



Applying Revolution Marine Paint (SM-1000)

Revolution Marine Paint does a better job protecting and keeping fiberglass, aluminum, steel and wooden surfaces looking good longer than typical marine enamels. It lasts as long or longer than two-part urethanes and will not chalk like typical epoxy. While gel coat and many marine enamels are quick to chalk and fade, require regular cleaning, waxing and buffing to maintain their appearance Revolution maintains its color and gloss longer. It provides a bright, smooth "lively" protective finish years longer. When impacted or abraded it will not crack or spider-web like epoxy or gel coat. It stays clean longer and scuffs are easily buffed to a high gloss finish.

It is the first product of its kind recommended for use above *and* below the waterline on virtually any boat or vessel regardless of materials often eliminating the need for antifouling bottom paint in fresh water (it is not antifouling). It has been formulated to outperform both typical topside and antifouling bottom paints on trailered and boats in fresh water. Even better; it increases the speed of most vessels by as much as 14% saving money in fuel and time in transit! Independent test data confirms its spectacular performance, longevity and durability; achieving more than a 40 year lifespan in constant submersion accelerated durability testing.

The exceptionally beautiful finish must be seen to appreciate. The cured film has a unique soft, smooth glossy appearance; considerably smoother than typical paint yet slip resistant in nature! It is easy to apply, lasts longer and saves money in maintenance and on fuel. It provides a high level of corrosion resistance topside or under the waterline. It inhibits the growth of marine fouling organisms keeping surfaces clean and smooth.

PRODUCT SPECIFICATIONS

Product type: Silicone Alkyd Epoxy-Ester Copolymer Coating.

Product benefits: High Solid content, low V.O.C., hard yet flexible film, high gloss with excellent gloss retention, self priming on many surfaces, self leveling film, excellent adhesion to prepared surfaces, resistant to many alkalis, highly water-resistant, resistant to chalking, fading & chipping, resists peeling & cracking, weather-resistant, resists the effects of high heat.

Physical Characteristics:

Viscosity: 85-90 k.u.	Dry to touch: 2-4 hours	Weight solids: 70-72%
Recoat: 12-48 hours	Volume solids: 54-56%	WT per gal: 10.1 (White)
V.O.C.: 337 grams per liter	Flash point: 105° F.	Maximum WFT: 2 mils
Recommended DFT: 3.4+	Coverage: 400 sq. ft. per gallon @ 2 mils dry	

SUNDRIES

Sandpaper-80 grit for repairs 120 grit for rough sanding-180 grit for finish sanding. Mohair or wool roller covers, roller frame, roller tray and natural bristle brushes. Rubber gloves, canister type air filter for spray applications.

RECOMMENDED CLEANERS

SM-695 Etching Cleaner de-waxes, cleans and deglazes most any surface. Where rust is present recommend SM-5679 Rust Converting Cleaner.

RECOMMENDED PRIMERS

Aluminum: SM-117 Pre-Wash Pre-treatment Wash Primer in combination with SM-664D Etching Primer, SM-7390 Formula 150 Polyamide Epoxy Primer or SM-787 Mono Epoxy Primer.

Fiberglass: SM-664D Etching Primer, SM-787 Mono Epoxy Primer or SM-7390 Formula 150 Polyamide Epoxy Primer.

Wood: SM-664D Etching Primer or SM-787 Mono Epoxy Primer.

Steel: SM-787 Mono Epoxy Primer, SM-1184 Zinc Chromate Primer, SM-1757 Zinc-Plate Primer, SM-5000 Zinc Plate, SM-7390 Formula 150 Polyamide Epoxy Primer.

RECOMMENDED THINNER

SM-101 Leveling Thinner. Do not substitute.

ACCELERATOR/HARDENER

SM-160 Accelerator/Hardener accelerates, hardens improves corrosion and chemical resistance. (recommended for hull, decks, engine room, and high abuse/traffic areas).

APPLICATION

All applications should begin with the removal of hardware, ventilators, bang irons and decorative name plates. After that, the steps to prepare a boat for paint or a clear coating are only slightly different from those taken with wood, fiberglass, aluminum or steel. The difference between an amateur and professional application is often preparation. The smart painter puts most of his effort into preparing the boat for painting. The old saying is true that 99% of a good paint job lies in preparation and 99% of paint failures are due to poor preparation. This is a statistic you do not want applied to your project! Do not cut corners when preparing your boat for paint!

Previously painted boats: Best results will be achieved when most or all old paints have been completely *removed and primer applied to all surfaces, however, paint in good condition may be cleaned and de-waxed with SM-695 Etching Cleaner then sanded with 100 grit sandpaper in preparation for paint. An orbital palm sander or dual-action rotary sander will be less strenuous than hand sanding. Sanding will reveal areas that are blistered or flaking requiring removal. Such areas should be repaired if needed and properly primed. Hand sand to feather the repair to the level of the rest of the existing paint for best results. Scrapes, scratches and divots may be filled with painter's glazing compound prior to painting. Trowel it into the blemish with a putty knife allowing it to set up before sanding smooth. All repairs and glazing compounds should be primed and sanded before proceeding with paint.

Preparation on Fiberglass & Aluminum: Loose scale, peeling or cracking paint, corrosion, dirt, grime, oil, grease and wax all must be thoroughly *removed. Always clean thoroughly before making any repairs or sanding. Wax removal is critical and should be done with SM-695 Etching Cleaner or a commercial wax remover. Where silicone polishes are present be sure to use a blended solvent polish remover to remove silicone. A second application of cleaner is helpful. Once cleaned, gouges and scrapes may be filled with epoxy putty. Build up the epoxy above the surrounding surface so that it can be sanded smooth. Epoxy filler is hard so power sanding is

advised. A dual-action rotary sander achieves the best results however a good orbital palm sander is acceptable. Rough sand the patch with 80 grit then switch to 120 grit sandpaper to achieve the final contour. Once repairs have been completed sand the entire area to be refinished with 120 to 180 grit sandpaper then clean with a pre-paint cleaner or recommended solvent.

Preparing Raw Wood (Unpainted): Bare wood should be sanded with 80 grit paper before the application of Primer. Select SM-664D Primer to fill, build and create a smooth easy to adhere to surface. It has an unusually high amount of solid material, sands beautifully and locks our air and moisture. Recommend allowing primer to dry for 2-4 hours before sanding with 120 grit paper. Often repeated coats are applied to achieve a smooth finished surface. Repeated primer coats and sanding may be continued until the grain has been filled and the surface is completely smooth. Recommend 180-220 grit sandpaper for use in finish sanding. The use of other primers is acceptable.

Fasteners in wood hulls are always countersunk below the surface of the planks. It is necessary to fill these countersinks in order to achieve a completely smooth finish. Surfacing putties are preferred over epoxy or polyester putties because epoxy putties can be harder to remove should it ever become necessary to remove a plank for repair.

Carvel planked boats require a seam compound. Traditional seam compounds are never applied until after the hull has received a primer base coat. Traditional seam compounds should never be applied to bare wood, however, polysulfide seam compounds must be applied only to bare wood. Apply polysulfide seam compounds into the seam prior to applying primer.

Preparing Wood (Previously Painted): Paint in good condition should be sanded with 120 grit paper to knock off the gloss. Orbital palm sanders or dual action rotary sanders make *sanding large areas much easier. Sanding usually reveals paint that has blistered or flaked requiring scraping the hull and sanding to bare wood. Such areas should filled, primed and sanded smooth. The inevitable sunken fastener holes, scratches and dings should be filled with painter's glazing compound – not to be confused with glazing putty used to keep glass in home windows. Marine glazing compound is a fine putty intended for repairing small surface blemishes prior to painting. Apply to the blemish area with a putty knife, allow it to cure thoroughly then sand surface to a smooth finish.

Deteriorating Paint should be completely removed from the hull before repairs or primer is applied. Power sanding is preferred over paint remover. This process is referred to as "wooding down." Once the old paint has been removed prepare the hull as if it were new bare wood.

Preparation on Steel: Proper surface *preparation is vital. Previously painted surfaces must be thoroughly cleaned and free of residues, oily film, and loose paint chips. All rust, loose scale and contaminates must be thoroughly *removed prior to the application of primer. Preparation should include wire brushing by hand, mechanical grinding and or sand blasting of all surfaces. Rust should be treated with SM-5679 Rust Converting Cleaner. Rust free and galvanized metals should be treated with SM-695 Etching Cleaner. Once all surfaces have been carefully prepared, rust, oil, grease and contaminates removed, the application of recommended primer should be applied without delay to prevent new corrosion. Surfaces treated with SM-5679 must be primed within 24 hours (See Performance Data Sheets and MSDS for SM-5679 and SM-695 for further information).

Primer: Aluminum, fiberglass, existing epoxy and gel coat are "hard to paint" surfaces requiring an etching primer. SM-664D Etching Primer is recommended for use on all gel coat, epoxy, raw fiberglass and wooden surfaces. Aluminum: SM-117 Pre-Wash Primer must be used in combination with an intermediate primer including SM-664, SM-787 or SM-7390. You will find the Etching Primer provides outstanding adhesion, build, sandability. Its use on aluminum and fiberglass result in better adhesion of the finish coat than can be obtained by any other process. It may applied with a brush, roller or sprayed. Using a roller speeds up the work and provides a higher film thickness than spraying. Apply a minimum of one evenly applied coat to all areas that will be painted. Film build is high making sanding surprisingly easy. Use Etching Primer as filler by simply building it up with a brush, allowing it to dry then sanding it smooth. When spraying Etching Primer it will likely need to be thinned with SM-605 Thinner. Do not substitute with other thinners.

Galvanized steel, stainless steel and anodized surfaces must be treated with a fog coat of SM-117 Prewash Primer. We recommend using SM-664D, SM-787, SM-5000 or SM-7390 Primer as an intermediate primer coat before the application of Revolution. Epoxy primers, which produce superior hardness are well liked on steel and fiberglass. Apply two or more coats of epoxy primer.

Finish Coats: Fiberglass, Aluminum & Steel: Professionally applied spray coat applications yield superior results, however Revolution levels exceptionally well in brush and roll applications. Unless you are experienced with spray equipment the best way for the do it yourselfer is to apply Revolution is by roller coat. When properly thinned in appropriate temperatures (SM-101 Thinner 10-15%, or more depending on weather). Revolution levels exceptionally well. It has a good defoamer "bubble popping additive" so the need for tipping is eliminated. Aside from spraying, which offers the best film thickness control, rolling is often the best way to achieve the recommended wet film thickness, **2 mils WFT (Wet Film Thickness)**. The recommended minimum DFT is 3.4 mils. Applications applied too thickly may not adhere or level properly any run, sag and take days, or even weeks to cure. **Always adhere to the manufacturers recommended WFT and DFT (Dry Film Thickness)!**

Revolution must always be stirred or shaken thoroughly before use. It may be brushed, rolled or sprayed utilizing conventional and HVLP spray equipment. The solid content is exceptionally high so thinning will be necessary in most applications. The amount of thinner required will vary depending on ambient temperature, type of equipment used, method of application, humidity, color and amount of control desired and tip size in spray applications. We suggest beginning with minimum dilution at first and increasing dilution as needed subject to your individual application requirements.

Revolution may be built up to achieve a higher DFT where desired. Two, three or more thin coats are acceptable to achieve the recommended DFT. Boot and bottom stripes should always be applied over top of the recommended DFT. For best results recoat within 24-48 hours or sand between applications. Allow top coat film to cure thoroughly before allowing it to enter full service duty. The recommended minimum cure time is 7 days under most conditions. DO NOT allow newly applied paint to get wet for a minimum of 48 hours. The dry cured film may be wet sanded and buffed to remove runs and blemishes.

What should I watch out for?

INCOMPATABILITY ISSUES: Revolution belongs to a classification of coatings referred to as "long-oils". While long oils may be applied over virtually any surface or existing paint they may NOT be over coated with products that include high percentages of lacquer, xylene, toluol or similar "hot" solvents. Our guaranty is void unless applied at the recommended thickness and used only with recommended Supermarine cleaners, thinners, accelerator/hardener and primers. When painting over preexisting primer or paint be sure it has cured before proceeding.

SOFTNESS OR WRINKLING: Strictly adhere to manufacturers recommended minimum and maximum WFT and DFT. When Revolution has been applied too thickly the coating may not dry or cure properly which may lead to extended dry and cure times, softness of the film or a failed application. Runs and sags: If you get runs or sagging it has most likely been applied to thick. This product may be different than what you may have used previously. Recommend doing a small test before committing to the entire project. Testing the product will give you a feel for the product resulting in fewer problems.

DRYING PROBLEMS /SLOW CURING: Revolution is catalyzed by oxygen rather than chemically. The full cure may take longer to achieve than expected. The curing process should be allowed to be completed naturally or with the addition of SM-160 Accelerator/Hardener before entering full service duty or film failure may occur. When you cannot mark it with your fingernail you know it has cured enough to enter full duty service. When the film remains soft after 48 hours it has likely been applied too heavily. Dark and MT colors are typically slower to dry and cure. Using SM-160 A/H forced drying (adding heat such as oven baking) or increasing air movement across the curing film are ways to speed dry and cure times. Allow more time (weeks if needed) until the film has cured. If after several weeks the film is still soft it will likely require removal and replacement. The use of SM-160 A/H is optional. It's use increase hardness, chemical resistance and speeds cure times.