

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2022

DateRun: 06/17/2022

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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 efficiency of the Wash and Wipe Dish Cloth, the Kitchen Cloth, and the Kitchen Dynamo 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. 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<br>wt of<br>cont. | Final<br>wt of<br>cont. | %Cont<br>Removed | Average | Overall<br>Average |
|---|-----------|---------------------------|-------------------------|------------------|---------|--------------------|
| Wash<br>and<br>Wipe<br>Dish<br>Cloth<br>(10644) | Laminate  | 0.1624                    | 0.0001                  | 99.94            | 99.85   | 99.20              |
|   |           | 0.2462                    | 0.0007                  | 99.72            |         |                    |
|   |           | 0.2130                    | 0.0002                  | 99.91            |         |                    |
|   | Ceramic   | 0.1891                    | 0.0008                  | 99.58            | 99.42   |                    |
|   |           | 0.3102                    | 0.0022                  | 99.29            |         |                    |
|   |           | 0.1673                    | 0.0010                  | 99.40            |         |                    |
|   | Granite   | 0.3934                    | 0.0060                  | 98.47            | 98.33   |                    |
|   |           | 0.2241                    | 0.0048                  | 97.86            |         |                    |
|   |           | 0.4243                    | 0.0057                  | 98.66            |         |                    |
| Kitchen<br>Dynamo<br>(10654)                    | Laminate  | 0.1338                    | 0.0006                  | 99.55            | 99.67   | 97.76              |
|   |           | 0.0977                    | 0.0004                  | 99.59            |         |                    |
|   |           | 0.2190                    | 0.0003                  | 99.86            |         |                    |
|   | Ceramic   | 0.3139                    | 0.0090                  | 97.13            | 97.51   |                    |
|   |           | 0.2478                    | 0.0075                  | 96.97            |         |                    |
|   |           | 0.3231                    | 0.0051                  | 98.42            |         |                    |
|   | Granite   | 0.2639                    | 0.0098                  | 96.29            | 96.10   |                    |
|   |           | 0.2385                    | 0.0112                  | 95.30            |         |                    |

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|                        |          |        |        |       |       |       |
|------------------------|----------|--------|--------|-------|-------|-------|
|                        |          | 0.3198 | 0.0105 | 96.72 |       |       |
| Kitchen Cloth (106015) | Laminate | 0.1967 | 0.0027 | 98.63 | 98.84 | 98.83 |
|                        |          | 0.2262 | 0.0019 | 99.16 |       |       |
|                        |          | 0.2608 | 0.0033 | 98.73 |       |       |
|                        | Ceramic  | 0.2118 | 0.0026 | 98.77 | 99.32 |       |
|                        |          | 0.2755 | 0.0011 | 99.60 |       |       |
|                        |          | 0.1942 | 0.0008 | 99.59 |       |       |
|                        | Granite  | 0.2859 | 0.0105 | 96.33 | 98.33 |       |
|                        |          | 0.3471 | 0.0042 | 98.79 |       |       |
|                        |          | 0.3175 | 0.0004 | 99.87 |       |       |

The Wash and Wipe Dish Cloth, Kitchen Dynamo, and Kitchen Cloth were found to all be very effective at removing the DDC-17 soil from laminate, ceramic, and granite.

Summary:

Conclusion:

All three products were found to be extremely effective at removing the contaminant from laminate, ceramic, and granite surfaces. The Wash and Wipe Dish Cloth was the most effective with an overall average percent removal of 99.20%. The Kitchen Cloth and Kitchen Dynamo followed with overall average percent removals of 98.83% and 97.76% respectively.