CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2022
DateRun:	06/23/2022
Experimenters:	Zoe Lawson, Tatyanna Moreland Junior, Alexander Symko
ClientType:	Cleaning Equipment Mfr
ProjectNumber:	Project #1
Substrates:	Ceramics, Vinyl Composite Tiles, Granite
PartType:	Coupon
Contaminants:	Food
Cleaning Methods:	Manual Wipe
Analytical Methods:	Gravimetric, Visual
Purpose:	To test the effectiveness of the Washing Up Pad using three different methods on various substrates.

Experimental Procedure:

Laminate, granite, and ceramic tiles were soiled with a mixture of melted, oily soils containing a small amount of carbon black. The tiles were dried for 24 hours at room temperature. The soaked product was used to scrub a portion of the soiled substrate using a straight-line washability apparatus. Three coupons were cleaned by each cleaning product being evaluated. Cleaning performance was observed visually and gravimetric analysis was conducted on all test panels by taking initial, soiled, and final clean weights. The amount of soil added was then compared to the amount removed (or remaining) to provide a percent removal.

Soil Preparation

A mixture of three cooking oils/greases was made. A melt blend of 33% vegetable shortening, 33% lard, 33% vegetable oil and 1% carbon lampblack was made up fresh for the testing. Care was taken in the application of the soil onto the coupons so that light and heavy areas were avoided. Allow the soiled tiles to dry for 24 hours at room temperature.

Cleaning Test

A soiled tile was placed in the tray of the abrasion tester such that the direction of the soiling is perpendicular to the direction of the sponge. The supplied cleaning product was wet and wrung out, and the desired side facing down was attached to the cleaning instrument. Test method number one focused on using the scrubbing side only. Test method number two focused on using the waffle side only. Test method number three was tested first with the scrubbing side and then with the waffle side. The cleaning was performed using Gardner Straightline washability unit and conducted for the prescribed 20 strokes.

Results:

Cleaning data has been calculated as percent of contaminant removed using the following equation:

%Cont Removed = ((Initial soil wt - Final Soil wt)/Initial Soil wt) *100

Initial Soil weight of contaminant = Contaminated wt - Baseline wt

Final wt of contaminant = Cleaned wt - Initial wt

Table 1: Cleaning Efficiency Results

Product	Substrate	Initial wt of cont.	Final wt of cont.	%Cont Removed	Average	Overall Average
Washing Up Pad (106268) - Test #1	Ceramic	0.1470	0.0153	89.59	89.66	85.94
		0.1938	0.0175	90.97		
		0.2022	0.0234	88.43		
	Laminate	0.1322	0.0167	87.37	88.45	
		0.1100	0.0086	92.18		
		0.1649	0.0234	85.81		
	Granite	0.1731	0.0414	76.08	79.70	
		0.2877	0.0607	78.90		
		0.2935	0.0466	84.12		
Washing Up Pad (106268) - Test #2	Ceramic	0.1441	0.0046	96.81	98.27	95.38
		0.2622	0.0020	99.24		
		0.1533	0.0019	98.76		
	Laminate	0.0894	0.0060	93.29	89.43	
		0.1144	0.0138	87.94		
		0.1120	0.0145	87.05		
	Granite	0.1605	0.0025	98.44	98.44	
		0.0181	0.0003	98.34		

CLEANING LABORATORY EVALUATION SUMMARY

		0.1779	0.0026	98.54		
Washing Up Pad (106268) - Test #3	Ceramic	0.1282	0.0013	98.99	98.30	90.32
		0.1527	0.0022	98.56		
		0.1508	0.0040	97.35		
	Laminate	0.1005	0.0178	82.29	82.21	
		0.0694	0.0118	83.00		
		0.0691	0.0129	81.33		
	Granite	0.1542	0.0154	90.01	90.45	
		0.1918	0.0226	88.22		
		0.0698	0.0048	93.12		

Using only the scrubbing side of the Washing Up Pad was found to be the least effective method of removing the contaminant. The waffle side of the Washing Up Pad was the most effective at removing the DCC-17 soil from ceramic, laminate, and granite. Combining these two sides, slightly lowered the efficiency of removal but was still found to be effective.

Summary:

Conclusion: Using the Washing Up Pad with test method number two was found to be the most effective at removing the contaminant from all three substrates with an overall percent removal of 95.38%. Test method number three was found to be slightly less effective with an overall average percent removal of 90.32%. Test method number one was found to be the least effective at removing the contaminant with an overall average percent removal of 85.94%.