

Primers

PRODUCT	Coverage per coat	Thinning	Hull Temp	Min Recoat	Max Recoat	Launch After	Use on	PREPARATION AND APPLICATION
Heavycoat: Vinyl Epoxy tie coat. Once applied may be overcoated without sanding with any one or two part coating. Use above or below the waterline.	9 m ² /L 100 ft ² /L	Epoxy Brush Thinner 0-15% Epoxy Spray Thinner 0-15%	@12° C @20° C	16 Hours 8 Hours	Unlimited Do not sand before over-coating	24 Hours	Gelcoat / Fiberglass Epoxy Finishing Filler Laminating Epoxies	Mixing ratio: 100A:16B (approx 6.25:1) by volume, potlife 6 hrs @ 20°C, surface should be clean (flexa liquid rinsers), dry degreased (Ruwa solvent) and sanded with 80 to 120 ALO Lube sandpaper. Mix A&B components thoroughly in the correct ratio, add thinner and stir again. Pour into a paint tray, and apply with a low pile solvent resistant roller. When working at (hull) Temperatures over 25°C, be sure to use adequate thinners and avoid re-rolling. Ensure adequate ventilation. Spray: Use 2-3mm nozzle @ 40/50 psi and apply a single even coat. Wear a carbon filter mask. Ensure adequate ventilation, be sure that there are no open flames or sparks.
Epoxy GP Coating: Hi build epoxy barrier coat. May be used on fiberglass hulls as an osmosis repair or prevention system, directly on bare steel and aluminum as a anti-corrosive system, and on marine plywood and hardwood planking as a sealer. Available in white or gray.	7 - 8 m ² /L 80 - 90 ft ² /L	Epoxy Brush Thinner 0-15% Epoxy Spray Thinner 0-15%	@12° C @20° C	24 Hours 16 Hours	Unlimited Do not sand between coats	10 Days 7 Days	Fiberglass Wood Steel Aluminium	Mixing ratio: 100A:15B (approx 6.65:1) by volume. Potlife: 8 hours @ 20° C. Stir contents of large can, add contents of small can, and stir again until thoroughly mixed. If less than a full can is needed, measure A and B parts accurately and mix in a clean dry container. Add thinner after mixing components. Amount of thinner required is determined by working conditions and temperature, add only enough thinner to allow material to roll out smoothly. Unlimited recoat time means that Epoxy GP coating never needs to be sanded when recoating, but should be cleaned if the coating has become dirty.

Systems

<u>MARINEPLYWOOD& HARDWOODPLANKING</u>	<u>STEELORALUMINUM</u>
Degrease with M600 sand with 150 grit, remove dust, wash with M600 or acetone. Epoxy GP Coating: 1 coat thinned 25% Epoxy GP Coating: 4 -5 coats thinned 0 - 10% Epoxy Heavycoat: 1 coat Vinyl Antifouling 2000 or Classic Antifouling: 2 coats	Steel: Sandblast to SA2 1/2 - 3 or grind with 24 - 36 grit. Remove dust. Aluminum: Wash and rinse thoroughly. Sand 36 - 80 grit. Remove dust, degrease and wash. When dry start coating immediately. Epoxy GP Coating: 1 coat thinned 15% Stipple with a brush to fill pinholes Epoxy GP Coating: 4 -5 coats thinned 0 - 10% Epoxy Heavycoat: 1 coat Vinyl Antifouling 2000 or Classic Antifouling: 2 coats

OSMOSIS PREVENTION OR REPAIRS SYSTEM

Remove old antifouling or dewax if new boat. Remove blisters, sand with 80 -150 grit, dry hull, clean with Oplusser or acetone.

- Epoxy Heavycoat: 1 coat (Stipple with a brush to fill pinholes.)
- Epoxy Finishing Filler: Fill blisters or if gelcoat has been removed trowel over entire hull, allow to harden , sand . 80 -120 grit to repair. Remove dust. Refill and sand if necessary
- Epoxy Heavycoat: 1 coat. (Apply a thin coat only if hull has been repaired with Epoxy Finishing Filler.)
- Epoxy GP Coating: 4-5 coats
- Epoxy Heavycoat: 1 coat
- Vinyl Antifouling 2000: 2 coats

See reverse side for more information.

Antifoulings

PRODUCT	# of Coats/ Coverage per coat	Thinning	Temp	Min Recoat	Max Recoat	Launch After	Use on / with primer	Existing Antioufouling: remove any loose or flaking paint, apply 1 coat Vinyl Antifouling 2000 with a short nap mohair or foam roller to clean, dry existing coatings.
Vinyl Antifouling 2000: Hard Vinyl antifouling. Will be effective in most waters for two seasons. Tin free.	1 to 2 coats 9 m ² /L 100 ft ² /L	Do Not Thin	6° C 12° C 20° C	12 Hours 6 Hours 3 Hours	Unlimited	12 Hours 6 Hours 3 Hours	Directly on most hard antifouling, Fiberglass.....Heavycoat Wood.....Heavycoat Steel/Aluminium...Sikkens Epoxy GP Coating System	Fiberglass: Apply 1 coat Heavycoat (see primers) then 1 or 2 coats Vinyl Antifouling 2000. Wood: on clean dry wood apply Sikkens Epoxy Heavycoat thinned 25%. If additional waterproofing is required, then use Epoxy GP Coating system for wood. Steel & Aluminium: apply 1 - 2 coats over a Sikkens Epoxy GP Coating System.
Classic Antifouling: Easily applied inexpensive soft copper antifouling. Will overcoat most hard and soft antifoulings directly.	1 coat 11 m ² /L 120 ft ² /L	Do Not Thin	6° C 12° C 20° C	12 Hours 6 Hours 3 Hours	Unlimited	12 Hours 6 Hours 3 Hours	Directly on most hard or soft antifoulings except co-polymers. Fiberglass.....none Wood.....Heavycoat Steel/Aluminium...Sikkens Epoxy GP Coating System	Existing Antifouling: Remove any loose or flaking paint, apply 1 coat Classic Antifouling with a short nap mohair or foam roller to clean, dry existing coatings. Fiberglass: Dewax with Ruwa Solvent, sand with 120-180 grit ALO or ALO lube sandpaper, apply 1 coat Classic Antifouling. Wood: On clean dry wood apply Sikkens Epoxy Heavycoat thinned 25%. If additional waterproofing is required, then use Sikkens Epoxy GP Coating system for wood. Steel & Aluminium: Apply 1 - 2 coats over a Sikkens Epoxy GP Coating system.

Fillers

PRODUCT	Minimum Recoat Time @			Maximum Recoat Time @			Use on / with primer	Existing Antioufouling: remove any loose or flaking paint, apply 1 coat Vinyl Antifouling 2000 with a short nap mohair or foam roller to clean, dry existing coatings.
	25° C	20° C	12° C	25° C	20° C	12° C		
Epoxy Repair Filler: 2 component Epoxy putty for filling cracks, blisters, hardware mounting, etc.	8 Hours	12 Hours	24 Hours	24 Hours	48 Hours	120 Hours	Directly on fiberglass, wood or steel.	Mixing ratio: 1-1 by weight or volume, working time 30 minutes @ 20° C, mix thoroughly on a pallet. Apply with a putty knife, do not overfill, sand before applying other coatings.
Epoxy Finishing Filler: 2 component non-shrinking fine textured filler for above and below the waterline. Excellent spreading and sanding characteristics.	16 Hours	24 Hours	48 Hours	Unlimited after sanding			Fiberglass.....Heavycoat Steel/Aluminium...Sikkens Epoxy GP Coating System. Directly on Epoxy Filler LG, 1&2 component coatings that are clean, dry, degreased & sanded.	Mixing ratio: 2-1 by weight, measure accurately, mix thoroughly, when filling do not over fill, when fairing apply with a trowel and smooth with a long flexible batten. after hardening scrape off high spots and refill as necessary. Dry sand with 40-120 ALO or ALO lube.
Epoxy Filler LG: 2 component very high build, light weight filler for above or below the waterline.	8 Hours	12 Hours	48 Hours	Unlimited after sanding			Fiberglass.....Heavycoat Steel...Sikkens Epoxy GP Coating Aluminium.....Sikkens Epoxy GP Coating	Mixing ratio: 1-1 by weight or volume, apply a thin coat to wet out the substrate, then a thick coat. Smooth with a long flexible batten. After hardening scrape off hard spots, refill and sand as necessary with 40-60 ALO. Will build up to 1" on vertical surfaces without saging. Epoxy Filler LG must always be overcoated with Epoxy Finishing Filler.

Osmosis Prevention and Repair.

Polyester gelcoat the outside coating on most fiberglass boats is relatively porous, because of this, osmosis blistering and water absorption into the laminate will occur sooner or later in most boats. Sikkens Epoxies specially designed for underwater use, applied correctly can be used to prevent or repair this problem.

New boats:

Because of variations in resins, catalysts, humidity and workmanship it is impossible to predict when osmosis will occur in a fiberglass boat. Although no system can correct bad construction, a Sikkens Epoxy GP waterproofing system on a sound, dry hull will provide a very durable water barrier and therefore extend the Osmosis free period of the laminate for many years.

Moisture Content in Older Hulls

Your boat should be inspected for osmosis as soon as it is hauled. Blisters may begin to disappear within hours, but will reabsorb water when the boat is launched. Osmosis may not be obvious under several coats of antifouling, however, scraping and sanding may reveal bumps or crescent shaped cracks from matchhead to quarter sized. For boats that have been in the water for some time and show little or no signs of blistering a sikkens waterproofing system may be applied to the properly prepared dry hull. Remove all antifouling, dewax with flexa liquid rinsers, wash with clean water and sand with 80-120 ALO/ALO lube sandpaper. If there are a few isolated blisters on the hull, sand or grit them down to the laminate. The hull should now be allowed to dry for 2-3 months outside or force dried inside with heaters or fans. IT IS ESSENTIAL FOR THE LAMINATE TO BE DRY BEFORE ANY COATINGS ARE APPLIED. To test for moisture tape 6" squares of polyethylene plastic with electrical tape and leave overnight, if condensation occurs, the hull requires further drying. Most competent surveyors have moisture meters to check the level and location of moisture in the laminate. When the hull is dry, fill ground out blisters with Sikkens Epoxy Finishing Filler, sand smooth, and apply a Sikkens GP Coating System.

Severe Blistering:

If the hull is covered with small blisters or large blisters that go into the laminate, remove the gelcoat from the entire underwater area of the boat and at least 5 cm (2 in) above the actual waterline of the boat. This may be done with a grinder using 24-36 grit resin discs or a feathering pads with 40 grit zirconium sandpaper, or sandblasted by an experienced professional. With both methods be careful not to cut into the laminate. If there is evidence of delamination or blistering above the waterline consult a surveyor. When the hull is dry (see moisture content) wash with ruwa solvent and apply 1 coat heavycoat thinned 25% with epoxy brushing thinner. Use a brush to work heavycoat into the laminate and fill the pinholes. Use large putty knives and battens to apply a smooth layer of Sikkens Epoxy Finishing Filler too at least the thickness of the original gelcoat. When dry scrape or sand off high spots remove dust and refill low spots. Be sure there are no pinholes or glass strands protruding through the filler. Sand with 80-120 ALO/alo lube sandpaper and apply a Sikkens Epoxy GP waterproofing system. The bootstripe may be repainted by applying an extra coat of heavycoat above the waterline. Sand smooth and apply 2-3 coats Polyester Yacht Paint or Supergloss Waterlijverf.

COVERAGEGUIDE

SIZE	TOPSIDE	DECK	BOTTOM
Tender 2.5M (8')		Hull 4 m (40')	
Power 4.5m (15')	8 m (85')	3.5 m (40')	6.5 m (70')
Sail	8 m (85')	4 m (45')	5 m (55')
Power 6.0m (20')	10 m (110')	5.5 m (60')	9.5 m (105')
Sail	10 m (110')	7.5 m (85')	7.5 m (85')
Power 7.5m (25')	18 m (200')	12 m (130')	18 m (200')
Sail	21 m (230')	10 m (110')	15 m (165')
Power 9.0m (30')	25 m (275')	15 m (165')	21 m (230')
Sail	30 m (330')	20 m (220')	23 m (245')
Power 10.5m (35')	40 m (440')	30 m (330')	40 m (440')
Sail	38m (420')	24 m (265')	45 m (490')
Power 12m (40')	50 m (550')	40 m (440')	60 m (660')
Sail	40 m (440')	35 m (385')	65 m (710')

Formula for estimating areas

Bottom:

- 1.) displacement powerboats and full keeled sailboats - length along waterline X (beam + draft) = underwater area.
- 2.) planing powerboats and medium displacement sailboats - 0.75 X LWL X (beam + draft) = underwater area.
- 3.) fin keeled sailboats - .50 X LWL X (beam + draft) = underwater area

Topside:

(LOA + beam) X twice average freeboard = area

Deck:

LOA X beam x 0.75 = area (deduct areas of cockpit, hatches, etc.)

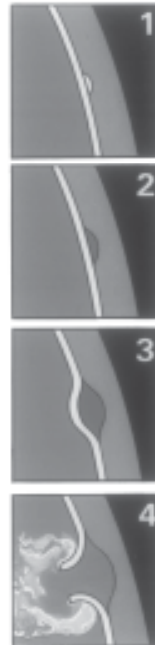
What is Osmosis?

In a nutshell, the process of osmosis develops as follows: It starts with a minuscule air bubble trapped between gelcoat and laminate (1).

As the gelcoat is always slightly porous, moisture will penetrate it, causing the blister to expand (2).

As moisture comes into contact with the polyester resin, it will dissolve some of its ingredients. As a result, a highly concentrated, sour-smelling substance will form. Moreover, this concentrated substance will increase moisture absorption (build-up of pressure = osmotic pressure) through the gelcoat (3).

As a result of this pressure buildup, the gelcoat will be torn off from the laminate. The pressure will eventually build up to such a degree that it will cause the blister to burst (4).



APPLICATION TIPS

Preparation: The finish and durability of the top coat is only as good as the prep work. Good attention to cleaning, sanding, priming, filling and using proper materials will provide superior results.

Weather: Avoid painting in high temperatures (above 25°C), low temperatures (below 12°C), in direct sunlight or in high humidity. To check humidity wet a small area with a damp cloth, if it dries within 15 min. it is okay to paint. Avoid painting in early morning or late afternoon. It is always better to paint indoors or at least have a roof over the boat. Before applying the final coat, wet the area around the boat down with water, and allow an hour or two for dust to settle.

Hull Temperature: Temperature in this brochure refers to hull temperature. Aluminium absorbs and releases heat very quickly, steel about 4 times more slowly, fiberglass and wood very slowly. Keep this in mind when allowing drying times between coats. All these paints work best at 20°C; try to keep them at this temperature when applying.

Application Temperatures: Drying time refers to the minimum time before another coat may be applied without sanding. Maximum recoat time is the maximum period, after which it is necessary to sand before recoating. Generally this period doubles for every 5°C drop in temperature and halved for every 5°C rise above 20°C. Most epoxies stop curing below 12°C. Rule of thumb; if a coating powders when sanded, it has hardened too much to recoat without sanding.

Type of Coatings: To check if the existing coating is a 1 or 2 component paint, rub a small area with a rag containing Ruwa Solvent, or acetone. If the paint dissolves or wrinkles within 10 minutes it is 1 component. If it is not affected, or softens only slightly it is a 2 component. One component paints should only be overcoated with 1 component, and 2 component only with 2 component.

Thinning: Use only the recommended thinner. Adjust paint with thinner to obtain good flow when brushing. When using 2 component paints, do not use varsol, turps, or petroleum based products to thin, wipe down or clean tools.

Roller/Brush Application: For high gloss paints, a finish comparable to spray may be achieved by rolling the paint with a low pile (5mm) foam roller, and following immediately with a foam brush, or a good quality bristle brush. On large surfaces this is best done by 2 people working together. In particular, when using 2 component or moisture cure products, use a phenolic core roller (Simms R195 or R196), and clean brushes thoroughly with PU Brushing Thinner, keeping them in clean thinner between coats.

Waterproof Sanding: For varnishes, an excellent method of grain filling on the first coat is to apply the varnish unthinned, and sand it into the wood while still wet with 120-320 waterproof sandpaper. Remove excess with a putty knife, allow to dry, sand with 220-320 ALO or ALO Lube, and apply remaining coats

Sanding: For wood use ALO (brown) sandpaper. For fiberglass, epoxy, or sanding between coats, use ALO Lube or Freecut (white) or WATER-PROOF (black). When wet sanding always wash thoroughly and allow to dry before painting. Always use a sanding block.

Spraying: This application sheet is written for brush or roller-brush application. Most of the products may be sprayed using the proper spraying thinner. Consult your dealer for more information.

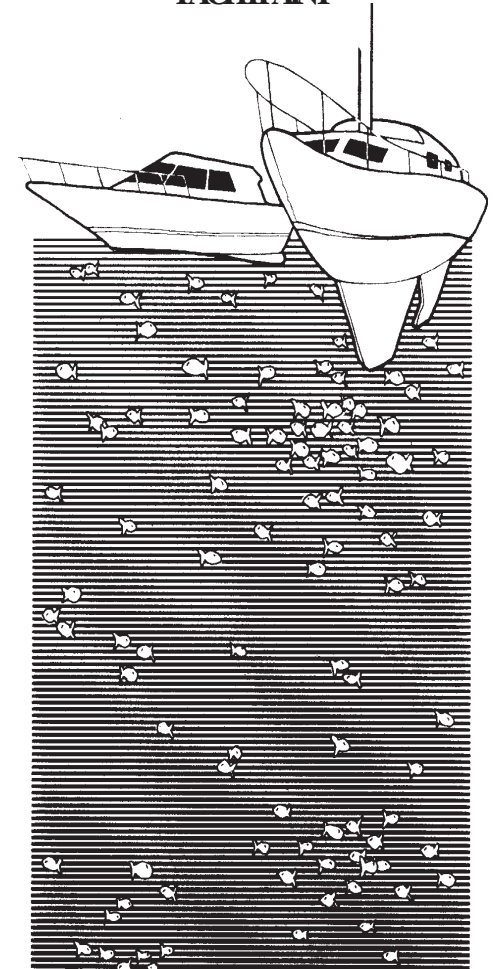
Colours: For better covering when using bright colours mix 50% Ruwa Enamel or Super Gloss with Ruwa Primer, for primer coats. For Polyester Yacht Paint, mix 20% colour with 80% white for the first coat of paint.

Health and Safety: DO NOT eat, drink or smoke when using these products. Most 2 component products are skin and eye irritants before curing. Avoid skin contact. If contact occurs, wash with soap and water immediately. If in eyes, flush for at least 15 minutes with water. Seek medical attention if necessary. Insure adequate ventilation, particularly when using 2 component products. Wear a dust mask, and eye protection when sanding.



sikkens

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