CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2017
DateRun:	03/05/2017
Experimenters:	George Liang, Vinh Tran
ClientType:	
ProjectNumber:	Project #1
Substrates:	Vinyl Composite Tiles
PartType:	Coupon
Contaminants:	Greases, Oil, Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric
Purpose:	To evaluate supplied product for grease removal from floor surfaces following CSPA DCC 17

Experimental Procedure:

Floor cleaning for the supplied product was tested using the CSPA DCC 17 - Greasy Soil Test Method for Evaluating Spray-and-Wipe Cleaners Used On Hard, Non-Glossy Surfaces standard. A few minor deviations from the standard were incorporated into the test conducted. The Greasy Soil Test Method is a standard method that evaluates the cleaning performance of products intended for use on washable walls or other hard, non-glossy surfaces. This method provides instructions for soil application, cleaning and evaluation of spray-and-wipe cleaners under controlled cleaning conditions. This method can be used to assess product performance for cleaning a fabricated greasy soil blend applied to painted wallboard tiles. It is not inclusive of all soil or substrates typically encountered by a consumer while using these products.

Two coats of white latex acrylic flat paint solution were applied to the slightly rough side of the tiles, waiting 15 minutes between each coat. The paint is diluted by adding 20% D.I. water. Coupons were allowed to dry overnight at room temperature, and then cure them at 50°C and 50% humidity for 24-hour. The initial weights and gloss reading of each painted vinyl composite tile was taken after the 24-hour cure at 50 °C. DCC-17 was made by melting and simultaneously blending 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack. A 2 ½ inch by 2 in piece of folded bounty paper was used to apply the DCC-17 evenly onto the middle of the painted vinyl composite tile surface. The soiled tiles were allowed to dry for 24 hours at room temperature before obtaining the dirty weight and the dirty gloss reading.

Three soiled tiles were placed in a Gardner Straightline washability unit such that the direction of the soiling is perpendicular to the direction of the Gardner Straightline washability unit tester sled. Three sprays of one product was manually applied to the coated surfaces and 4 sprays onto the reinforced Wypal X60 paper towel tester sled attached to the Gardner Straightline washability unit. The cleaning was conducted in intervals of 5 cycles (10 strokes) up to a total of 20 cycles. A percent visual removal was taken for every 5 cycle intervals. The cleaning process was stopped if the percent visual removal is 85% or higher after every 5 cycle intervals. The cleaning process was stopped after 20 cycles; the three tiles were then rinsed with D.I. water on the surfaces that was scrubbed. The final weight and gloss reading for the tiles were obtained the day after.

Percent Detergency Evaluation:
The result of gloss reading is calculated as percent detergency in the following equation:

%DET = L*(cleaned) – L*(soiled) / L*(unsoiled) – L*(soiled) * 100

The %DET evaluates the performance of cleaner.

Results:

Cleaner	Unsoiled L*	Soiled L*	Cleaned L*	DET (%)	Ave. DET (%)
Bona Super Court Winter					
	0.563	0.1662	70.48	63.36	7.03
	0.3986	0.1737	56.42		
	0.5449	0.2006	63.19		
Bona Super Court					
	0.4328	0.164	62.11	64.13	4.51
	0.4472	0.1373	69.3		
	0.4577	0.1786	60.98		
Bona Professional Stone Tile					
	0.5467	0.1247	77.19	68.5	8.04

CLEANING LABORATORY EVALUATION SUMMARY

	0.4252	0.1644	61.34		
	0.5024	0.1659	66.98		
Mohawk Tile & Grout					
	0.4858	0.1356	72.09	70.41	1.53
	0.5531	0.1709	69.1		
	0.5222	0.1565	70.03		
Mohawk Hardwood and Laminate					
	0.467	0.1317	71.8	76.46	5.33
	0.7369	0.1306	82.28		
	0.686	0.1694	75.31		
Cleaner	Unsoiled L*	Soiled L*	Cleaned L*	DET (%)	Ave. DET (%)
Bona Super Court Winter					
	91.8	27.72	58.2	47.57	47.49
	91.81	27.63	57.43	46.43	
	92.11	28.08	59.12	48.48	
Bona Super Court					
	92.18	28.39	60.26	49.96	46.05
	91.81	27.68	55.98	44.13	
	92.05	28	56.22	44.06	
Bona Professional Stone Tile					
	91.59	28.11	59.61	49.62	46.77
	91.82	32.02	59.82	46.49	
	91.69	29.06	56.75	44.21	
Mohawk Tile & Grout					
	91.97	31.04	57.73	43.8	49.81
	92.11	28.29	62.06	52.91	
	92.26	28.91	62.31	52.72	
Mohawk Hardwood & Laminate					
	91.65	28	52.74	38.87	41.44
	91.62	28.13	54.74	41.91	
	91.58	28.29	55.84	43.53	

Summary:

Substrates:	Vinyl Composite Tiles
Contaminants:	Greases, Oil, Food

Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Chemspec	Tile and Grout Cleaner	100	49.81	☑	
Chemspec	Mohawk Floorcare Essentials, Hardwood and Laminate Floor Cleaner	100	41.44	☑	
Bona US	Super Court Winter	1.6	47.49	☑	
Bona US	Super Court	0.078	46.05	☑	
Bona US	Stone, Tile & Laminate	100	46.77	☑	

Conclusion: The supplied products from Bona were observed to be just as effective in removing carbon deposits; greases; food from painted vinyl composite tiles.