

SYSTEM SPECIFICATION



MACoat™

Solar Reflective Finish

Description

Westcoat's MACoat™ Solar Reflective Finish System is a fiberlath reinforced deck system installed with a series of two or three separate waterproof acrylic applications and sealed with Westcoat's series of Solar Reflective SC-10 Acrylic Topcoats, that utilize infrared (IR) pigments. The finished product weighs approximately one pound per square foot. MACoat™ Solar Reflective Finish is a Class III permeable vapor retarder and waterproofer. It allows water vapor to migrate up and pass through the coating, while still shedding liquid water from off the top. This is different from most traditional urethane coatings, which are not permeable. This system reduces the Urban Heat Island Effect and can lower the surface temperature. It also meets the Cool Roof requirements of California Title 24*.

Uses

The MACoat™ Solar Reflective Finish System is suitable for commercial and residential environments. It is designed for use on balconies, corridors, stairs and landings. It is regularly specified for homes, hotels, condominiums, apartments, office buildings and is suitable for parking structures with vehicular traffic. In many cases it can be applied over existing deck systems to provide an excellent method for the rehabilitation of problem surfaces.

System Overview Topcoat Texture Coat Slurry Coat Fiberlath Concrete

System Data					
Coverages	Base Coat 220-260 ft ² per batch	Slurry Coat 250-320 ft ² per batch	Smooth Texture (Optional) 300-350 ft ² per batch	Texture Coat (Opt 150-200 ft ² per batch	tional) Topcoat 200-400 ft ² per gallon
Components	WP-47H Fi WP-47A Se WP-90 Wa WP-81 Cen TC-1W Wh TC-2 Smooth	terproofing F nent Modifier ite Basecoat oth Texture C	y Duty Resin C Cement ement	Shelf Life 12-18 months 2 years 5 years 1 year 2 years 2 years 1 year 1 year 2 years	CRRC ERATED PRODUCT ER-587
Certifications					

DISCLAIMER: PURCHASER'S SOLE AND EXCLUSIVE REMEDY AGAINST THE MANUFACTURER OF WESTCOAT, SHALL BE LIMITED SOLELY TO THE REPLACEMENT OF ANY DEFECTIVE MATERIAL OR A PAYMENT BY THE MANUFACTURER IN AN AMOUNT EQUAL TO THE COST OF THE ORIGINAL MATERIAL.





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Advantages

Meets California Title 24 Requirements* • Helps Reduce the Urban Heat Island Effect • Lowers the Surface Temperature • Flexible • Durable • Fast Access After Installation • Choice of Colors and Textures • Tough Final Coat is UV Resistant • Safe, Skid Resistant Textured Finish • Environmentally Safe Acrylics • Waterproof

Inspection

Concrete must be a minimum of 2 inches thick. It must be clean, dry and free of grease, paint, oil, dust, curing agents, laitance or any foreign material that will prevent proper adhesion. The concrete should be at least 2,500 PSI, porous and able to absorb water. A minimum of 28 days curing time is required on all concrete. Slope must be a minimum of ¼ inch per linear foot. Decks should meet local building code.

Moisture

All concrete should be tested for moisture before applying a seamless coating. If moisture emissions exceed 4% by weight using a concrete moisture meter (ASTM F2659) or if the relative humidity (RH) exceeds 75% (ASTM F2170), please refer to the EC-15 Moisture Vapor Barrier Product Specification Sheet.

Preparation

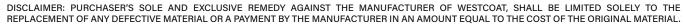
Prepare concrete to a profile equal to CSP 3 as specified by ICRI. Over existing coating, abrade the surface and do an adhesion test. For rough concrete, a slurry coat may be applied. Create the slurry coat by adding one gallon of WP-81 Cement Modifier and up to ½ gallon of water into a clean mixing bucket and add one bag of TC-1 Basecoat Cement. Mix until uniform with a mechanical mixer at a low rpm. Trowel the slurry mix over the surface to achieve a smooth finish. Coverage of the slurry coat is between 100-150 square feet per batch. Using a brush wet with water, feather all outside edges. After surface is dry (usually 30 minutes to 2 hours at 70 degrees), scrape or grind off any ridges or trowel marks. Applied prior to the MACoat™ installation.

Concrete Expansion Joints

Moving expansion joints should be honored and filled with a 2 part urethane sealant (approved by Westcoat). Sides of joints should be cleaned and applied per joint sealant manufacturer's recommendation after the MACoat™ process is completed.

Concrete Seams and Cracks

Cracks greater than $\frac{1}{32}$ inch should be routed out $\frac{1}{4}$ x $\frac{1}{4}$ inch. Install WP-47A Seam Tape over all cracks and seams. Apply EC-72 Epoxy Patch Gel into the tape with a trowel or putty knife to smooth and broadcast with 30 grit silica sand to allow adhesion of the coating. Allow EC-72 3-4 hours to cure before the next coat. This is a remedial approach to patch cracks and there is no guarantee that cracks will not reappear.







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Plywood Seams

Seams should be dry and free of debris. WP-47A Seam Tape should be installed over all seams and metal flashing. Apply WP-51 Polyurethane Sealant (or EC-72 for a more ridged seam) into the tape with a trowel or putty knife to smooth. Broadcast with 30 grit silica sand to increase adhesion of the next coat.

An alternate way to minimize re-cracking of concrete and reduce movement of plywood seams is to place a 6 inch strip of WP-40 Sheet Membrane over the plywood seams or the cracks in the concrete as an anti-fracture treatment.

Primer Requirements

Priming is not required over properly prepared concrete or plywood. When coating over an existing surface, prime with EC-11 Water Based Epoxy at the rate of 300 square feet per gallon and broadcast with 30 grit or 60 grit silica sand to increase adhesion of the next coat.

Flashing

Flash at the junction of the wall and plywood deck using 4 x 4 inch flashing. Flash the fascia with 2 x 4 inch drip edge flashing. Nail all flashing every 4 to 6 inches. Use a minimum of 26-gauge bonderized sheet metal. Flashing for concrete should be set in a bed of EC-72 and nailed only as needed. The vertical portion of the wall to deck flashing should be nailed at all studs, after the epoxy base has cured. Overlap all seams at least 4 inches. Caulk between overlapped flashing as well as the seam with WP-51 Polyurethane Sealant or WP-53 Hybrid Sealant. (Note: If the flashing is not bonderized, it must be prepared in accordance with SSPC-SP11 surface preparation standards, in order for the coating to adhere properly). If any repairs are needed on the flashing, where it was pinned or fastened, it is recommended to patch with EC-72. Be sure to broadcast #30 silica sand on any exposed EC-72 to ensure proper adhesion of the MACoat System.

Base Coat

Lay out WP-47H Fiberlath Heavy Duty reinforcing mesh on the deck, overlapping the seams approximately 2 inches. Combine one bag of TC-1W White Basecoat Cement with five gallons of WP-90 Waterproofing Resin. This mix is larger than five gallons, so if wanting to use a five gallon pail to mix, combine 25 pounds of TC-1W with 2½ gallons of WP-90 by volume and mix with a mechanical mixer until uniform. Pour the mixture into the WP-47H, trowel thin and smooth at the coverage rate of 220-260 square feet per batch. Use a paintbrush to spread the base coat on the flashing, making sure to get the mixture into the seams and corners. Using a brush, wet with water, feather all outside edges. Allow surface to dry for 1-4 hours at 70 degrees. Scrape off any high spots or ridges that may inhibit application of a smooth texture coat. Trim any mesh that is showing on perimeters after the material has hardened.

Note: Should deck coating not be completed in one phase or to allow for other construction trades, deck should be covered and protected to avoid being damaged and to keep clean. It may be necessary to power wash the deck to dislodge any construction debris or any other foreign matter.

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Feather Patch

Smooth all seams or imperfections by mixing one bag TC-1W to five gallons of WP-90 (For five gallon pail mix, combine 25 pounds of TC-1W with 2 ½ gallons of WP-90). Patch all areas where fiberlath is not laminated flat or any visible seams or overlaps. Feather these patches with a paintbrush and water. Scrape or sand all the patches.

Slurry Coat

Mix one bag TC-1W to five gallons of WP-90 (see Base Coat instructions for five gallon mix) and trowel the entire surface smooth and as thin as possible or at the rate of approximately 250 to 320 square feet per batch. For easier application, you may add up to 1 quart of water to help loosen up the mix. After the Slurry Coat has dried (30 minutes to 1 hour at 70 degrees) lightly scrape any trowel marks and vacuum the surface clean. For additional protection, a second Slurry Coat can be applied. You are now ready to apply the knock down texture.

Stair Applications

When applying the MACoat system over stairs, ensure that the substrate is properly prepared as outlined previously. When applying the MACoat system over stairs, Combine one bag of TC-1 Basecoat Cement with five gallons of WP-90 Waterproofing Resin. This mix is larger than five gallons, so if wanting to use a five gallon pail to mix, combine 25 pounds of TC-1 with 2 ½ gallons of WP-90 by volume and mix with a mechanical mixer until uniform. Trowel mix directly onto the prepared substrate at a coverage rate of 220-260 square feet per batch. Use a paintbrush to spread the base coat on the flashing, making sure to get the mixture into the seams and corners. Using a brush, wet with water, feather all outside edges. Allow surface to dry for 1-4 hours at 70F degrees. Scrape off any high spots or ridges as needed.

Apply a tack coat of WP-90 Waterproofing Resin onto the vertical and adjacent horizontal surface using a brush or roller at a rate of 100-150 square feet per gallon. Immediately after the WP-90 has been applied and while the material is still wet, place the WP-45 Flashing Fabric (fuzzy side down) into the wet WP-90, overlapping successive runs of fabric edges and ends, a minimum of 2 inches. Make sure the WP-45 fabric is fitted tightly in corners and around protrusions. Apply an additional coat of WP-90 over the WP-45 at a rate of 50 square feet per gallon. No dry fabric spots should be visible and the fabric should be completely flat and without wrinkles. Let dry a minimum of 4-6 hours (77F degrees - 50% humidity) or until the final coat of WP-90 is completely dry, before applying the Slurry Coat. Applications in the shade, cooler temperatures or high humidity conditions will require additional dry time. Do not coat over wet material.

Smooth Texture (Optional)

For a smooth texture, mix one bag TC-1W to five gallons of WP-90 and trowel the entire surface smooth or at the rate of approximately 300 to 350 square feet per batch. For easier application, you may add up to 1 quart of water to help loosen up the mix. After the cement has dried (30 minutes to 1 hour at 70 degrees) lightly scrape any trowel marks and vacuum the surface clean. You are now ready to apply the topcoat.

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Texture Coat (Optional)

If a texture is desired, combine 1 bag of TC-2 Smooth Texture Cement with 1 gallon of WP-90 Waterproofing Resin. WP-81 may be used for concrete applications. Mix thoroughly with a mechanical mixer. Add up to ½ gallon of water to achieve the desired consistency. Texture can be sprayed, troweled or broomed at a rate of about 150 to 200 square feet per batch. After the texture has dried (30 minutes to 1 hour at 70 degrees), lightly scrape any trowel marks and vacuum the surface clean prior to sealing. To avoid making impressions, the applicator should wear spiked shoes.

Topcoat

Do not apply if rain is forecast within 48 hours or heavy dew within 24 hours. If multiple batches of SC-10 SR are present, box all materials prior to use, to ensure color consistency. Use a mechanical mixer at a slow speed and mix material until a homogenous mixture and color is obtained. Roll two thin applications of SC-10 SR using a ¾ inch to ¾ inch roller at a rate of 200-400 square feet per gallon. Roll the material in two directions to achieve a uniform finish. Coverage will vary according to texture. For best results, allow the SC-10 SR 4-6 hours drying time at 70 degrees before permitting light pedestrian traffic or additional coats are applied. Allow 24 hours to cure before heavy traffic is permitted. Allow 48 hours before heavy objects are placed on the surface and allow 72 hours for vehicular traffic. Allow 5 days prior to any abrasion or chemical exposure.

Optional Materials

Cement Additives

- CA-15 Cement Accelerator can be added to Westcoat cements to help reduce dry times.
- CA-16 Cement Decelerator can be added to Westcoat cements to increase working time during periods of hot weather.

Skid Resistance

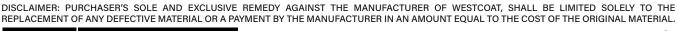
 CA-29 Mini Safe Grip, CA-30 Small Safe Grip or CA-31 Large Safe Grip can be added to the SC-10 Acrylic Topcoat for added skid resistance.

Sloping

 Westcoat Slope Technique may be used if additional sloping is required. Please contact your Westcoat Representative for further information.

WP Wrap

- Westcoat's WP Wrap can be used with the MACoat System to provide additional waterproofing with reinforcement, along the perimeter of the deck.
- * Please refer to Product and System Specification Sheets for additional information.







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Clean Up

Uncured acrylic material can be removed with soap and warm water. If cured, material can only be removed mechanically or with an environmentally-safe solvent.

Maintenance

Exterior surfaces can be swept daily with water and a broom. For tougher dirt or grease, use degreaser diluted with water 20:1 and a soft bristle brush or broom. Be sure to rinse well. To remove calcium or lime build up, brush diluted 100 grain vinegar onto the surface; be sure to rinse any residue.

The MACoat™ Solar Reflective Finish System should be inspected for wear every 2 to 4 years. The system should be resealed with the appropriate Westcoat SC-10 SR Series Topcoat every 3 to 5 years, depending upon traffic and UV exposure. Contact the original Installer of Westcoat for complete recoating instructions.

Health Precautions

Inhalation of vapor or mist can cause headache, nausea, irritation of nose, throat and lungs. Prolonged or repeated skin contact can cause slight skin irritation. Cements contain silicas, dust mask or respirator should be used when mixing, sanding or grinding.

Solvent based products are extremely flammable, extinguish all pilot lights and sources of ignition such as electrical motors. Be sure to have adequate cross ventilation prior to installing.

Limitations

- This system is designed for professional use only.
- Read Product Specification Sheets for every product you will be using before beginning the project.
- Do not apply at temperatures below 50°F or above 90°F.
- Rain will wash away uncured Westcoat acrylic products.
- If inclement weather threatens, cover deck to protect new application.
- Sealers will make the surface slippery, please be aware the texture of the surface and how the sealer will affect the look, feel and skid resistance.
- Approval and verification of proposed colors, textures and slip resistance is recommended.
- Do not allow Westcoat products to freeze.

Slip Precaution

Westcoat Specialty Coatings Systems highly recommends the use of a slip-resistant additive to all coatings/systems that may be exposed to wet, oily, greasy or slippery conditions. It is the end user's responsibility to provide a flooring system that meets current safety standards. Westcoat and its distributors will not be responsible for injury incurred during a slip and fall incident. For the current coefficient of friction requirements, please consult your local building codes.



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Test Data

Test	MACoat™ Standard over Concrete	
Accelerated Aging ASTM D-756	Pass	
Fire-Retardant Roof Covering ASTM E-108	Class A	
One-Hour Fire Test ASTM E-119		
Bond Strength (Control) ASTM C-297	Pass	
Bond Strength (Accel. Aging) ASTM-C297	Pass	
Bond Strength (Freeze-Thaw) ASTM C-297	Pass	
Abrasion ASTM D-1242	.016 inches	
Water Absorption ASTM D-570	3.86%	
Chemical Resistance ASTM D-2299	Pass	
Freeze-Thaw ASTM C-67	<1%	
Concentrated Load AC-39 Section 4.12	Pass	
Impact Resistance ASTM D-3746	Pass	
Surface Burning Characteristics ASTM E84-17	Class B	
Permeance (perms) ASTM E96/E96M-10	4.92 perms	
Solar Reflectance - Initial	Gray: 0.69 Tan: 0.74	
Thermal Emittance - Initial	Gray: 0.86 Tan: 0.89	
SRI (Solar Reflectance Index) - Initial	Gray: 84 Tan: 91	

Solar Reflective Properties

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SR Series Color	SRI Value	
Butterscotch	84 **	
Canvas	84 **	
Coconut	71 **	
Coral	66 **	
Heather Gray	63 **	
Lime	78 **	
Powder Blue	77 **	
Salmon	72 **	
Seaside	73 **	
SR Gray	84 *	
SR Tan	91 *	
Wintermint	79 **	

^{*} Third-party test data. CRRC Prod. ID# 1316-0001 (SR Gray) & 1316-0002 (SR Tan)

^{**} In-House test data

^{*} SC-10 Solar Reflective Acrylic Topcoat is rated to meet the Cool Requirements of California Title 24 when the colors SR Tan or SR Gray are used. Other colors are not rated at this time.