



Applying Aqueous Epoxy Marine Paint (SM-3000)

Aqueous Epoxy eliminates the difficulty of mixing multiple components together, induction time and limited pot life associated with traditional two-component marine epoxy. The single stage water-based formula makes it easier to use and store for future use.

Unlike typical two-component marine epoxy Aqueous Epoxy produces a brushable self leveling finish making it remarkably easy to use. It utilizes the latest in modern marine coatings technology to achieve a longer lasting finish that is less likely to chalk and discolor. The cured finish produces a long lasting highly durable finish. It self-levels exceptionally well allowing brush and roll applications on a variety of surfaces.

Aqueous Epoxy produces a cured finish that retains its color and gloss better than typical two component epoxy reducing the likelihood of chalking and yellowing. It is easier to apply it lasts longer and saves you money on scheduled maintenance costs. It provides a high level of corrosion and chemical resistance while creating a protective finish that really lasts. Value, durability and ease of application makes Aqueous Epoxy a compelling choice.

PRODUCT SPECIFICATIONS

Product type: Aqueous Epoxy Copolymer Coating.

Product benefits: High Solid content, low V.O.C., easily brushable, produces excellent hardness, high gloss finish with good color retention, self leveling film, excellent adhesion to prepared surfaces, resistant to many alkalis, resistant to fading & chipping, resists peeling & cracking, weather-resistant.

Physical Characteristics:

Viscosity: 70-72 k.u.	Dry to touch: 1 hour	Weight solids: 58-61%
Recoat: 4-6 hours	Volume solids: 44-48%	WT per gal: 9.9 (White)
V.O.C.: 98 grams per liter	Flash point: N/A	Recommended WFT: 3-4 mils
Recommended DFT: 5 mils+	Coverage: 250-300 sq. ft. per gallon @ 3 mils wet	

SUNDRIES

Sandpaper-80 grit for repairs 120 grit for rough sanding-180 grit for finish sanding. Foam or non-shedding 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, SM-664D Etching Primer or SM-7390 Formula 150 Polyamide Epoxy Primer.

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

Wood: SM-664D Etching Primer or SM-7390 Formula 150 Epoxy Primer.

Steel: SM-787 Mono-Coat 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

Water.

ACCELERATOR/HARDENER

N/A

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 100-180 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 with 180-220 grit sandpaper then clean with a pre-paint cleaner or recommended solvent.

Preparing Raw Wood (Unpainted): Bare wood should be sanded smooth with 80 grit paper before the application of the recommended primer. Primer will fill the grain of the wood and create a smooth easy to adhere to surface for the paint. SM-664D Etching Primer has an unusually high amount of solid material, sands beautifully and locks our air and moisture. SM-7390 Formula 150 Epoxy Primer is harder and less flexible. 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.

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 be 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 contaminants 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 contaminants removed, the application of recommended primer should be applied without delay to prevent new corrosion. Surfaces treated with SM-5679 Rust Converting Cleaner 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. It is a superior government specification formula (TT-P-664C/D) that is very well liked in this application. While epoxy primer will work SM-664D Etching Primer outperforms epoxy primers on hard to paint surfaces. You will find Etching Primer provides outstanding adhesion, build, sandability and protection from corrosion on almost any marine substrate. Its use results in better adhesion of the finish coat than can be obtained by any other process. It may be 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.

Finish Coats: Fiberglass, Aluminum & Steel: Professionally applied spray coat applications yield superior results, however Aqueous Epoxy 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 Aqueous Epoxy is by roller coat. When properly applied in appropriate temperatures (55-80F) Aqueous Epoxy levels exceptionally well. It had a good defoamer "bubble popping additive" reducing the importance of tipping. Aside from spraying, which offers the best film thickness control, rolling is often the best way to achieve the recommended wet film thickness, 3-4 mils WFT (Wet Film Thickness). The recommended DFT is 5 mils+. Applications applied too thickly may not adhere or level properly, run, sag and take days, or even longer to cure. **Always adhere to the manufacturers recommended WFT and DFT (Dry Film Thickness)!**

Aqueous Epoxy must always be stirred or shaken thoroughly before use. It may be brushed, rolled or sprayed utilizing conventional and HVLP spray equipment. Thin with water only as needed. The amount of thinning 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 without dilution then increasing dilution as needed subject to your individual application requirements.

Aqueous Epoxy may be built up to achieve a higher DFT where desired. Two, three or more 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 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 5-7 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?

INCOMPATIBILITY ISSUES: Aqueous Epoxy is a water-borne mono epoxy so it may be applied over virtually any existing coating in place without the worry of lifting or incompatibility. Care should be taken when over coating it with oil based paints to prevent wrinkling, lifting or failure. Water-borne paints may be applied over virtually any surface or existing coating however, you do not want to over coat water-borne paints with products that include high percentages of lacquer, xylene, toluol or similar "hot" solvents.

SOFTNESS OR WRINKLING: Strictly adhere to manufacturers recommended minimum and maximum WFT and DFT. When Aqueous Epoxy has been applied too thickly the coating may not dry or cure properly which may lead to extended dry and cure times or prolonged softness of the film. Runs and sags: If you get runs or sagging it has been applied too thickly. 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: Aqueous Epoxy is catalyzed by oxygen rather than catalyst cured. The full cure may take longer to achieve than expected. The curing process should be allowed to be completed 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. Weather conditions and humidity can combine to create slow dry and cure times. 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. Adding heat 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.