

1.0 A Brief History of Varnish

Based upon natural materials such as resins, oleoresinous compositions, gums, linseed oils and glue; varnish has been used throughout history for preservation and protection. Eraclius in the 9th century and Theophilus in the 11th century both mention the use of varnish. During the 16th century, varnishes were used regularly and in 1773, Watin's book on coatings gave formulations that are similar to those used today.

The 20th century introduced the use of China Wood or Tung Oil, which was imported from China. Several synthetic resins were also developed which allowed varnishes to dry harder and faster with better water resistance. Tung oil varnishes with phenolic resins were growing in acceptance until World War II, when supplies from China ceased. With this change in supply, alkyd resins started to gain popularity to fill the void. Today, alkyds dominate the coatings market although varnishes still maintain a critically important role in the preservation and protection of wood . . . especially in the marine environment.

2.0 What is a Varnish?

Varnishes have always been considered a mysterious blend of black art and science. In trying to understand how a varnish works, it is useful to review the various components necessary to create a typical varnish". Varnishes are generally made up of five specific ingredients: oil, resin, solvent, dryers and ultra-violet additives.

Although these are the five main categories, there are many choices within each category. The right combination of all five ingredients results in a varnish's optimal performance.

2.1 Varnish Oil

High Quality marine varnishes presently use China Wood Oil – more commonly referred to as Tung Oil. The China Wood Oil, which is derived from trees, provides long-term resistance to cracking and crazing. Another common oil is Soya. It is used for more standard quality varnishes.

The main purpose of oil in a varnish is to improve penetration into the wood. The more oil in a varnish the better the penetration. China Wood Oil has been maximized for this purpose. Some manufacturers add Penetrol to varnish to enhance its penetration characteristics. Interlux does not recommend this is because it may have an adverse effect on the longevity of the varnish.

When discussing oil, the terminology "*long*", "*medium*" and '*short*' oil is commonly used. This refers to the ratio of oil to resin in a particular varnish or coating. The "long" oils tend to result in longer dry times but greater durability in terms of gloss and color retention. Premium varnishes exhibit these qualities. "Medium" oils allow for faster drying times. They are, generally, restricted to low-grade varnishes. "Short" oils are used almost exclusively on primers.

2.2 Resin Choices for Varnishes

Hard resins used in varnishes are generally derived from natural materials. Resins come from tree stumps. Hydrocarbon resins are processed from crude oil. Phenolic resins are also derived from crude oil and some chemical processes. In general, the hard resin will be decided by the end use of the product.

Phenolic resins are used primarily in varnishes and deck enamels where a faster dry and harder finish is required for maximum water resistance.

There is also a category of oil modified Polyurethane Resins. In this category, there are two groups; aliphatic modified polyurethane resins and aromatic polyurethane resins. Both of these resins offer excellent abrasion and chemical resistance. The aromatics are much more popular but do not maintain color, gloss and clarity as well as the aliphatics. Poly-Flow 4000 is an aliphatic resin, which is used in Goldspar Clear® varnish. It is a unique material developed by Interlux and is not used in the United States by any other varnish manufacturer. It is this uniqueness, which provides the excellent color, gloss and clarity to Goldspar 95.

2.3 Solvents

We are all familiar with the use of solvents and their importance in making a product brushable and usable. The blend of solvents is very important to the *leveling** characteristics and varnishes are no exception. Solvents are used to increase the standard flow-out without destroying the full-bodied resin content. The consistency of Goldspar®, for instance, is much thicker than most varnishes. Yet, with the use of a special solvent package, it maintains flow and good leveling properties.

Solvents are also critical to maintaining the *wet edge* capacity of varnish. Wet edge is very important as it all allows the varnish to be applied without any trace of brush marks from overlapping new areas. In the application section, we'll discuss the optimal way to brush on varnishes and overlap new material with old material.

*"Leveling" refers to the reduction of brush marks on a coating resulting in a level, smooth finish.

2.4 Driers

Although most people are not familiar with the use of driers in coatings they are very important. They act to accelerate the dry through and the hardness of the coating. The blend of driers that is used in a varnish has a great impact on the clarity, color, the actual rate of dryness and the stability of the product. Interlux optimizes this drier blend so as not to detract from the color or clarity. Goldspar® Clear and Schooner® are the latest examples of maintaining the clarity of the varnish without sacrificing any of the performance attributes.

2.5 Additives

In addition to the basic components of the varnish (i.e. oil, resin, solvent and driers), the newest technology is related to the *additives*. The first commonly used is an *anti-skinning* agent which allow the varnish to maintain a wet surface upon exposure to the oxygen. Since varnishes have a very high content of resin,

they are more likely to skin or develop a surface film. Hence, the use of anti-skinning agents in varnish is very critical. *Flattening agents* are used for interior varnishes such as Interlux Goldspar® Satin 60. For interior varnishes the rubbed effect is desirable and consequently, the product is flattened to achieve that look.

2.6 Ultra-Violet Additives

The current trend in varnish technology, which most directly impacts long-term performance, is the use of ultraviolet stabilizers. Their use in Goldspar Clear® and Schooner® 96 enables them to maintain their gloss and clarity far beyond conventional, competitive varnishes.

Ultra-violet (UV) light is energy. It must be either absorbed by the coating or dissipated. Without the use of adequate additives, the coating absorbs the UV light. This results in destructive processes:

Photo-degradation is the process by which the UV energy is absorbed by the film. This leads to a dramatic, loss of gloss, film cracking and yellowing. This eventually results in delamination and peeling of the varnish. *Photo-oxidation* is the second phase of breakdown caused by oxygen in the coating itself.

Interlux uses three separate additives to combat UV energy:

1. *Ultra-violet Absorber (UVA)*- As the energy from UV light enters the paint film, it is diffused back as infrared energy (IR). Those UV rays not reflected are dispersed evenly throughout the coating so that no singular attack on the film occurs.

2. The second additive used by Interlux in premium varnishes is a *Surface Stabilizer*. The surface stabilizer works at the surface to repair damage from UV light. The point of air/coating interaction is the area where the polymer regenerates itself by pulling polymer segments together these additives maintains the gloss and color retention through constant surface repair and stabilization. By keeping the film surface repaired and stabilized, the amount of water, which can attack a broken paint film is reduced, prolonging the overall life of the coating.

3. *Anti-oxidants* are the third additive that impacts long-term performance and are used to combat photo-degradation and the effects of oxidation on the varnish film. Without the use of an effective anti-oxidant, the varnish will gradually fade and become cloudy. With a clear coating, like varnish, it is particularly important to maintain its color, as any change will be readily detectable.

These three additives represent the latest available technology in UV protection. Until now, most varnishes that contain any UV additive will contain only the UV absorber. Goldspar® Clear and Schooner 96® and represent true breakthroughs in varnish technology by incorporating all three of these technologies.

Interlux has invested substantial resources developing a synergistic blend of raw materials in order to produce the highest quality line of varnishes on the market today.

3.0 Factors Which Affect the Life of a Varnish

In dealing with the lifetime of a varnish, the environment has the most influence over how long a system will last. Typically, professional yards will use anywhere from eight or more coats of varnish well sanded between each coat, Those of us that do not have the luxury of spending that much time may opt for three to four coats. The amount of quality time and effort expended in varnish application is directly proportional to the degree of finish beauty and durability achieved.

Certain climatic areas are much more severe on the life of a varnish. Varnish will not last as long in the Caribbean as it will in the Great Lakes for example.

The following is a list of factors that affect the longevity of a varnish and a short description of each one.

Oxidation is caused by the presence of oxygen reacting with the varnish over a long period of time. The film becomes more and more brittle and, therefore, becomes much more prone to cracking and crazing.

Water Penetration through the varnish to the wood will cause cracking and delamination. Although no varnish is completely impermeable to water penetration it is generally negated with the use of hard resin. If the varnish is constantly immersed the water will penetrate and cause the varnish to blister and delaminate.

Contamination of a surface from salt is another important factor that affects longevity. Salt crystals will magnify the intensity of the sunlight and act as small magnifying glasses on your boat. Even with the use of a good UV package these small magnifications will cut through the coating fairly quickly. Therefore, it is very important to keep the varnish film clean of contaminants.

Chemical resistance to common chemicals such as gasoline or jet fuel is also important. Interlux varnishes are designed to resist chemicals and alcoholic beverages.

Natural Oil from within certain types of wood, like teak, will rise to the surface of the wood's fibers and begin to lift the varnish. This can result in detachment of the varnish. Care must be taken to remove as much oil as possible prior to varnishing.

Interlux has commissioned Ralph J. Naranjo to write this section on varnish prep and application. He details tips and techniques

4.0 Expert Advice and Tips on Varnishing

Varnish work needs to be savored rather than simply endured. Those able to transform a blistered, peeling finish into a lustrous display of woodwork should be proud of their skills. Professionals develop this talent through careful guidance and years of repetition. The amateur faces a more restricted learning curve. It's hard to learn to pitch a baseball by reading a book. Quality varnish work, like action on the ball field, is learned by doing. Yes, it is important to learn the steps involved, however it is vital to be able to practice the necessary skills. One's own boat is a good place to serve a brightwork apprenticeship. The following guidelines are meant to convey the "feel", as well as the ideas behind quality varnish work.

4.1 Surface Preparation

Most pros agree that patience and attention to detail are the heart of successful brightwork. Add an appreciation of the aesthetics of woodwork to this combination and you will be off to a good start. Phase one deals with preparation of the surfaces to be varnished. It is as important as the final coat and can make the difference between a mediocre and a quality varnish work.

Effective preparation has a lot to do with effective tool handling skills and time management. Superb results can be achieved with sandpaper and the patience of Job. However, most boatowners prefer to expedite the process and get on with their boating plans. By Utilizing a variety of scrapers, machine sanders and chemicals, faster progress can be made.

Essential Equipment

Sandpaper – Aluminum Oxide or production sandpaper – grits ranging from 50 – 320. Steer clear of the white, steared paper as it can leave a residue that will cause fisheyes.

Sanding Block – There are commercial ones available but a piece of 2"X4" long enough to cover multiple imperfections, yet easy to hold, is suitable.

Scrapers – Various sizes with rounded corners to avoid gouging of surface. Also a file to keep the scrapers sharp.

Tape – To mask off surfaces not to be treated. Do not use cheap masking tape, as it will leave a residue behind that is very difficult to remove.

Lint-Free Cloth – Cheesecloth or commercial tack cloth to eliminate surface residue.

Brushes – Various sizes including straight and beveled edges.

Dropcloths – To protect large areas

Filter Funnels – Use a filter with a fine mesh.

Optional Tools:

Finishing Sanders – Expedites the sanding process but take care not to use too vigorously as sanders may damage the wood.

Heat Gun – Particularly useful on curved or irregular surfaces to remove old paint and varnish. Be careful when using a heat gun around fiberglass as the heat can cause the fiberglass to melt. (Do not use Heat Guns to remove antifouling paint).

Vacuum Cleaner – To efficiently remove residue between sandings and before varnish applications.

A carpenter doesn't work on walnut with a chainsaw and those prepping intricate brightwork don't need belt sanders and large grinders. Good intentions and excessive abrasion can ruin woodwork as well as brightwork. Finesse is the answer. Small, palm sized *finishing sanders*; a variety of *pull scrapers* and several *sanding blocks* should be in the toolbox. Plenty of *sandpaper*, preferably Production Tri-M-ite™ or Fre-Cut™ or the equivalent needs to be on hand. Grits ranging from 50 to 320 may be needed and the "by the numbers" approach will vary depending on the type of wood, the finish it has been coated with and the acceptance level of the craftsperson doing the work.

Don't skimp on surface preparation. If the old finish is blistered and flaking off, completely remove the coating. Selecting the right equipment can expedite the process. For example, chemical varnish remover (such as Interlux Interstrip 299E) loosens thick build-up and allows speedy removal with a wide blade pull scraper. Slightly round the edge of these tools with a file to avoid unintentionally gouging the wood surface. Make certain a scraper is never filed on deck where tiny steel filings can accumulate. These minute specks expand *37 Times* as they oxidize, turning into very noticeable rust spots.

QUICK TIPS: Surface Preparation

1. Select your tools and chemicals wisely. Practice on "test" pieces of wood.
2. Blisters or flaking varnish must be completely removed.
3. Keep plenty of sandpaper on hand in a wide range of grits (50-320). Store in a low humidity area,
4. Round the edges of scrapers with a file to avoid gouging the wood surface.
5. Don't rush the prep stages. Proper preparation is mandatory to achieve superior finishing results.

Attention to detail is the by word in all aspects of brightwork. During the removal of old coatings, cosmetic precautions must be taken. Cover painted areas that may be damaged by the varnish remover. Tape and mask off boundaries. Be sure the tape you leave on overnight can withstand dew, and unexpected shower as well as the hot early morning sun. Cleaning off tape residue can make normal prep work seem like a real vacation. Throughout the endeavor, attempt to balance productive time usage with the quality of the work accomplished. Fast, sloppy workmanship may complete a job sooner but the results of poor craftsmanship linger indefinitely.

4.2 Sanding

Sanding is a ritual few look forward to. Before charging into the process be sure that you have thoroughly determined the best approach for each area of the job. For example, it may make sense to chemically strip varnish from difficult areas. Machine sand easily accessible, flat coamings with a large sheet orbital sander. Hand sand certain areas where machines cannot gain access. A sanding block should be used on flat surfaces to assure an even finish. The main premise is to use the best tools available for each task. The fact that a small electric sander is useful in certain situations does not mean that it is the best alternative for every sanding task.

Whichever tool is chosen, be sure to *sand with the grain* and brush or pat the paper clean to remove sanding residue and to improve the cutting action. Change paper frequently and avoid wasting time by skimping on replacing abrasives. Most finishing sanders allow the operator to “stack load” several sheets of paper at once. As the paper clogs it can be quickly peeled away exposing a fresh new surface. White, steared paper is sometimes used to ease sanding and reduce paper clogging.

QUICK TIPS: Sanding

1. Always sand with the grain.
2. Keep sandpaper clean and change often.
3. Sand “By the Numbers” finishing with progressively finer grits of paper.

Heat Guns have gained quite a bit of popularity. They are a viable means of encouraging varnish to relinquish its grip despite the shape of the wood. Once the coating lifts, scrapers, putty knives and bronze wool easily remove the residue. The more the heat the more the peel. Unfortunately, as with most shortcuts, too much of a good thing can cause problems. Excess heat can blemish the wood and damage epoxy glue joints essential to the structure’s integrity. As with most mechanisms that enhance productivity, when mishandled the damage rate is also increased. Those new to brightwork preparation should become accustomed to block sanding before escalating to more vigorous varnish removal.

All roads may lead to Rome but not all varnish prep techniques lead to a smooth, clean, even surface. The final round of this battle is a “by the numbers” encounter with abrasive technology. The more even the surface is after scraping, the less heavy sanding (grits 50, 60, 80, 100) needs to be done. Remember, however that those who try to remove scraper gouges with 180-grit sandpaper may find themselves spending weeks at the process. Use the proper grit to accomplish the job, then skip to less abrasive grits to smooth the surface and remove sanding scratches. An approximation of the usual time and grit routine is as follows: {(5%-50) (10%-100)}, {(25%-120) (25%-150)}, {(20%-180) (15%-220)}.

4.3 Bleaching, Filling and Sealing

Once the surface is stripped of the old finish and the wood is appropriately sanded, it is time to decide whether bleaching, filling and sealing are necessary. Thorough sanding often goes a long way to even out color. After sanding, if dark areas are still evident bleaching may be necessary. Applying varnish or oil cannot even out this “mottled” appearance. In fact, it will probably look worse. Always scrape the wood totally before bleaching. Bleach cannot be used to remove old varnish. Oxalic acid crystals dissolved in warm water or a commercial bleach and neutralizer combination are recommended. A solution of soda ash and water will neutralize oxalic acid. In either case, neutralize the surface evenly and flush thoroughly to eliminate streaking later on. In situations where new teak proves to be excessively laden with natural resin scrub and wipe surface with solvent, such as Interlux Solvent Wash 202 or Special Thinner 216. After cleaning and removing contamination proceed with the fill and seal process. Bleaching will raise the grain of the wood and will need to be sanded prior to filling or sealing.

Porous grain can be filled with varnish but the number of coats required can be intimidating. This is especially true with open grained hardwoods such as *mahogany*. Special wood fillers are designed to expedite this process and to help you achieve a glass smooth surface. *Interlux Interstain paste wood fillers* are available in a wide variety of colors to closely match your wood’s natural hue. Apply filler stain by brush with the grain. After the stain appears to flatten (5-10 minutes) wipe across grain with burlap pad until surface appears uniform. Use cloth moistened with Brushing Liquid 333 to even out any streaking that may have developed. Any excess should be lightly sanded. Finally, seal the wood by applying the first coat of any *Interlux* varnish reduced 10-20% with *Interlux Brushing Liquid 333*. An alternative to this is to apply *Inter-Prime Wood Sealer Clear 1026*. You’re now ready for further full-bodied applications if *Interlux* varnish.

For varnishing high oil content woods such as teak, juniper, cedar and spruce, it will be necessary to follow a different procedure. The oily residue can adversely affect varnish adhesion. Excellent results can be achieved by following these steps:

Quick Tips

Varnishing Teak or other high oil content woods

Step 1. Sand entire surface to be varnished with 80-grit sandpaper.

Step 2. Remove sanding residue from wood by wiping with Special Thinner 216 to remove as much surface oil as possible. When sanding varnish it is best to remove sanding residue with Brushing Liquid 333.

Step 3. The first coat should be thinned 15-20% by volume with the recommended thinner in order to get better penetration into the wood and seal it and establish a foundation for subsequent coats of varnish to adhere to.

Step 4. After an overnight dry, sand with 220-grit sandpaper, then wipe clean with Brushing Liquid 333.

Step 5. Apply additional coats of full-bodied varnish until desired finish is obtained, allowing

proper dry times between coats. Sand between coats with 220 grit sandpaper, then wipe clean with appropriate thinner.

Quick Tips

Bleaching, Filling and Sealing

1. Always neutralize and flush the wood surface thoroughly after bleaching.
2. Do not attempt to use bleach as a varnish remover. Use *Interlux Interstrip 299E*.
3. Bleaching may raise the grain of the wood so it is recommended to sand after bleaching.
4. Do Not allow wood filler to dry completely before wiping off excess. Otherwise, it will become almost impossible to remove.

4.4 Coating Build Phase

The next sequence is the build-up phase. The objective is to get to the point where the highs and lows disappear and the flat, smooth coated surface is continuous. It can be a frustrating sequence because it seems that you put on varnish on and then sand it off. Those who have thoroughly prepped, sanded and sealed the surface will have fewer problems with the build-up phase. Be sure to view the surface from side to side as well as from above. Your fingertips will tell you a lot about your progress. During this sequence, try to alternate light scuff sanding with serious flattening bouts. Armed with a small *palm electric sander*, *large sheet sander* and a *vacuum cleaner* work toward the goal of getting the low points over grain pores even with the remainder of the surface.

Brushing techniques should be practiced during this build-up period. The principle behind spreading a liquid varnish film is important. Granted there are many valid techniques but they all are focused on the same results; an even, uniform flow.

“Good varnish is like good whiskey, it’s the little nuances which make the big differences.” Each person becomes his or her own mix master. He or she uses fast and slow reducers (*Interlux 216 or 333*) to change how the liquid flows. Too thick a varnish to too fast a reducer in certain weather conditions causes poor flow out, excessive lap marks and obvious brush marks. At the opposite end of the spectrum are the sags, runs and poor coverage associated with too thin a mixture. The right solution for 62 degrees will not be the right one for 82 degrees. Carefully experiment to discover the best blend for you. Start with the recommendation on the label.

4.5 Preparing to Varnish

Good handling techniques are very important. They begin when the can of varnish is first picked up. Always try to avoid doing things that introduce air bubbles or dust into the liquid. Don’t shake it, bounce it around in the trunk of the car just prior to applying or stir in reducer as if you were scrambling eggs. Avoid using varnish straight from the can. Instead, gently pour a small amount into a paper bucket, clean coffee can, etc. Be sure to use a filter funnel during this process. Many pros add their reducer through the same funnel and gently swirl

the mixture in the paper bucket. If better mixing is needed, *gently* stir the varnish. Some experts like to push a section of coat hanger through the bucket to act as a tap rod, which is used to rid the brush of excess varnish. They feel that squeezing brush bristles over the top of the bucket or coffee can generates air bubbles. Be sure that the brush bristles are thoroughly wet with varnish before starting. Failure to do so will cause air bubbles.

Just prior to laying on varnish check your cosmetic prep. Be sure sanding dust has been removed. Vacuuming, blowing off with clean, dry compressed air and washing down are good alternatives. If water is used be sure the surface is completely dry before continuing the coating process. A proper tack rag rub or wiping down with Brushing Liquid 333 just before laying on the varnish is a wise choice. A cloth treated with alcohol for cleanup is helpful. Difficult areas to cut in should be taped off. Wind gusts can redeposit what you have cleaned off. Listen to NOAA weather forecasts before doing final coats. Keep in mind that direct sunlight is no friend of the varnisher as it causes the varnish to dry too quickly, leaving brush marks.

Quick Tips

Varnish Preparation

1. Avoid stirring or shaking varnish.
2. Pour varnish through a filter or through a pair of high-density stockings into a clean container.
3. Don't use varnish that has set open for a long period of time. It will have picked up dust.
4. Keep surfaces to be varnished as dust free as possible. Use tack rags or vacuum for clean up.
5. Avoid gusty weather and do not varnish wood exposed to direct sunlight.
6. Avoid using varnish direct from the can, this will cause the varnish to age prematurely and may introduce contamination into the can. Pour the amount of varnish that you expect to use at any one time, into a separate container.
7. Never leave bare wood exposed too long, as it will absorb moisture from the atmosphere.
8. Varnishing is best achieved on warm, dry mornings, cold weather retards drying. High humidity or moisture will spoil the gloss.

4.6 Brushes

There is an ongoing debate between advocates of badger hair brushes, short bristle brushes and foam brushes. Fine results are achievable from natural or synthetic brushes. Some people will even use foam brushes for the first couple of coats where they know they are going to need to sand and save their "good" brushes for the finishing work.

Good brushing techniques are easier to talk about than to duplicate. It takes practice to become familiar with the factors involved. For example, it's important to realize the difference between laying on material and tipping or smoothing the surface. An empty brush is used to lightly spread freshly laid on varnish. If too much time has gone, much of the solvent will have evaporated and

the brush will tend to stick and pull the coating. Knowing how the brush behaves with the product is an essential to good varnishing. It is not the technique but the results that matter. Your goal is to lay on even coats that are free of runs, holidays and lap marks. Care should be taken not to puddle or overload the horizontal areas. Improper curing and wrinkling will result. Too much material on vertical surfaces will result in sags and runs. Such problems can occur regardless of the brush you utilize. Remember that it takes less work to put on additional coats of varnish than to sand out runs and sags from applying too much varnish.

Most brightwork veterans prefer to cut back into already varnished sections with a lifting/dragging brush stroke. They maintain enough slow reducer (Brushing Liquid 333) in the varnish so lap marks blend together. The varnish must flow and not immediately skin over in order to develop a smooth mark free surface. Unfortunately, too much material or excessive flow will cause curtains, hangers and runs in the varnish. The pros also use a variety of different size and shaped brushes. These range from tiny artist brushes to large, bevel cut brushes. The type of tools used is another personal preference varnishers eventually choose for themselves

Quick Tips Brushes

1. Fine results can be obtained with either natural or synthetic bristle brushes. With proper care, a synthetic bristle brush will greatly outlast a natural bristle brush.
2. On large areas use a foam roller to apply the initial coat followed immediately behind with a wide brush for the finishing strokes this is best done by two people.
3. Overlap brush strokes
4. Always use a clean brush that has been kept specifically for varnishing.
5. Clean the brushes before using with Brushing Liquid 333 and then spin dry using a brush spinner.
6. After varnishing clean the brush using low odor mineral spirits. For the final cleaning use Brushing Liquid 333. Then wash the brush in detergent and warm water, spin dry using a brush spinner and wrap in greaseproof paper in a fine chisel shape.
7. For brushes that have not been completely cleaned use Interstrip 399 to soften and clean then switch to Brushing Liquid 333 for a final cleaning.
8. After cleaning hang the brush by its handle to avoid any "fishtailing" of the bristles.

5.0 Conclusion

Quality brightwork is best portrayed by a glistening varnished surface. The craftsmanship involved in producing such a finish is a rewarding challenge that can be met by the amateur as well as the professional. Patience, attention to detail and pride in work well done will help in the learning curve. It also pays to use premium quality Interlux varnish.

Interlux Varnishes

Goldspar® Clear

Goldspar is a one part polyurethane varnish, which contains a unique combination of ultra-violet additives, surface stabilizers and antioxidants to ensure long-term gloss and clarity. In addition, a new polyurethane resin adds incredible abrasion, chemical and water resistance, along with silky application. Superior leveling properties and a bright, clear, high gloss finish lets the natural color of the wood show through. Although Goldspar® clear looks dark even purple in the can it is very clear on the wood. The color is due to the drier package and does not show in dried varnish.

Schooner® Varnish 96

Schooner® Varnish combines the very best of classic, varnish craftsmanship with the newest technology. Schooner contains ultra-violet filters to screen the sun's damaging rays for remarkable durability, excellent water resistance and silky application. Superior properties and ease of use combined with a bright, clear, high gloss affords a pristine finish with the traditional golden color.

Perfection® Varnish YVA853

Perfection Varnish YVA853 is a two-part polyurethane designed to be an extremely durable clear coating for wood and epoxy surfaces.

Perfection Varnish has an excellent ultraviolet protection package and applies easily by brush. Being a two-part product it requires more care in application and planning than do one-part varnishes.

Perfection Varnish should only be applied in warm, dry and low humidity conditions above 50°F (10°C) and should not be applied over one-part varnishes.

Goldspar® Satin 60

Goldspar® Satin is a modified polyurethane low luster varnish designed for application to interior wood surface only. Goldspar® Satin produces a warm, rich satin sheen finish that is hard enough to resist scratches and alcohol stains, yet applies easily enough to yield truly professional results by either brush or spray.

Goldspar® Satin is ideal for anywhere a low luster finish is desired such as cabin soles, cabinets, counters and tables. Goldspar® Satin can also be used for home interior finishes such as furniture, bar tops and paneling.

Original® 90

Original 90 is a traditional spar varnish that combines ease of application with good gloss and durability. Interlux has improved Superspar with ultraviolet filters and better cold weather dry through. Original is recommended for various interior and topside exterior woodwork such as cabin trims, handrails, doors and coaming. Original® is the best value in spar varnish.

Jet Speed Varnish 100

Jet Speed 100 varnish is exceptionally quick drying varnish intended for use when fast buildup coats are necessary. Under most weather conditions, two coats can be applied in one day, this is especially useful for early spring and late fall varnishing and whenever speed of dry is important consideration.

Jet Speed varnish is not recommended as an exterior finish and should be overcoated with a varnish that contains ultra-violet filters such as Goldspar 95, Schooner 96 Or Plus 5 Varnish.

Wood Care Products

Interstain™**Paste Wood Filler Stains**

Fills the grain of the wood so that the number of coats of varnish can be reduced and it stains the wood to enhance its natural beauty. Available in Brown Mahogany, C.C. Red Mahogany, Red Mahogany and Natural. The Natural can be mixed with pigments to match different color woods.

Wood Sealer Clear 1026

Wood Sealer Clear 1026 is recommended to seal the grain of the wood or to stop varnish from penetrating into the wood. Subsequent coats of varnish or paint can dry without "high and low" spots. Wood Sealer Clear 1026 can be applied to interior or exterior surfaces. This sealer is particularly useful for sealing plywood to resist checking and cracking.