CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2005
DateRun:	05/30/2005
Experimenters:	Jason Marshall
ClientType:	Environmental Service Firm
ProjectNumber:	Project #1
Substrates:	Wood
PartType:	Coupon
Contaminants:	Coatings
Cleaning Methods:	
Analytical Methods:	Tactile, Visual, Timing
Purpose:	To evaluate drying times for various 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. Three coats were used for each floor finish as this was common number of coating layers suggested by the various manufacturers. 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- qualitative visual assessment								
First Coat	10	20	30	40	50	60	70	80	90
Capitol Polyurethane Gloss	15	20	37	42	45	67	87	95	97
Pro Finisher Water Based Polyurethane	65	97	100						
Pro Finisher Water Based Sanding Sealer 75	95	100							
Quide SA Aqua Deva Metro	55	80	90	95	100				
Second Coat	10	20	30	40	50	60	70	80	90
Capitol Polyurethane Gloss	70	80	95	100					
Pro Finisher Water Based Polyurethane	80	85	100						
Pro Finisher Water Based	90	100							

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Sanding Sealer 80									
Quide SA Aqua Deva Metro	90	95	100						
Third Coat	10	20	30	40	50	60	70	80	90
Capitol Polyurethane Gloss	90	100							
Pro Finisher Water Based Polyurethane	100								
Pro Finisher Water Based Sanding Sealer	100								
Quide SA Aqua Deva Metro	100								

Summary:

Conclusion: The oil based floor finish required the longest drying time, nearly 40 minutes longer than the slowest drying water based product. Each product dried faster after each coat. The third coat took about 10 minutes to dry for the water based products and around 20 minutes for the oil based finish.