CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2006
DateRun:	06/27/2006
Experimenters:	Jason Marshall
ClientType:	Consultant
ProjectNumber:	Project #1
Substrates:	Wood
PartType:	Coupon
Contaminants:	Coatings
Cleaning Methods:	
Analytical Methods:	Tactile, Visual
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 measured at 64% relative humidity, and the temperature was 74.8 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. 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 proper coating application rates, the coatings were applied via pipettes to surface. Three coats were used for each floor finish as this was common number of coating layers suggested by the various manufacturers. The first two coatings were allowed to dry for 2 hours prior to the application of the next coat. The second coat for the current process was allowed to dry overnight before the application of final coat. The 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. Floor Coating Procedures 1 – Current Practice Sand and vacuum floor Apply lacquer sealer at 250 sq ft per gallon When lacquer sealer is dry abrade the surface and vacuum Apply sanding sealer and let dry (overnight) Apply polyurethane gloss Harco Sanding Lacquer Sealer #1047 Harco Primer/Sanding Sealer #850 Capitol Polyurethane Gloss 2 – Modified Current Practice Sand floors using 100 grit paper Apply lacquer sealer at 600 sq ft per gallon Allow to dry 45-60 min before applying second coat Sand lightly in between coats Apply Sanding sealer Buff with 100 grit Apply polyurethane gloss at 500-550 sq ft per gallon 5-6 hours between coats 24 hours before light traffic Harco Sanding Lacquer Sealer #1047 Harco Primer/Sanding Sealer #850 Capitol Polyurethane Gloss 3 – Bona Mfr, Oil Sand floor with 80-100 grit Apply sealer at 600-700 sq ft per gallon Dry 1.5-2 hours Abrade with 120 grit

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Apply topcoat at 500-600 sq ft per gallon
Dry 2-3 hours
Abrade
Apply second coat
Light traffic in 24 hours
Final coat 48 hours before use
7 days for curing

Bona DriFast Sealer
Bona Mega – 2 coats

4 – Bona Mfr, Water Based
Sand using 80 grit on unstained wood
Apply sealer at 500-600 sq ft per gallon
Dry 2 hours
Abrade with 120 grit
Apply topcoat at 500-600 sq ft per gallon
Dry 2-3 hours
Abrade
Apply second coat
Light traffic in 24 hours
Final coat 48 hours before use
7 days for curing

Bona Bonaseal
Bona Mega – 2 coats

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
Current Practice	100			
Modified Current Practice	100			
Bona - Oil	85	95	100	
Bona - Water	90	100		

Dry Times - Second Coat

Second Coat	10	20	30	40	50	60	70	80	90
Current Practice	5	10	30	40	60	65	75	85	90
Modified Current Practice	10	30	45	60	75	95	100		
Bona - Oil	40	90	100						
Bona - Water	50	100							

Dry times third coat

Third Coat	10	20	30	40	50	60	70
Current Practice	40	60	80	95	97	99	100
Modified Current Practice	30	40	45	65	85	95	100
Bona - Oil	30	60	100				
Bona - Water	45	90	100				

Summary

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		

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Third Coat	10	20	30	40	50
Pro Finisher Water Based Sanding Sealer & Polyurethane	30	40	85	95	100

Summary:

Conclusion: The second and third coats for the two coating methods using Bona products required less drying time than the current practice of the modified practice.