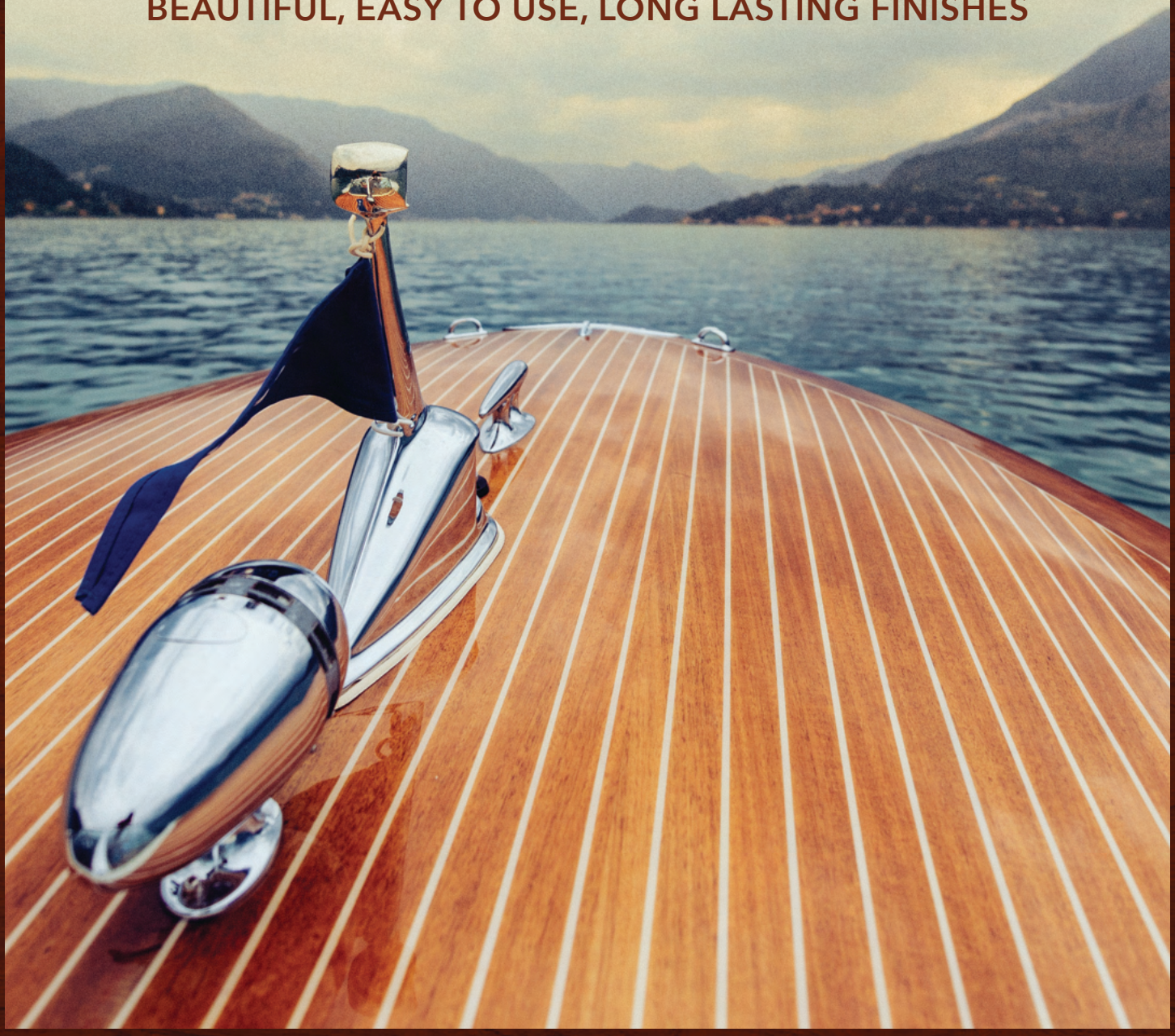
PETTIT®

VARNISH

PRODUCT & APPLICATION GUIDE

BEAUTIFUL, EASY TO USE, LONG LASTING FINISHES





Exquisitely varnished wood is the reflection of the most beautifully maintained boats.

We have all marveled at a beautifully varnished wood finish and probably asked questions on what products were used and the application methods. As a boater, you take pride in the appearance of your vessel. You keep it in pristine condition and feel great satisfaction knowing that it's protected. You know that using a varnishing system not only enhances the natural beauty of your boat, it also offers an excellent barrier against varying weather conditions, the sea, and the UV rays of the sun. You may have also felt slightly intimidated at the thought of undertaking a varnish project. This guide will help you through the process of completing a successful project.

PETTIT'S VARNISH LINEUP



Captain's Varnish 1015 is highly regarded for its ease of application, outstanding gloss retention, and tough-yet-flexible durability. A combination of phenolic and alkyd resins blended with tung and linseed oils provide excellent performance. Its warm, light amber hue will enhance the rich, classic brightwork appearance.



Flagship High Build Varnish 2015 offers the best protection against the sun's damaging rays. With six times more UV inhibitors, this blend of phenolic and alkyd resins combined with tung and linseed oils offers excellent performance and a deep, warm amber hue. This high-build formula offers excellent abrasion resistance and a high gloss finish.



Captain's Satin Sheen Varnish V-975 is specifically designed to enhance the beauty of interior woodwork with its soft, satin finish. Its pale, durable, long lasting polyurethane coat is water and alcohol-resistant. Satin Sheen is easy to apply and is intended for interior use only.

CHARACTERISTICS & USAGE	CAPTAIN'S VARNISH	FLAGSHIP HIGH-BUILD VARNISH	CAPTAIN'S SATIN SHEEN VARNISH
LIGHT AMBER HUE	✓	✓	
EXTERIOR USE	✓	✓	
INTERIOR USE	✓	✓	✓
COLD WEATHER APPLICATION	✓		
WARM WEATHER APPLICATION	✓	✓	✓
UV PROTECTION	✓	✓	
SATIN FINISH			✓



EZ Wood Sealer 2018 uniformly seals and satisfies the absorbency of all raw woods prior to painting and varnishing. The sealer acts as a moisture barrier layer to prevent peeling and excessive absorption of vehicle from varnishes.



EZ Enhancer 3021 is an additive that can be used in all Pettit high-gloss varnishes. Its advanced formulation reacts with the varnish to provide exceptional durability, gloss, hardness, gloss-retention, scratch resistance, and longevity.

***EZ Enhancer 3021** is compatible with EZ Wood Sealer, Captain's Varnish, Flagship High Build Varnish.

EQUIPMENT PREPARATION



NECESSARY EQUIPMENT & MATERIALS

- **SANDPAPER**
  A range of sandpaper will be needed from 60-grit to 400-grit.
- **NYLON SCUFF PADS**
  When sanding edges use a fine nylon scuff pad rather than sandpaper because it will remove less varnish.
- **SANDING BLOCKS**
- **SCRAPERS**
  Scrapers that work by pulling rather than pushing are less likely to gouge the wood. Be sure to round the corners of the scrapers to help avoid gouging.
- **MASKING TAPE**
  Good quality masking tape that can be left on the surface through several coats of varnish is recommended.
- **TACK CLOTHS**
  To remove sanding residue. Cheesecloth dampened with solvent can also be used.
- **BRUSHES**
  While throwaway brushes can be used for stains, sealers, and even some of the build coats, use high quality China bristle or Badger hair brushes for finish coats.

SUGGESTED EQUIPMENT & MATERIALS



Brushing Thinner 120 is the general-purpose thinner recommended for thinning and cleaning up varnish projects. It evaporates at a moderate rate and will help to create a clean, pristine finish for any varnish project.

- **VACUUM CLEANER**
  To efficiently remove heavy sanding residue.
- **FINISHING SANDERS**
- **HEAT GUN**
  For varnish removal in places where it would be difficult to use a chemical remover.
- **DROP CLOTHS**

SURFACE PREPARATION





PREVIOUSLY VARNISHED GOOD CONDITION

When preparing a previously varnished surface that is in good shape, take into account that some contamination such as wax or silicone may be on the surface and that sanding does not remove contamination.

The first step is to clean it well by wiping with a rag dampened with **Brushing Thinner 120** to remove any contamination.

Follow with a clean dry rag. Then sand with 220 to 320-grit sandpaper. Wipe with **Brushing Thinner 120** again after sanding. You can use a tack cloth to remove sanding residue but always wipe down with solvent after to be certain the tack rag did not leave residue behind.

Apply a minimum of two (2) coats of new varnish sanding between coats with 320-grit sandpaper.

PREVIOUSLY VARNISHED POOR CONDITION

If the old varnish is in poor shape, it is best to remove it and start from bare wood. Chemical varnish remover, or a heat gun will loosen the old varnish to allow for removal with a wide blade pull scraper.

Always use a sharp scraper and slightly round the edge of these tools with a file to avoid gouging the wood.

Once the varnish is removed, sand the bare wood with 120-grit sandpaper to open the grain and help the sealer or varnish penetrate into the wood. Always sand with the grain.

Remove the sanding residue by wiping with **Brushing Thinner 120**.

Now follow the Bare Wood instructions that follow.

BARE WOOD

Ensure the surface is dry and clean and has a moisture content between 15-20% before varnishing. Wood that is very dry when varnished is subject to expansion, cracking, micro-checking, and gloss loss when the varnish is in service. Sand the surface with 150 to 220-grit sandpaper.

After sanding, clean the sanding residue with a tack rag, vacuum, air hose, or cheesecloth dampened with **Brushing Thinner 120**.

Allow **Brushing Thinner 120** to dry out of the wood. Apply one to two coats of **EZ Wood Sealer 2018** over the surface. Sand the surface thoroughly with 220-grit sandpaper.

SEALING THE WOOD

When making repairs or installing new wood, bed it down so that moisture does not get in and lift the varnish from underneath. A good practice when bedding down trim is to back prime the concealed surfaces with epoxy to prevent moisture from being absorbed into the wood from underneath. Check for moisture in joints. If wood looks black, remove the varnish and use a wood bleach. Then, wipe with a fast solvent like xylene to help dry out moisture, sand, and give it a final wipe down with solvent. Apply varnish before the wood absorbs more moisture. Excessive moisture in the wood usually leads to blistering of the varnish.

The object of all of the cleaning, scraping and sanding is to obtain a smooth, clean and even surface. Using the proper grit of sandpaper is essential. Trying to remove nicks, dings gouges and other defects with too fine of a grit sandpaper will only lead to frustration.

When removing defects, it is easier and faster to start with a coarse sandpaper, such as 60 or 80-grit, and then work through to the finer grits of 180 or 220-grit. Conversely, sanding varnish that is in good condition with too coarse of a grit will result in unnecessary work.

Many varnishers will use a thinned coat of the varnish they intend to finish with as a sealer coat. This method is perfectly acceptable, but using a clear sealer such as **EZ Wood Sealer 2018** will yield better results. **EZ Wood Sealer 2018** is used to seal all types of raw wood prior to varnishing. The sealer acts as a moisture barrier layer to prevent peeling and excessive absorption of vehicle from varnishes. It uniformly seals and satisfies the absorbency of all woods including teak and mahogany. It can be used in a wider range of temperatures and dries faster than varnish. After applying EZ-Wood Sealer 2018, lightly sand to a smooth surface before applying varnish.

SEALING THE WOOD

1. Ensure the surface is dry and clean.
2. Sand the surface with 180 to 220-grit sandpaper.
3. After sanding, clean the sanding residue with a tack rag, vacuum, air hose or Brushing Thinner 120.
4. Apply one to two coats of EZ-Wood Sealer 2018 according to directions.
5. Allow sealer to dry per product requirements.
6. Sand thoroughly with 220-grit sandpaper.



APPLYING THE VARNISH

You've prepped your surface and applied a sealer, but the job's not done yet. It's time for the final act: applying the varnish.

1. Choose a dust-free (or as close as possible) environment. If working outside, do not work in direct sunlight or windy conditions.

2. Ensure all post-sealer sanding residue has been removed with a tack rag, vacuum, or air hose.

3. If applying by brush or roller, add 10-15% of **Brushing Thinner 120** for the first coat. If applying with a spray gun, add 10-15% of **Spraying Thinner 121** for the first coat. In either case, only the first coat of varnish should be thinned.

VARNISHED WOOD IN POOR CONDITION



1. Remove all the old varnish with a paint and varnish remover, heat gun, or by sanding.

2. Bleach the wood if necessary to remove water stains.

3. Proceed with the application system for bare wood shown on the next page.

BARE TEAK OR OTHER WOODS WITH HIGH OIL CONTENT



1. Sand the wood smooth with 120-grit production paper to open up the grain. Wipe the surface thoroughly with **Brushing Thinner 120** in an effort to aggressively remove as much oil as possible.

2. Apply a generous coat of **EZ Wood Sealer 2018**. After an overnight dry, lightly sand the surface with 220-grit sandpaper and wipe it clean with a rag dampened with **Brushing Thinner 120**.

3. Apply at least four to five coats of varnish. Let each coat dry overnight, sand with 220-grit sandpaper, and clean off sanding residue with a tack rag before applying the next coat. Sand the next-to-last coat with 400-grit production paper prior to applying the final coat.

**It should be noted that wood with a high oil content may eventually experience adhesion problems, as there is no way to totally eliminate the oil and prevent it from migrating to the surface. However, this application technique has proven successful in most circumstances.*

APPLYING THE VARNISH



BARE WOOD

Apply at least four to five coats of varnish. Let each coat dry overnight, sand with 220-grit sandpaper, and clean off sanding residue with a tack rag before applying the next coat. Sand the next-to-last coat with 400-grit production paper and clean off sanding residue with a tack rag before applying the final coat.



VARNISHED WOOD IN GOOD CONDITION

1. Wipe old varnish with **Brushing Thinner 120** to be sure all dirt, wax, polish and/or grease has been removed.

2. Thoroughly sand the existing varnish with 180 to 220-grit production paper and wipe clean with a tack rag.

3. Apply at least two coats of varnish. Let the first coat dry overnight, sand with 400-grit sandpaper, and clean off sanding residue with a tack rag before applying the final coat.



EXPERT TIPS

- If the surface shows signs of deterioration, flaking, or peeling, the varnish will need to be removed by either sanding or scraping.

- When using a chemical stripper, scrape the old varnish first and then sand with sandpaper. This will help the paint and varnish remover penetrate the coating faster and make it easier to remove.

- All recommendations for sandpaper in this guide are for production sandpaper. Other types of sandpaper may cut into the surface differently, so grit recommendations may be different. Others may have a stearate coating that may cause bubbling in the varnish.

- Always wipe with a rag that has been dampened with solvent after sanding to help remove sanding residue.

- Varnish jobs tend to fail first at the edges of the wood. This is because there is less film thickness on the edge than on the flat side of wood. Therefore, it is best when sanding edges to use a fine Scotch-Brite pad rather than sandpaper. Bronze wool can also be used.

  Do not use steel wool, as it may leave particles behind that can rust.

- When working outside, it is best to varnish in the morning after any dew has been removed from the surface. Varnishing late in the day can lead to poor drying and loss of gloss.

- Never file or sharpen a scraper where the filings are likely to end up on an area that is going to be varnished or painted. These filings will turn into rust spots.



FREQUENTLY ASKED QUESTIONS



CHOOSING THE RIGHT VARNISH

WHAT'S THE DIFFERENCE BETWEEN CAPTAIN'S VARNISH AND FLAGSHIP HIGH BUILD VARNISH?

Both provide beautiful, high-gloss marine finishes. **Captain's Varnish 1015** delivers a traditional warm amber appearance with excellent flexibility and ease of application.

Flagship High Build Varnish 2015 offers enhanced UV protection and a high-build formulation, making it an excellent choice for exterior brightwork exposed to harsh sunlight and marine conditions.

CAN I USE CAPTAIN'S SATIN SHEEN VARNISH ON EXTERIOR WOOD?

No. Captain's Satin Sheen V-975 is specifically formulated for interior woodwork, providing a durable, soft satin finish. For exterior applications such as handrails, trim and brightwork exposed to sunlight and weather, choose **Captain's Varnish** or **Flagship High Build Varnish**.



WILL VARNISH CHANGE THE NATURAL COLOR OF MY WOOD?

Yes. Both Captain's Varnish and Flagship High Build Varnish impart a warm amber tone that enhances the natural grain and richness of wood species such as mahogany and teak. The final appearance depends on the wood species, surface preparation and number of coats applied. Always test a small, inconspicuous area before completing your project.

FREQUENTLY ASKED QUESTIONS

PREPARATION & PROJECT PLANNING



DO I NEED TO USE A WOOD SEALER BEFORE APPLYING VARNISH?

Using a compatible wood sealer is recommended when varnishing bare wood. **Pettit EZ Wood Sealer 2018** helps uniformly seal the surface, reduces excessive varnish absorption and creates a consistent foundation for subsequent varnish coats. Properly preparing and sealing bare wood can improve the overall quality of the finished project.

CAN I APPLY NEW VARNISH OVER AN EXISTING VARNISHED SURFACE?

Yes, provided the existing varnish is in good condition and properly adhered. Clean the surface thoroughly to remove dirt, grease, wax and contaminants, then sand to create a suitable surface for adhesion. Apply at least two coats of compatible varnish, following current product instructions. If the existing coating is peeling, cracking or separating from the wood, remove the failing finish before recoating.

HOW MANY COATS OF VARNISH SHOULD I APPLY?

For bare wood, the original Pettit application guide recommends a minimum of four to five coats of varnish after appropriate preparation and sealing. Previously varnished surfaces in good condition typically require at least two maintenance coats. Exterior brightwork may benefit from additional coats to establish adequate protective film thickness. Always follow the current product data sheet for the selected varnish.

HOW MUCH VARNISH WILL I NEED FOR MY PROJECT?

Start by measuring the total surface area to be varnished, then multiply by the number of planned coats. Divide that total by the coverage rate listed on your varnish's product data sheet. Account for product lost during application, surface absorption and the condition of the wood. Porous or previously unsealed surfaces may require additional material. Purchasing sufficient varnish before starting helps ensure a consistent application throughout the project.

WHAT TYPE OF SANDPAPER SHOULD I USE WHEN PREPARING WOOD FOR VARNISH?

Sandpaper selection depends on the condition of the surface. Bare wood generally requires progressive sanding to achieve a smooth, uniform finish, with final preparation commonly performed using 180- to 220-grit sandpaper. Previously varnished surfaces in good condition can typically be prepared using finer abrasives. Between coats, sand according to the varnish manufacturer's instructions, using finer grits as the final finish develops. Always remove sanding dust before recoating.



FREQUENTLY ASKED QUESTIONS

APPLICATION & PERFORMANCE

WHAT'S THE BEST WAY TO PREVENT BRUSH MARKS IN VARNISH?

Use a high-quality natural-bristle brush suitable for varnishing and work in manageable sections. Apply smooth, even strokes following the wood grain, maintaining a wet edge as you progress. Avoid excessive brushing once the varnish begins to level. Work out of direct sunlight and avoid windy conditions that can accelerate solvent evaporation. If thinning is necessary, follow the recommendations for the specific Pettit varnish.

CAN I APPLY VARNISH IN HOT, COLD OR HUMID WEATHER?

Temperature and humidity significantly affect varnish application and drying. Excessive heat, direct sunlight and wind can cause varnish to dry too quickly, reducing flow and leveling. Cold temperatures and high humidity can extend drying times and affect finish quality. For best results, apply varnish within the temperature and humidity ranges specified in the current product data sheet, and avoid late-day applications when dew may form.

SHOULD I THIN MY VARNISH BEFORE APPLYING IT?

Thinning may improve application characteristics under certain conditions, but it isn't always necessary. We recommend using Pettit Brushing Thinner 120 for applicable brush applications and Spraying Thinner 121 for suitable spray applications. Excessive thinning reduces the amount of coating solids deposited per coat and may require additional coats to achieve the desired protective film thickness. Always follow current product-specific thinning recommendations.

WHY IS IT BETTER TO APPLY MULTIPLE THIN COATS INSTEAD OF FEWER HEAVY COATS?

Multiple properly applied coats help establish a smooth, uniform protective finish while reducing the risk of runs, sags and trapped solvent. Applying varnish too heavily can significantly extend drying times and compromise the final appearance. Follow the recommended wet-film thickness, drying intervals and sanding instructions for your chosen Pettit varnish.



FREQUENTLY ASKED QUESTIONS

MAINTENANCE LONG-TERM PROTECTION



HOW OFTEN SHOULD I REVARNISH MY BOAT'S WOODWORK?

There is no single maintenance interval suitable for every boat. Sunlight exposure, climate, usage, storage conditions and the existing varnish system all influence service life. Inspect exterior brightwork regularly for fading gloss, surface wear and early signs of deterioration. Applying maintenance coats while the existing finish remains sound is generally easier than allowing the coating to deteriorate to the point of complete removal.

HOW CAN I TELL WHEN MY VARNISH NEEDS A MAINTENANCE COAT?

Common warning signs include reduced gloss, a dull or weathered appearance, light surface wear and loss of finish uniformity. Pay particular attention to horizontal surfaces, exposed edges, corners, and areas receiving intense sunlight. If the varnish remains firmly adhered and free of significant cracking or peeling, a properly prepared maintenance coat may restore its appearance and protective film thickness.

DO I NEED TO REMOVE ALL THE OLD VARNISH BEFORE REFINISHING?

Not always. If the existing coating remains firmly adhered and is free of major deterioration, it can generally be cleaned, sanded and recoated with a compatible varnish. However, surfaces showing widespread peeling, cracking, lifting or adhesion failure should be stripped back to a sound substrate before rebuilding the varnish system. Address moisture intrusion or underlying wood damage before applying new coatings.

WHY IS UV PROTECTION IMPORTANT FOR MARINE VARNISH?

Marine woodwork faces prolonged exposure to sunlight, moisture and changing environmental conditions. Ultraviolet radiation can contribute to deterioration of the coating and underlying wood, eventually affecting gloss, appearance and adhesion. Marine varnishes containing UV-protective additives help defend exposed brightwork against sunlight. Pettit Flagship High Build Varnish is formulated with enhanced UV protection for demanding exterior applications.



FREQUENTLY ASKED QUESTIONS



TROUBLESHOOTING

WHY ARE BUBBLES APPEARING IN MY VARNISH?

Bubbles can result from excessive brushing, aggressive application techniques or air introduced into the wet coating. Warm surfaces and rapid solvent evaporation may also contribute to application defects. Use a quality varnish brush, avoid shaking the container, apply uniform coats and resist overworking the surface. Allow the coating to level naturally. If bubbles remain after drying, sand the affected surface smooth and recoat according to the product instructions.

WHY IS MY VARNISH TAKING LONGER THAN EXPECTED TO DRY?

Slow drying can result from low temperatures, high humidity, inadequate ventilation or excessive film thickness. Heavy coats can trap solvents beneath the surface, significantly extending drying time. Ensure the work area has appropriate ventilation and environmental conditions, and apply each coat at the recommended thickness. Allow the varnish to dry adequately before sanding or recoating. Consult the product data sheet if drying conditions are outside the recommended range.

PETTIT®

STATE OF THE ART

WOOD'S

MOST ENVIED FINISHES

PREMIUM MARINE VARNISH

APPLY THE FUTURE.

- EXTRA UV PROTECTION
- EASY APPLICATION WITH BRUSH OR ROLLER
- RICH, DEEP FINISH EXCEPTIONAL BEAUTY
- MARINE-GRADE & WATER RESISTANT



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