

# TRÜNANO™ MARINE ARMOR

Complies with SCAQMD  
 VOC: Less than 100 g/L  
 LEED 7 Points CARB

## DESCRIPTION

TruNano™ Marine Armor is a clear coating for metal, fiberglass and concrete surfaces. TruNano™ Marine Armor was designed for full immersion to protect boat and ship hulls, concrete water tanks, holding ponds and concrete water delivery systems. TruNano™ Marine Armor is peel and flake resistant and provides a superior slippery surface that inhibits the ability of attachment and buildup of marine growth including barnacles and mussels. It can be applied to all underwater metal surfaces, including propellers, rudders, stabilizers, sea strainers, shafts, struts, and out drives (not for use on wood bottom boats). For professional use only.

## SURFACE

Steel, aluminum, Fiberglass and Concrete.

## SOLUTION

Moisture, Corrosion and Marine Growth.

## MATERIAL RESISTANCE CHART

CHEMICAL	RESULT
Marine Growth	No Effect
Corrosion	No Effect
Salt Spray	No Effect
Oil	No Effect

## CHARACTERISTICS

Color: Translucent red or pink  
 Vehicle Type: Solvent Base  
 Flash Point: (C Penskey-Martens closed Cup)  
 16.7C/62.1F  
 VOC: less than 100 g/L  
 Weight per Gallon: 7.36 lbs.  
 Non-breathable

## COVERAGE

Approximate Coverage: 500-800 Sq. Ft./Gal.  
 Coverage will vary depending on the porosity and texture of the substrate and application.

## SPREAD RATE

Recommended Spread Rate per coat:  
 Wet mils: 2.0-3.0  
 Dry mils: 1.2-1.8

## EXPECTED WEAR

3 to 5 years under normal conditions.

## SURFACE PREPARATION

Prior to the application of TruNano™ Marine Armor all surfaces and substrates must be clean, dry, and in sound condition. It is extremely important that all oil, dust, grease, dirt, loose rust, and other foreign material be removed. If applying to boat hulls, extra care should be taken to ensure the removal of any mold release waxes, abrasive antifouling paints or solid antifouling paints.

**NOTE:** pH level must be between 7 and 10. The rising moisture vapor emission rate must not exceed 3 pounds per 1,000 square feet (3 lb/1,000 ft<sup>2</sup>) over a 24-hour period as measured by the calcium chloride test method, ASTM F-1869. Surface measuring equipment can provide a wide variety of results. Tramex Concrete Encounter CME 4 digital moisture meter is recommended with a reading of 3% or below. If using a meter other than the Tramex, rely upon the ASTM F-1869 reading as a cross-reference.

### Fiberglass

Fiberglass must be abraded or sanded with 220 grit then cleaned with acetone and rinsed with water.

**Boat Hulls** - Mask off to the top of the water line or boot strip where the boat normally sits in the water to ensure full protection of the surface below the water level.

**NOTE:** Marine Armor will protect the hull above the waterline, BUT it will yellow slightly from UV exposure. For this reason it is not recommended to use TruNano™ Marine Armor above the water line on fiberglass hulls.

### Ferrous Metal Hulls

On ferrous metal or steel hulls a good quality marine epoxy primer must be applied prior to the application of TruNano™ Marine Armor. Make sure to follow the manufacturer's instructions for application and curing time for the epoxy primer.

### Non-Ferrous and Alloy Metal

For stainless, brass, aluminum, or bronze surfaces, completely clean to bare metal. Once dry, wipe down with acetone. On aluminum that may undergo thermal expansion, apply a good quality epoxy primer per manufacturer's instructions.

### Concrete or Natural Stone

If the surface has been previously sealed with a silicone sealer, the silicone must be removed entirely. To remove silicone sealers, clean surface with a solution of 80% water and 20% vinegar. Wet surface with water and vinegar solution and let stand 10 minutes. Remove solution and rinse thoroughly with clean water. Flush with fresh clean water. Surface must then be neutralized with a mixture of 50% baking soda and 50%

### SURFACE PREPARATION - Continued

water. Spraying neutralizing solution onto the surface and let stand, then rinse with clean water. Use of a hot water pressure washing system will enhance cleaning application.

For concrete or natural stone ponds, tanks and aqueducts, the substrate must be completely clean and dry. This can be achieved by bead blasting, power washing, or steam cleaning. Make certain all oil, grease and dirt are removed from the pores and surface of the concrete. Before Marine Armor can be applied, the concrete must be sealed to prevent Marine Armor from absorbing into the surface rendering it non-effective. Once the concrete surface is clean and dry, apply TruNano™ Enhancer Plus to seal the surface. (See TruNano™ Enhancer Plus Data Sheet).

### APPLICATION INSTRUCTIONS

#### Test Area

Due to the variety of texture and porosity of substrates and the various methods of application, test Marine Armor in an inconspicuous location to ensure adhesion. There may be a slight enhancement or change in appearance from the original surface.

**CAUTION:** If applying outdoors, make certain the ambient temperature is between 45° F and 105° F, and that there is no chance of rain for a minimum of 5 hours after the estimated time of completion of the coating process. Also make certain there will be no additional morning dew to make the surface damp again after it has dried.

#### Spray Application

**NOTE:** Spray application is recommended for all surfaces and materials. Fiberglass hulls should only use this method of application.

Mask off any adjacent surfaces to keep them free of drips or accidental coating. Open the can of TruNano™ Marine Armor. Settlement of the components will be visible in the bottom ¼" to ½" of the container. Manually stir contents thoroughly for several minutes to re-suspend the nano particles that have settled to the bottom. Make certain to re-stir at least every 10 minutes to ensure proper performance. Stir slowly to avoid creating air bubbles, which can affect the performance of the performance of the finish. If air bubbles are present, the spray gun will spray the air bubbles through the tip onto the surface.

Use a high volume low pressure sprayer (HVLP) with a 1.0 spray tip with air pressure set at 25 to 30 psi. On a piece of cardboard first spray a test pattern, you are looking for a 6" to 8" elongated pattern approximately 1 ½" wide in the middle.

Once you achieve the desired spray pattern on the test cardboard, spray the surface in a cross-pattern; left to right, then up and down as you move along the hull. This will provide sufficient coverage and help prevent missing any spots. Desired coverage is approximately 2.0 to 3.0 mils wet film thickness (WFT).

**CAUTION:** If using spray application method in an enclosed space, make certain to tent off the area being sprayed with plastic tarps

### APPLICATION INSTRUCTIONS - Continued

to avoid overspray dust from traveling and contaminating other surfaces. Tented and enclosed areas should always be positively supplied with fresh air and have ventilated exhaust to outside using fans. Never spray near any open source of ignition such as pilot light flames, or anything that may spark, as this may cause ignition and explosion of the fumes and vapors.

When spraying outdoors, make certain there will be no rain for at least 5 hours after anticipated completion time. If there is high wind, this will affect the quality of the finish as blowing wind can disrupt the spray pattern from the HVLP sprayer and can contribute to contamination of the finish. It may be necessary to erect a wind screen to protect the area prior to beginning the coating application. To spray small pieces or tight locations use a "Preval" sprayer. This is a small disposable sprayer that can spray any liquid and holds approximately 6 oz., which is ideal for touch ups as well. It is available in the paint department of major home improvement stores, or major paint store chains.

**Special Note for Fiberglass Hulls:** Apply one coat per Spray Application instructions above. Allow to dry for 30 minutes. While first coat is still tacky, apply a second coat using the same process.

For large areas that cannot be completed within 30 minutes, coats should be applied in sections. Be sure to mark or tape off start and stopping points. First coat should not be allowed to dry longer than 30 minutes, and second coat should always be applied 'wet-on-wet', or while first coat is still tacky.

If the first coat is inadvertently allowed to dry for longer than 30 minutes, do not apply second coat. Allow to dry for 24 hours. Lightly sand with 400 grit sandpaper and wipe down with tack cloth. **DO NOT USE SOLVENT TO CLEAN FIRST COAT!** Apply a second coat following the Spray Application instructions above.

**NOTE:** In all applications, TruNano™ Marine Armor must cure for a full 7 days. Do not place coated hull into the water until day 8. If the hull is placed into the water prior to day 8, failure of the coating will occur.

**Special Note for Metal Hulls:** Once the primer is at its manufacturer recommended recoat time, apply TruNano™ Marine Armor. It is important that the coating be applied at the correct primer recoat time in order to achieve a good bond. Follow Spray Application instructions above. Let the coating dry for 30 minutes. Then, while it's still tacky, apply a second coat, allow to dry and cure for a full 7 days.

**Special Note for Underwater Hardware:** For bronze and stainless propellers, rudders, stabilizers, sea strainers, shafts, and struts that do not need to be primed, follow surface preparation instructions, then apply Marine Armor directly to the surface using either Rolling Application or Spray Application methods as outlined above.