

Finishing problem while using Conversion Varnish Satin Clear Coat on sapele veneer and solid hardwood.

We are looking for a technical reason behind a finishing problem we recently encountered.

Our finish products are mix of assemblies that use both veneer and hardwood Sapele that were to be custom match stained and clear-coated with a satin CV.

The following is a time line of what we encountered:

- 1) We used our standard process of fabrication and sanding. Finishing with 220 grit.
All parts were cleaned with a combination of blow off and wipe down techniques.
A custom stain was mixed with Gemini Progression S3555-1 and SW SB Stain Colorants D 59 series. Stain was rag applied and allowed to dry.
Our Gemini Vinyl sealer CVS-0400 was applied at 3-4 mil wet. Allowed to dry 2 hrs and sanded with fine sanding pads. Standard wipe>blow>tack to remove dust.
Our Gemini Conversion Varnish PCV-550-0030 was applied at 3-4 mil wet.

All the above was done to 10-15% of our assemblies with absolutely no problem.

- 2) The next section of assemblies began to come through with the following problem at the top coat stage.

Air entrapment or entrainment was evident on veneers and hardwoods, even when sprayed in a vertical position.

Utilizing the same methods and the same batch of product. We also sampled on different species to isolate the root cause: oak, walnut, mahogany with no issues.

Upon seeing this happen we attempted the following actions to alleviate the problems.

- a. Pre-wiping with Acetone. Same result.
- b. Reduce with MAK retarder at 4%. Same result.
- c. Reduce with butyl acetate retarder at 10% Same result.
- d. Used Pre-catalyzed Gemini Nexus -PC-0430 as sealer at 3-4 mil wet. Standard between coat prep.
Pre-catalyzed “ “ “ as topcoat at 3-4 mil wet.
Same result.
- e. Gemini Vinyl sealer CVS-0400 was applied at 3-4 mil wet. Standard between coat prep.
Pre-catalyzed Gemini Nexus -PC-0430 as top coat (1) 1-2 mil wet. >Dry 10 minutes> no bubbles.
Pre-catalyzed Gemini Nexus -PC-0430 as top coat (2) 1-2 mil wet. >Dry > no bubbles.

This, however, left a less than desirable “mildly textured finish because of the thin coats.

We are looking for a possible reason behind the problems we encountered.

Find some general information below.

Spray equipment:

Kremlin Rexson Airmix Xcite 112G-17

Tips: Sealer 09-114, Conversion Varnish 09-094

Pressure: 30# at Pump, 15# at atomization