

# Finisher's K.I.S.S. Program II

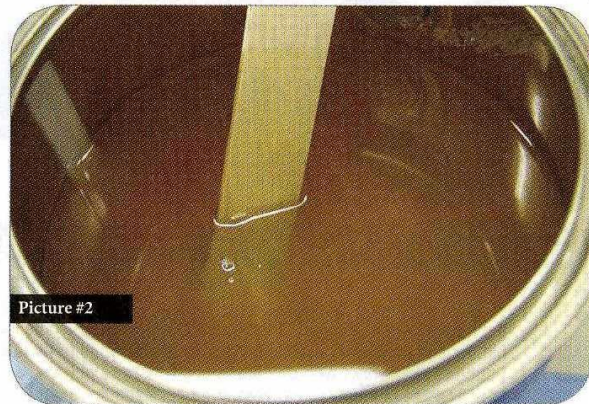
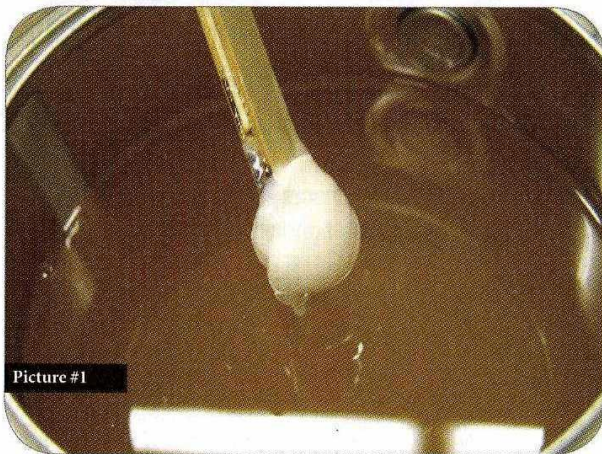
## "Keep It Sealer Simple"

By Bruce E. Jackson and Greg Williams

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**SEALERS ARE AMONG THE MOST MISUNDERSTOOD COATINGS** when it comes to function and application techniques. We read of coatings that are "self sealing", but see that a sealer is offered for that same product. If it is "self sealing", why would we want a sealer? Most coatings are self-sealing and can form a bond to the substrate, a form of sealing. Remember that the characteristics we desire in a sealer and a topcoat are different. A good, abrasion-resistant topcoat typically does not make the best sealer. Using a self-sealing product has the advantage of requiring fewer cans on the shelf, but may require more work to get the same result as you would with a proper sealer.

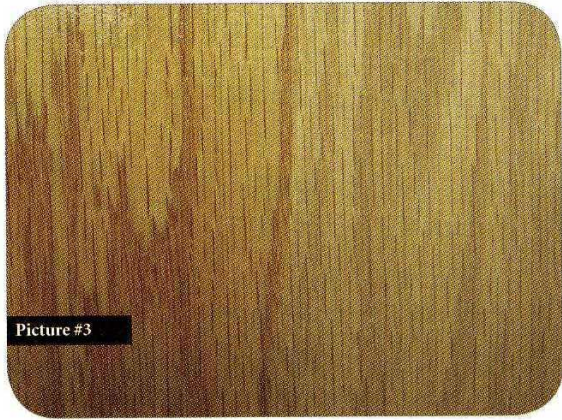
Sealers contain solids to not only assist in making the



substrate non-absorbent but to make leveling by sanding easier, tie or bond the next coat, act as a barrier, wash coat, size coat and even a blotch preventer.

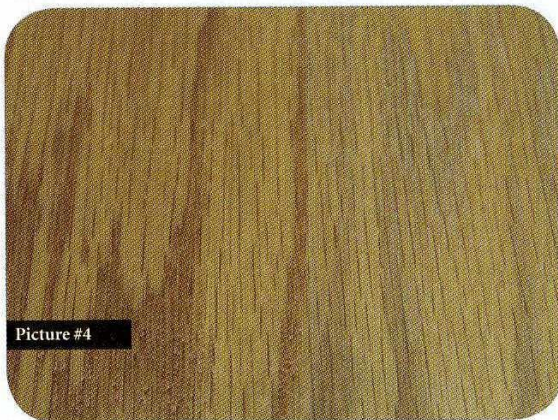
Sanding sealer needs to be stirred continuously (Picture #1). When it is first opened it is translucent. Stirring lifts and breaks up the solids in the bottom of the container while continuous stirring stops the solids from settling back to the bottom of the container (Picture #2). Since the cost associated with sanding sealer is in the solids, letting them settle or worse yet leaving them in the bottom of the container is wasteful and creates more difficulty during the sanding operation.

The misunderstanding of sanding sealer's function concerns what the sanding sealer coat should accomplish. Some sprayers will spray two coats of sealer and then sand while others will spray one heavy coat of sealer and



then sand (Picture #3). Both methods cost money in coatings material, labor, and abrasives. It is true that the first coat should be level as possible so the additional layers of topcoat flow out flat thus creating a smooth looking finish using less topcoat and less labor to achieve the flat look.

The application sealer usually results in a flat coat unless the sanding gets too close to the original wood surface and then holes appear. When this happens what has really occurred is the sealer was not thin enough to fill the pores and indentations of the wood substrate. The sealer was so viscous it bridged the pores and indentations (Picture #4). Then when sanding occurred the bridged areas were sanded away and the pores and indentations appeared as holes or indented sealer.



Sealer should be applied at a viscosity and temperature that allows it to fill the pores and indentations with a minimal amount of sealer on the flat areas of the substrate. Less sealer means less material cost, less sanding labor and less abrasives used. Well-stirred sanding sealer in the container has an even color look to the liquid.

## Check List

- 1. Applied materials have been checked for compatibility.
- 2. Sealer is fresh.
- 3. Sealer is stirred to remove solids from bottom of container.
- 4. Sealer is continuously stirred.
- 5. Viscosity and temperature are correct per coating supplier.
- 6. Room temperature is set per coating supplier's recommendation.
- 7. Substrate has been wiped clean.
- 8. Just enough sealer is applied to fill pores and level substrate surface.
- 9. Sealer is allowed to cure before sanding.
- 10. Clean and new abrasives are available.

Sealers come in different types including nitrocellulose, vinyl, conversion varnish and pre-catalyzed. Each has several specific areas it can be used in and on. Some manufacturers use the Architectural Woodwork Institute's Quality Standards Section 1500 for various finishing requirements on projects.

Nitrocellulose sanding sealer is normally used under nitro-

cellulose lacquers. Containing zinc stearate or a similar sanding aid, it is characterized by the "powdering" of the coating when sanding. Very high solids versions are available as a shortcut for smoothing rough or very porous substrates.

Vinyl sealers have become popular in recent years for a number of reasons. Stearated sealers are not recommended for use under catalyzed coatings, such as conversion var-

nish, nor are they suitable for use under polyurethane. Vinyl sealers have enhanced moisture resistance and flexibility, and are specified in many finishing schedules for kitchen and bath cabinet coatings. It is generally recommended that oil glazes be "sandwiched" between layers of vinyl sealer when used in schedules for catalyzed lacquer and conversion varnish. When un-catalyzed vinyl sealers are used, there is no critical time for the application of the topcoat. If the vinyl sealer is catalyzed, manufacturer's recommended recoat intervals should be followed.

Conversion varnishes often have their own catalyzed sealers designed specifically for that coating. These sealers, used in a purpose-built finishing system, provide the highest performance for the most demanding conditions. They do not contain stearates and are commonly supplied in a high solids formulation. When using these products together, careful attention to recoat intervals as well as application temperatures is important. The higher solids results in less shrinkage of the film as it dries.

Pre-catalyzed lacquers are used over vinyl sealers or proprietary pre-catalyzed sealers. Pre-cat sealers do not contain stearate which might react with acid catalysts caus-

ing a "bloom" or waxy exudate at the surface. Without the stearate, vinyl, conversion varnish and pre-catalyzed sealers typically don't exhibit the easy sanding and white powder that the nitrocellulose sealer does, but they can usually be sprayed very smooth so that less sanding is required.

Make sure you understand the different types of sealers and do not try to mix different sealers because that was what you found on the shelf and it read "sealer". The found sealers may be incompatible themselves as well as incompatible with the next material coat. What happens then is you have several coats not bonded together which eventually will separate as if wax paper. Finally anyone sanding should know ahead of time what type of sealer is being applied so the correct abrasives will be used. **MW**

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