a primary area where leaks occur. It is important to properly treat all seams prior to application. For substrate specific seam treatment, refer to DERBIGUM's published specifications and guidelines

**Flashing/Penetrations:** All penetrations, laps, flashing, joints, transitions and fasteners must be sealed and caulked prior to coating application. All details must be flashed in accordance with published DERBIGUM specifications and details.

### COATING

**Mixing:** Separation will occur when the coating is stored for an extended period of time. Thoroughly mix the entire container for approximately 5 minutes using slow-speed (200 to 400 rpm) until a uniform consistency is achieved.

**Application:** PermaCool coatings are a UV radiant curing material and should be applied on warm sunny days for best results. Coatings can be applied using a brush, roller or airless sprayer. Apply first coat evenly at a rate of 1.5 gallons per 100 SF (24 wet mils). Allow surface to dry for a minimum of 4 hours before applying the next coat.

**Recoat:** Apply the second coat perpendicular to the first coat at a rate of 1.5 gallons per 100 SF (24 wet mils). *For spray application or granulated substrates, the second coating must be back rolled to prevent shading and voids.* Allow surface to dry for 16 - 24 hours. Inspect all areas and seams for insufficient coating thickness. Corrective action will require additional coating application at specified rates.

**Curing:** All working and cure times are approximate and may vary upon humidity, ambient/surface temperatures and application thickness. NOTE: Cold conditions will slow curing times while warmer conditions will accelerate them.

**IMPORTANT:** Remove perimeter taping prior to membrane cure.

**Clean up:** Before coating dries, clean hands, tools, spillage, etc., with warm soapy water. For cured material use mineral spirits or citrus-based cleaners.

### SPRAY APPLICATION

**Equipment:** Airless sprayers can vastly improve productivity. Spray equipment should meet the following criteria:

CRITERIA	QUANTITY
Pump Fluid to Air Ratio	30:1
Minimum pump pressure	3000 psi
Out put	2.5 GAL/Min
Spray Run	3000 psi
Minimum Tip Orifice	0.027 - 0.039 inch
Tip fan angle	40° - 50°
Hose Inside Diameter/Length	3/8 inch 75 feet 1/2 inch 200 feet 3/4 inch 200 feet

Refer to the equipment manufacturer for appropriate use and maintenance of all spray equipment and accessories.

**Start-up:** Adjust the tip size according to current conditions. Hose length, ambient and material temperatures can affect the spray pattern. If the spray pattern is pulsating, reduce the size of the tip orifice. This will decrease the delivery volume of the material and increases pressure. To reduce applicator fatigue, install a wand extension with a 45° elbow at the tip.

**Precautions:** For spray applications, PermaCool Coatings should be pre-conditioned and maintained at or above 65°F. Spray application is not recommended for winds speeds above 15 mph. To combat windy conditions, windbreaks, additional masking and clearing of adjacent areas are strongly recommended to protect from overspray.

**Technique:** When spraying, hold the tip roughly 12-24 inches above the substrate. To ensure uniform coverage, use a half-lap technique, where each spray pass is overlapped 50 percent. Always verify coating thickness during application with a wet mil gauge. On vertical surfaces, take care not to apply material too thick, which could cause runs or sags.

**Clean up:** Clean equipment while coating is still wet. A general purpose cleaner is recommended. Thoroughly rinse all hoses and spray equipment at end of the each day.

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