



Painting Wood

Surface preparation of wood above the waterline

Cleaning

Make sure the wood is dry and free of all dirt, wax or other contamination before paint, varnish or stain is applied. Degrease oily, resinous types of wood, like teak and Oregon Pine with acetone. Degrease mahogany and other non-oily woods with Epifanes Spraythinner for Paint & Varnish. Allow to fully evaporate.

Wood rot

Cut out all affected sections into dry wood. Precoat all areas needing repair with one coat Epifanes Epoxy Primer, thinned 25%. Once dry, sand and fill with Epifanes Epoxy Filler (max. 2 cm.). After the filler has dried (24 hours)



degrease and sand with 60-80 dry abrasive paper to a smooth surface.



Sanding bare wood

Sand the bare wood to a fresh surface using 100-220 dry abrasive paper. In case of very rough and uneven surfaces, first sand with 60-80 dry. Always sand along the wood grain. Remove all dust and degrease once more.?



Choice of system

Solid wood and overlapping/lapstrake constructions in wood are flexible by nature. A one-component paint system provides sufficient flexibility to allow for the expansion and contraction of solid wood. Two-component paint systems, i.e., epoxy paints and poly-urethane topcoats, should be applied on dimensionally stable woods like plywood and laminates. Because of their hardness and inflexibility, two-component systems are less suited for solid wood and/ or wood constructions and may eventually crack.

One-component paint system on wood (all wood types)

	Step 1		Step 2
	Epifanes Wood primer or Multi Marine Primer		Epifanes Mono-urethane or Yacht Enamel
			
Number of coats	1 - 2		3
Thinner	5 - 10%		0 - 5%
Drying Time	18 hours		24 hours
Abrasive Paper	220 - dry		400 - wet
Remarks	Thin first coat by 25% and apply with a stiff brush. If needed, fill between coats with Epifanes Combi Filler (max. 1 mm).		Thin first coat by 5 - 10%

Two-component paint system on marine plywood

Step 1		Step 2	
			
	Epifanes Epoxy Primer		Epifanes Poly-urethane Yacht Coating
Number of coats	1		3
Thinner	25%		0 - 5%
Drying Time	12 hours		24 hours
Abrasive paper	Not necessary		400 - wet
Remarks	Bonding primer for subsequent coats. If needed, fill with Epifanes Epoxy filler.		Thin first coat by 5-10%. Recoat within 48 hours without sanding. After 48 hours always sand.

Maintenance of painted wood



In order to keep a paint system in good condition, apply one or more maintenance coats periodically.

If the existing paint is still intact and only shows discoloration or loss of gloss, degrease with Epifanes Spraythinner for Paint & Varnish. Then sand and apply one or more maintenance coats. Lifting and/or damaged paint must be removed completely and replaced by a new paint system including primer coats.

One-component topcoats, e.g., Epifanes Yacht Enamel and Mono-urethane, can be applied on almost all existing paint systems regardless of brand. Two-component topcoats, e.g., Epifanes Poly-urethane Yacht Coating, may be applied on existing two-component poly-urethane or epoxy based systems regardless of brand.

Clear finishes on wood

Surface preparation of wood before applying a clear finish

Cleaning

Make sure the wood is free of all dirt, wax or other contamination. Moisture content should be no more than 17% before varnish or stain is applied. Degrease mahogany and other non-oily woods with Epifanes Spraythinner for Paint & Varnish. Degrease oily wood types like teak and iroco multiple times with acetone. Allow to fully evaporate.

Wood rot

Cut out all affected wood sections. Prepare a new fitted piece of wood. Precoat the repair area with an epoxy resin and securely glue the wood piece in the repair. Allow to cure and sand to a smooth surface.

Sanding bare wood

Sand the bare wood to a fresh surface using 100-220 dry abrasive paper. In case of very rough and uneven surfaces, first sand with 60-80 dry. Always sand along the wood grain. Remove all dust and degrease once more.

Staining wood

To provide a warm mahogany color on faded wood, apply one to three thin coats Epifanes Classic Mahogany Stain. Allow a minimum of two hours between coats. For best result apply by soft longhaired brush along the wood grain. After staining, all Epifanes one-component or two-component varnish systems can be applied.

Hiding discolorations

On bare wood apply one coat Epifanes Rapidclear. This semigloss, quick drying finish seals the wood so it takes color evenly. After drying (min. 5-6 hours), apply one or more coats Epifanes Rapidcoat until the desired color has been achieved. Rapidcoat is tinted with a light teak tone. Allow min. 5-6 hours between coats; sanding between coats is not necessary.

Epifanes Dutch Mahogany Stain can also be very effective at hiding discolorations and matching new wood to old. Epifanes stain may be applied directly on bare wood, or mixed with varnish (up to 10%)

to add color to previously finished surfaces.

For a high gloss finish, sand final coat Rapidcoat or Rapidclear with 220 and topcoat with Epifanes Clear Varnish or Epifanes Woodfinish Gloss.

Choice of system

Solid wood and overlapping/lapstrake constructions in wood are flexible by nature. A one-component system provides the necessary elasticity to allow for the expansion and contraction of solid wood. Two-component varnish systems should be applied on dimensionally stable plywood and laminates. Because of their hardness and inflexibility two-component systems are less suited for working wood and/or wood constructions and may eventually crack.

Wood under stress (masts, helms)

Wood subjected to frequent working stress, such as spars, flex to an even greater degree. A traditional varnish system with Epifanes Clear Varnish or a




combination system with a buildup of Epifanes PP Varnish Extra (2-comp.) and topcoated with Epifanes Clear Varnish (1-comp.) is recommended. These elastic systems are also well suited for varnishing railings, blocks and other wood sections on board.







Teak and iroco

Wood type may also be a factor in choosing a varnish. Oily woods such as teak and iroco can be more difficult for varnishes to adhere to properly. On these wood types a breathing, one-component varnish system with Epifanes Woodfinish Gloss or a sealing two-component varnish system with Epifanes PP Varnish Extra is advised.

Oak

Oak was often used in traditional boat building. This wood type contains acids that may lead to dark spots when varnished. Therefore the breathing, one-component varnish system with Epifanes Woodfinish Gloss or the sealing two-component varnish system with Epifanes PP varnish Extra is advised.

		Varnish Type	UV Filter	High Gloss	Hardness	Flexibility	Remarks
	Epifanes Clear Varnish	1-comp	*****	*****	***	*****	A classic extremely high gloss, clear yacht varnish. Contains extra UV filter for maximum UV protection. Suited for all wood types.
	Epifanes Woodfinish Gloss	1-comp	*****	*****	***	*****	A clear, high gloss varnish-like breathing finish. Especially for use on teak, iroco and oak. Contains UV filter.
	Epifanes Woodfinish Matte	1-comp	****	*	****	***	A rich satin exterior finish for use over buildup of Woodfinish Gloss or Clear Varnish. Contains UV filter. Recoat in 12 hours, sanding not necessary (72hr.)

	Epifanes Rapidclear	1-comp	****	***	****	****	A UV resistant semi-gloss wood finish. Quick drying, limited film building. Excellent adhesion to teak and other oily woods.
	Epifanes Rapidcoat	1-comp	****	***	****	****	Teak tinted version of Rapidclear. Camouflages color differences in wood. Quick drying, limited film building. Excellent adhesion to teak and other oily woods.
	Epifanes Rubbed Effect Varnish	1-comp	*	*	****	***	A quick drying, clear interior satin finish. Gives superior protection against alcohol and other aggressive household chemicals.
	Epifanes Poly-urethane Clear Gloss	2-comp	****	****	****	**	A high gloss, two-component scratch resistant varnish. Contains UV filters. Maximum outdoor durability. Suitable for plywood and other dimensionally stable wood constructions.
	Epifanes Poly-urethane Clear Satin	2-comp	****	*	****	**	A hard scratch resistant two-component, satin varnish. Superior protection against alcohol and other aggressive household chemicals.
	Epifanes PP Varnish Extra	2-comp	****	****	****	****	A professional, quick drying (2-3 hr.), high gloss buildup varnish. Scratch resistant with perfect bonding to teak. Combines flexibility and hardness in one product. Contains UV filter.

High gloss varnish systems

Film thickness

Varnish systems are multiple coat systems. To obtain best adhesion, apply one or more thinned varnish coats to bare wood. These penetrating coats will provide a solid “anchoring” of the total varnish system inside the wood rather than a superficial bonding.

Continue and apply multiple unthinned varnish coats. These build up coats will form a smooth mirrorlike finish and provide the necessary protection against UV. It is essential that sufficient varnish film build up is applied. Only with sufficient varnish film thickness, can a varnish system maintain its high gloss and provide long-term protection.





Attention: The number of build up coats stated in the varnish systems on this site is based on the average UV exposure in temperate latitudes. In warmer climates with higher UV levels more varnish coats will be needed. Applying more coats will provide a deeper luster and extend the longevity of the varnish system, with longer intervals between maintenance.

Traditional one-component varnish system (Mahogany - Meranti - Oregon Pine)




	Step 1	Step 2	Step 3	Step 4
	Epifanes Clear Varnish	 Epifanes Clear Varnish	 Epifanes Clear Varnish	 Epifanes Clear Varnish
Number of coats	1	1	1	1

Thinner	50%	25%	15%	0 - 5%
Drying Time	24 hours	24 hours	24 hours	24 hours
Abrasive Paper	220 - dry	220 - dry	320 - dry	400 - wet
Remarks	For full varnish penetration inside the wood fibers, apply this first coat heavily thinned	Second penetrating varnish coat.	Third penetrating varnish coat.	The application of more coats will deepen the luster and prolong the gloss retention of the varnish system.



Two-component high gloss varnish system (Mahogany - Meranti - Oregon Pine)

	Step 1	Step 2	Step 3	Step 4
	Epifanes Poly-urethane Clear Gloss 	Epifanes Poly-urethane Clear Gloss 	Epifanes Poly-urethane Clear Gloss 	Epifanes Poly-urethane Clear Gloss 
Number of coats	1	1	2	At least 2
Thinner	10 - 15%	10 - 15%	5 - 10%	0 - 5%
Drying Time	24 hours	24 hours	24 hours	24 hours
Abrasive paper	220 - dry	220 - dry	320 - dry	400 - wet
Remarks	For varnish penetration inside the wood fibers, apply this first coat 25% thinned.	Second penetrating varnish coat. Apply this coat within 48 hours. After 48 hours, always sand.	Remark for all PU coats: Apply each Poly-urethane coat between 24-48 hours without sanding. In case of overcoating after 48 hours, always sand.	The application of more coats will deepen the luster and prolong the gloss retention of the varnish system. After 48 hours, always sand.

Combined high gloss varnish system (Mahogany – Meranti – Teak – Iroco)




	Step 1	Step 2	Step 3
	Epifanes PP Varnish Extra (2-comp.) 	Epifanes PP Varnish Extra (2-comp.) 	Epifanes Clear Varnish (1-comp.) 
Number of coats	1	3	3
Thinner	25%	0 - 5%	0 - 5%
Drying time	2 - 3 hours	2 - 3 hours	24 hours
Abrasive paper	Do not sand.	220 - dry	400 - wet
Remarks	For varnish penetration inside the wood fibers, apply this first coat 25% thinned.	These are the filling /building coats. In case of open porous wood, more coats may be necessary. Sand final coat only.	These 3 final coats provide the required extra UV protection. The application of more coats will deepen the luster and prolong the gloss retention and longevity of the varnish system.

Breathing one-component high gloss varnish system (Teak- Iroco)


	Step 1	Step 2
	Epifanes Woodfinish Gloss 	Epifanes Woodfinish Gloss 
Number of coats	1	5
Thinner	25%	0 - 5%
Drying time	24 hours	24 hours
Abrasive paper	280 - dry	400 - wet
Remarks	For varnish penetration inside the wood fibers, apply this first coat 25% thinned.	For every coat of Woodfinish: Apply subsequent coat within 24-72 hours without sanding. After 72 hours, always sand.



Isolating two-component varnish system (Teak – Iroco)

	Step 1	Step 2	Step 3	
	Epifanes PP Varnish Extra 	Epifanes PP Varnish Extra 	Epifanes Poly-urethane Clear Gloss* 	<i>*The 3 coats Poly-urethane Clear Gloss may be replaced by 3 coats Epifanes Clear Varnish. This one-component finish provides sufficient flexibility to bend and move along with working wood without cracking. (e.g., on masts or helms)</i>
Number of coats	2	2	3	
Thinner	0 - 5%	0 - 5%	0 - 5%	
Drying time	2 - 3 hours	2 - 3 hours	24 hours	
Abrasive paper	220 - dry	220 - dry	400 - wet	
Remarks	For varnish penetration inside the wood fibers, apply this first coat 10-15% thinned. Allow second coat 24 hours to cure. This coat must be sanded.	Apply third coat. Recoat after 2-3 hours. Allow fourth coat 24 hours to cure. This coat must be sanded.	These 3 final coats provide the required extra UV protection. The application of more coats will deepen the luster and prolong the gloss retention and longevity of the varnish system.	





Rapid one-component varnish system (semi gloss) (Mahogany – Meranti – Teak – Iroco)

	Step 1
	Epifanes Rapidclear 
Number of coats	5 - 6
Thinner	0 - 5%
Drying time	5 hours
Abrasive paper	Not necessary
Remarks	Only sand second to last coat with 320 dry. For high gloss finish, sand with 220 and topcoat with Epifanes Clear Varnish or Woodfinish.





Satin varnish systems

One-component satin interior varnish system

	Step 1	Step 2	Step 3	Step 4
	Epifanes Clear (Gloss) Varnish 	Epifanes Clear (Gloss) Varnish 	Epifanes Clear (Gloss) Varnish 	Epifanes Rubbed Effect Varnish 
Number of coats	1	1	1	1 or 2
Thinner	25%	5 - 10%	0 - 5%	0 - 5%
Drying Time	24 hours	24 hours	24 hours	12 hours
Abrasive Paper	220 - dry	220 - dry	280 - dry	280 - dry
Remarks	For varnish penetration inside the wood fibers, apply this first coat 25% thinned.	Second filling/building varnish coat.	Third filling/building varnish coat.	Lightly sand between coats by hand along the wood grain.

Two-component satin interior varnish system

	Step 1	Step 2
	Epifanes Poly-urethane Clear 	Epifanes Poly-urethane Clear Satin* 
Number of coats	3	2
Thinner	0 - 10%	0 - 5%
Drying time	24 hours	24 hours
Abrasive	220 - dry	400 - wet
Remarks	These are the filling/building coats. Thin first coat on wood by 10-15%. Sand third coat with 320 dry.	Lightly sand between coats by hand along the wood grain.

** Remark for all PU coats: Apply each new Poly-urethane coat between 24-48 hours without sanding. In case of overcoating after 48 hours, always sand.*



Clear varnish on wood

Maintenance of varnish systems

Epifanes varnishes contain highly effective UV filters and inhibitors. A well applied Epifanes varnish system with sufficient film thickness will keep its high gloss and provide long-term protection against UV radiation. Periodic maintenance, however, is necessary on any exterior wood surface, even when coated with Epifanes varnish.

Maintenance is necessary when loss of gloss is noticed. The time frame for maintenance depends on the varnish film thickness and the amount of UV to which the varnish system is exposed. Delaying maintenance in this stage will lead to further deterioration, cracking and eventually lifting of the varnish system. In order to keep a varnish system in good condition, we recommend applying two or more new varnish coats annually, depending on climate and exposure.

Apply additional coats where the varnish system is exposed to higher UV radiation (e.g., flat horizontal surfaces and/or tropical conditions). Wood edges and areas susceptible

to mechanical damage will require more varnish coats. A varnish system with insufficient film thickness will appear thin and can offer only limited and temporary UV protection.

After degreasing and sanding, Epifanes Clear Varnish and Epifanes Woodfinish Gloss can be applied over almost all existing one and two-component varnish brands. After surface preparation, Epifanes Poly-urethane Clear Gloss may be applied over practically all existing two-component poly-urethane varnish systems and epoxy resin.

Ensure the existing system is dry and free of dirt, grease, salt, dust and other contamination.

Remove sharp wood edges by sanding so they can hold more varnish. To avoid the intake of moisture and possible warping, apply three or more varnish coats on the underside of the wood. Also make sure sufficient film thickness is applied on overhanging areas where it takes longer for moisture to evaporate.

Judging the condition of varnish systems

Varnish system only shows loss of gloss

If the existing varnish system is still intact, well adhered and without cracks, degrease with Epifanes Spraythinner for Paint & Varnish, sand the surface with 320 dry and apply two or more new varnish coats.

Varnish system looks poor, shows loss of gloss and light crazing

An existing varnish system that is still well adhered, but shows both loss of gloss and light cracking indicates neglected maintenance. The varnish system can no longer provide sufficient UV protection. In this case degrease with Epifanes Spraythinner for Paint & Varnish, sand the surface further down with 220 until all crazing and cracking has been sanded off and apply at least four new varnish coats.

Varnish system in bad condition

Damaged or lifting adhering varnish systems must be removed by coarse sanding or by hot air gun and sharp (!) scraper. Weathered spots may be treated with a cleaning or bleaching product. If either are used, wash the surface thoroughly with fresh water in order to remove any residue. Allow the surface to dry. If needed or desired, stain bare wood with Epifanes Classic Mahogany Stain (see page 38). Reapply a new varnish system with sufficient film thickness.

Varnish system needing repair

After degreasing and sanding, smaller spots needing repair may be filled with several coats of varnish. When an equal level has been achieved, sand to a smooth surface and apply one or more coats of varnish on the entire surface. Larger repair areas must be sanded back to bare wood followed by the application of a new varnish system with sufficient film thickness.

Teak decks

Maintenance of Teak decks

Generally, deck areas subject to traffic are not varnished because of the potential slipping danger. When exposed to sunlight and rain, teak will slowly discolor and eventually turn fully grey. Air pollution, fungi and bacteria may form stains in teak decks.

For the maintenance of teak decks, railings, grips and all other teak on board, Epifanes offers various products.



Epifanes Teak-O-Clean & Bright

Cleans and restores original teak color

Epifanes Teak-O-Clean & Bright is a water based cleaner and brightener for teak and other tropical woods. This cleaner is fast, easy to apply and restores weathered, grey teak to its original color. Unlike many other teak cleaners it will not affect the caulking in teak decks, e.g., polysulfide, polyurethane, etc. Shake at least one minute before use. Store frost free and away from direct sunlight. Suitable for fresh and saltwater. For prolonged protection from weathering allow to fully dry and treat the surface with Epifanes Teak-O-Bello.



Epifanes Teak-O-Bello

Prevents renewed weathering

Epifanes Teak-O-Bello is a water based coating for teak and other hardwoods. The unique, environmentally friendly formulation prevents the wood from weathering for an extended period of time. Fast and easy to apply. Lasts longer than solvent-based teak oils and teak sealers and resists the formation of mold. It will not affect the caulking in teak decks, e.g., polysulfide, polyurethane, etc. Contains no VOCs, no toxic fumes and is solvent free.

Treatment of new teak New teak must be exposed to UV and weather for at least two weeks in order to release the natural oils in its outer wood fibers.

Existing weathered, grey teak Original color can be restored to grey, weathered teak using Epifanes Teak-O-Clean& Bright. First, moisten the wood with fresh water. Shake the bottle thoroughly before use. Apply liberally with a soft cloth or sponge and allow to soak for five minutes while keeping the surface moist. Scrub the surface with a stiff brush or scrubbing pad with the wood grain. Immediately rinse well with fresh water and allow to fully dry.

To prevent further discoloration, follow by treating the surface with Epifanes Teak-O-Bello. Prior to use shake well for at least one minute. Apply a very thin coat of Teak-O-Bello on the surface with a dust free cloth. After 30 minutes drying time, apply a second thin coat. Remove surplus material from caulking seams in teak decks. Maintain a fresh coat at least once annually.

Teak Oil Sealer



Epifanes Teak Oil Sealer may also be used to maintain and protect teak decks, railings, etc. Epifanes Teak Oil is a linseed oil and alkyd resin based impregnating oil that accentuates natural wood beauty and provides non-slippery protection for teak. Apply wet-on-wet coats with a wide brush or lint-free cloth to clean, dry wood until surface is saturated. Remove excess. Two coats are usually sufficient, unless teak is very dry.