CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005

DateRun: 09/12/2005

Experimenters: Jason Marshall

ClientType: Environmental Service Firm

ProjectNumber: Project #1

Substrates: Wood

PartType: Coupon

Contaminants: Coatings

Cleaning Methods:

Analytical Methods: Visual

Purpose: To re-evaluate drying times for two of the floor finishes.

Experimental Procedure: The moisture content at the time of testing will influence results due to the hydroscopic nature of the base materials. Therefore, efforts must be taken to ensure that the moisture content and temperature remain constant during the evaluation period. Ideally, the sample floor should be kept at 65+/-1% relative humidity and 68+/-6 F.

During laboratory testing, conditions were slightly drier, 40% relative humidity, but the temperature was within the given temperature range ~70 F).

The flooring material supplied was Hardwood flooring made from Red Oak. The boards were ¾" thick, 2 ¼" wide and cut into 8" sections. Some pieces of the flooring had to be sanded prior to making initial thickness readings to remove residual packing tape adhesive.

Three coupons were coated with a supplied floor finish according to the manufacturers' specifications. The finish was applied using a 1" Pure Bristle 1500 paint brush. To ensure consistent coating application, the finish was leveled off using a 10 mils Precision Gage & Tool Co Dow Film Caster. A total of three coats were used for each floor finish as this was common number of coating layers suggested by the various manufacturers. One product was a two part mixture (lacquer and hardener). Three coats were applied on set of boards. The second set of boards were first coated with primer and then followed by two coats of the two part mixture.
Each coating layer was allowed to dry for 2 hours prior to the application of the next coat. Completed coupons were allowed to sit for a minimum period of 24 hours before performance evaluations were conducted.

During the sample preparation with floor finish, drying times were monitored. Observations were made after the first coat at every 10 minutes until the finish was dry to the touch. The amount of drying completed during each time interval was estimated and recorded. Subsequent coats were analyzed in the same manner. Drying times for each finish were compared to each other.

Results: Observations made were based on the approximate area that looked and felt dry.

Drying Times (minutes)	Observations % Dry - visual				
First Coat	10	20	30	40	
Pro Finisher Water Based Sanding Sealer & Polyurethane	65	85	100		
Second Coat	10	20	30	40	
Pro Finisher Water Based Sanding Sealer & Polyurethane	40	80	100		
Third Coat	10	20	30	40	50
Pro Finisher Water Based Sanding Sealer & Polyurethane	30	40	85	95	100

The final coating dry time took longer when the Sanding Sealer was used as the base coat for the Polyurethane coating then when either product was used alone. The third coat took 50 minutes to dry when used together. Each product only needed 10 minutes to dry when used separately.

Summary:

Conclusion:

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When using the sealer with the polyurethane, drying times were only increased during the third coating (second coat for the polyurethane).