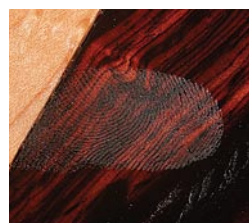


Finishing oily woods

SEAL IN THE PROBLEM, DON'T WIPE IT AWAY

BY JEFF JEWITT

Many woodworkers use exotic tropical woods such as rosewood, cocobolo, jatoba, bubinga, wenge, teak, and others. If you've ever applied an oil-based finish to one of these woods, you have probably run into problems: Either the finish took a very long time to dry, dried only partially and stayed tacky, or wouldn't dry at all. And even if the finish dried, it might have peeled or flaked off later. Your first reaction probably was to blame the finish or yourself, without realizing that the wood was in fact the culprit.



Sticky situation. The natural oils found in many tropical woods slow down or prevent the drying of oil finishes.

Natural oils protect tropical wood

Tropical and rain-forest woods have developed a natural resistance to the accelerated decay caused by their hot and steamy environments. Extractives (commonly referred to as oils) produced by the trees are naturally water repellent and rich in chemicals known as antioxidants. These impede or slow down the oxidation of other

molecules, which is the first step in the decay process.

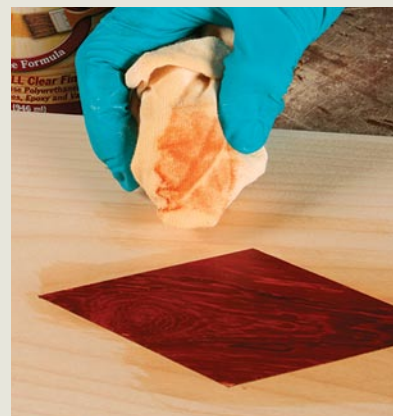
To understand why these wood oils affect oil finishes, you have to understand how oil finishes cure. Drying oils like soya, tung, and linseed (and the varnishes and polyurethanes based on them) begin to dry by absorbing oxygen from the air into the liquid finish on the wood's surface. The oxygen combines with molecular components of the finish, forming other chemical molecules, one of which is a free radical. A free radical is like a molecule on steroids. It has too



Seal with shellac

Wipe on a single coat of dewaxed shellac such as SealCoat. This seals in the wood's natural oils.

TROPICAL WOODS CAN BLEED



Two-tone problem. When dark tropical wood is adjacent to light-colored wood, don't wipe or brush on a barrier coat of shellac. You might stain the lighter wood with the dark wood's pigment (left). Spraying is the solution. If you don't own a spray gun, you can buy a can of aerosol shellac and use it to seal the wood (bottom left).



Safe to finish. With the shellac dry, it is safe to apply a clear topcoat of your choice.

Lacquer finish



Two steps to a lacquer finish. First, spray on a coat of vinyl sealer to shut in the tropical wood's oils. With the sealer dry and sanded, spray on topcoats of solvent lacquer.

many electrons, making it highly reactive (chemists call this unstable). The free radical accelerates the final stage, which is polymerization (curing) of the finish.

On tropical woods, this process is impeded by the antioxidants in the oily wood. Antioxidants donate a portion of their electrons to stabilize the free radical, thus neutralizing it. As a result, the final curing or hardening of the oil-based finish is slowed down dramatically.

Shellac is the answer

When I was learning to finish, I was told to wipe down oily woods with lacquer thinner or acetone prior to applying oil-based stain or finish. This helps with the adhesion issue (finishes don't bond well to oily woods) as long as you apply a finish within minutes, but it may not help with the curing problem. This is because the evaporation of the solvent pulls more oil to the surface of the wood.

A better strategy is to seal the wood with a thin barrier of a finish that isn't affected by the oils. For solvent lacquer, you can spray on a barrier of vinyl sealer, but for most finishes, use a coat of dewaxed shellac. You should use either ready-made, wax-free Zinsser SealCoat or make the shellac from dewaxed flakes.

One coat of a 2-lb. cut of shellac (SealCoat comes in this concentration) does the trick. You can brush, spray, or wipe it on. However, on projects made with dark tropical wood as accents (like inlay), color from the dark wood can leach out and be smeared onto adjacent lighter woods if you brush or wipe on the shellac. Here, the best strategy is to spray the shellac, using an aerosol if you lack spray equipment.

Once the shellac is dry, lightly sand the surface with P600-grit (or 400-grit CAMI) sandpaper and then continue with the finish of your choice. You can safely use oils, oil-based finishes, water-based finishes, lacquers, or urethanes. Or, just continue with an all-shellac finish.

Mahogany and veneer are the exceptions

Finishing wouldn't be fun (or exasperating, depending on your point of view) if there weren't exceptions to the rule. Mahogany poses no problems, because it doesn't have these types of oils. Commercial veneers also are benign, as the hot water used to prepare tropical logs for slicing chemically breaks down the oils.

Finally, on decorative objects not subject to much handling, you can simply apply wax (with or without the shellac sealer), or nothing at all. You can produce a great shine on some tropical woods just by buffing.



No finish at all



A natural finish. You can exploit the oil in many tropical woods and bring up a high shine by simply polishing the bare wood on a buffing wheel.