

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2016

DateRun: 06/17/2016

Experimenters: Francisco Abreau, Vinh Tran

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Vinyl Composite Tiles

PartType: Coupon

Contaminants: Greases, Oil, Food

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate the supplied products for VCT and Painted VCT floor tile surface cleaning effectiveness.

Experimental Procedure: First, a total set of 18 coupon tiles were obtained, 3 coupons each for the two substrates used times the three supplied cleaners. The initial weights of the coupons were acquired in order to use it as a baseline. The coupons were then soiled using 0.5g of DCC-17 soil. DCC-17 soil consists of: 33% vegetable shortening, 33% lard, 33% vegetable oil, and 1% carbon lampblack. The soiled coupons were then allowed to sit overnight for 24 hours in order for the soil to age. The next day, the dry dirty weight was then recorded for each coupon. The specified cleaners were used to test their cleaning effectiveness on the VCT and the Painted VCT floor tile coupons. The manner in which they were cleaned was as follows. Three coupons were placed into a Gardner Straight Line Washability unit. A Wypall X60 reinforced wipe was attached to the cleaning sled and soaked with 1 spray of cleaning solutions. Each coupon was sprayed 2 times with the same cleaning solution. The solution was allowed to penetrate for 30 seconds followed by cleaning in the SLW unit for 20 cycles (~33 seconds). At the end of the cleaning, coupons were wiped once with a dry paper towel to assist in drying. Final weights were recorded and efficiencies were calculated and recorded.

Results: The results from the testing are reported in the table below:

| Cleaner | Initial wt | Final wt | % Removed | % Removal |
|--------------------------------|------------|----------|-----------|-----------|
| Substrate | | | | |
| Laurinex RTU | | | | |
| VCT | 0.3171 | 0.0251 | 92.08 | |
| | 0.4581 | 0.0810 | 82.32 | |
| | 0.3856 | 0.1152 | 70.12 | 81.51 |
| Purple Tiger RTU | | | | |
| VCT | 0.4154 | 0.0851 | 79.51 | |
| | 0.4508 | 0.0983 | 78.19 | |
| | 0.4058 | 0.0904 | 77.72 | 78.48 |
| 7th Generation All Purpose RTU | | | | |
| VCT | 0.4658 | 0.1519 | 67.39 | |
| | 0.4713 | 0.1398 | 70.34 | |
| | 0.4587 | 0.1531 | 66.62 | 68.12 |
| Laurinex RTU | | | | |
| Painted VCT | 0.4067 | 0.0813 | 80.01 | |
| | 0.5093 | 0.1361 | 73.28 | |
| | 0.3973 | 0.1205 | 69.67 | 74.32 |
| Purple Tiger RTU | | | | |
| Painted VCT | 0.3288 | 0.0894 | 72.81 | |
| | 0.4045 | 0.1072 | 73.5 | |
| | 0.5236 | 0.1572 | 69.98 | 72.10 |
| 7th Generation All Purpose RTU | | | | |

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|-------------|--------|--------|-------|-------|
| Painted VCT | 0.4360 | 0.1110 | 74.54 | |
| | 0.5066 | 0.1346 | 73.43 | |
| | 0.4071 | 0.1527 | 62.49 | 70.15 |

Summary:

| | | | | | |
|-----------------------|----------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| Substrates: | Vinyl Composite Tiles | | | | |
| Contaminants: | Greases, Oil, Food | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Ascalon International | Laurinex | 100 | 77.92 | <input checked="" type="checkbox"/> | |
| Chemco | Purple Tiger All purpose cleaner | 100 | 75.29 | <input type="checkbox"/> | |
| Seventh Generation | Free & Clear All Purpose | 100 | 69.14 | <input type="checkbox"/> | |

Conclusion:

The best cleaner found during our testing was determined to be the Laurinex product at an overall cleaning average of 77.92% followed by the Purple Tiger with an overall cleaning efficiency of 75.29%. It was found that the worst performing cleaner was the 7th Generation All Purpose product with an overall cleaning average of 69.14%.