

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:

$$\% \text{Cont Removed} = ((\text{Initial soil wt} - \text{Final Soil wt}) / \text{Initial Soil wt}) * 100$$

$$\text{Initial Soil weight of contaminant} = \text{Contaminated wt} - \text{Baseline wt}$$

$$\text{Final wt of contaminant} = \text{Cleaned wt} - \text{Initial wt}$$

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 | | | |

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| | | 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%.