CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 05/11/2021

Experimenters: Alicia McCarthy, Hayley Byra, Zoe Lawson, Nicole Kebler

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Carpet

PartType: Coupon

Contaminants: Dirt

Cleaning Methods: Manual Wipe

Analytical Methods: Light Meter, Visual

Purpose: To evaluate the removal of carpet soil from carpet using PathoClean and Zep High Traffic carpet cleaner

Experimental Procedure: Two pieces of carpet were cut into 3x18 inches, they were then marked into different 6 inch sections per strip. The BYK spectro-guide color/gloss meter was used to establish the baseline L-values from the surface of each section of carpet. The two carpet strips were placed in a 1 gallon container with a lid and approximately 2 grams of the carpet soil was added to the container. It was spun in one direction for 5 minutes at about 45-60 spins per minute. The container was then spun in the other direction for 5 minutes, also about 45-60 spins per minute. After the 10 minutes of soiling, the carpets were placed on a tray and were vacuumed for 3 strokes in the forward directions and 3 strokes in the reverse direction. The L-values for the carpets were then taken after completing the soiling process. One at a time, the carpet strips were placed in the Straight Line Washability Unit (SLW machine). Each 6 inch section was sprayed 15 times and the Kimberly-Clark Wypall was also sprayed 15 times, both were left to soak for 30 seconds. After soaking, the SLW machine was used to wipe about 91 times, at the 30 wipe intervals, each section of carpet was sprayed again 6 times before resuming wiping. Once both carpet strips were cleaned, they were left on the tray to dry overnight. After drying, the last L-value was taken and a visual observation rating was obtained for each of the cleaners. It used the scale 5 for dirtiest and 1 for cleanest.

Cleaners Used:

1. PathoClean
2. Zep High Traffic Carpet Cleaner

Results: The L-value results showed the two cleaners performed well and were comparable to one another. The PathoClean performed slightly better with an average of % detergency of 37.4 while the Zep carpet cleaner was 34.9. The % detergency for PathoClean on coupon 1 was an outlier and was lower than the other two observations, this could have been due to calculation placing or an error with the color meter, either way PathoClean had a higher % det. This was calculated with the formula:

% det. = (L-clean - L-Dirty)/(L-initial - L-Dirty) * 100

Cleaner	Initial L	Dirty L	Clean L	% det.	Avg. % det.
PathoClean	70.34	57.11	58.65	11.64	37.37
	72.6	63.44	68.52	55.46	
	69.28	61.24	64.86	45.02	
Zep	69.42	58.02	61.85	33.60	34.93
	68.73	56.69	60.19	29.07	
	71.23	57.6	63.34	42.11	

Visually PathoClean outperformed against Zep carpet cleaner, it had an average rating of 1.7 while Zep's average was 3.3. It was noted by the observers that the PathoClean carpet strip looked considerably better than the Zep carpet strip.

Cleaner	Initial			Dirty			Clean			Average
	Person 1	Person 2	Person 3	Person 1	Person 2	Person 3	Person 1	Person 2	Person 3	
PathoClean	1	1	1	5	5	5	4	2	2	1.7
	1	1	1	5	5	5	4	2	1	
	1	1	1	5	5	5	4	3	2	
Zep	1	1	1	5	5	5	4	3	3	3.3
	1	1	1	5	5	5	4	4	3	
	1	1	1	5	5	5	4	4	4	

Summary:

Substrates:	Carpet

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Contaminants:	Dirt				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
PathoSans	PathoClean	100%	0.00	☑	PathoClean was effective for the removal of carpet soil (dirt) from the carpet coupons.

Conclusion: Overall, the L-values and the visual observations show that PathoClean performed better for the removal of carpet soil from carpet coupons than the Zep High Traffic Carpet Cleaner