

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 06/04/2009

Experimenters: Jason Marshall, Junhee Cho

ClientType: Cleaner Manufacturer

ProjectNumber: Project #1

Substrates: Plastic

PartType: Coupon

Contaminants: Coatings

Cleaning Methods: Manual Wipe

Analytical Methods: Visual

Purpose: To evaluate supplied aerosol base-board strippers on two types of flooring materials

Experimental Procedure: The supplied floor strippers were used at full strength. Tiles were coated with The Clean Environment Co Cycle Finish C-12 (zinc free water base floor finish). Each tile was coated with three layers of finish. Each layer was applied in 10 mil thickness using paint brush and skimmed using a Precision Gage & Tool Co Dow Film Caster and allowed to dry for 30 minutes. After the three coats were dry, the tiles were then age accelerated in an oven at 37 C (98.6 F) for two days. After aging, coupons were removed from the oven and allowed to cool to room temperature.

The tiles were sprayed with an aerosol baseboard cleaner and allowed to soak for 3-5 minutes. After soaking, the coupons were scrubbed clean using a section of a floor stripping buffing pad. The pad was placed in a Gardner Straight Line Washability unit and the unit was run for 50 cycles. During oscillations, the pad was kept wet by adding additional stripper solution drop wise onto the pad or into the coated panel. At the end of the scrubbing, the tile was blotted dry with a paper towel and then observed to determine the amount of finish remaining. If the tile was not completely stripped, additional stripper was applied and the unit was run for another 50 cycles. The total number of oscillations to remove the coatings was recorded as a measure of removability. The stripping process was repeated until complete removal was obtained or when a maximum of 200 total oscillations was performed.

Qualitative ratings were assigned according to the following terminology:
Removal Ease Number of Oscillations Required for Complete Removal
Excellent <50
Good >50 but <100
Fair >100 but <200
Poor >200

The method used followed the recommendations for GS 40 (which referenced ASTM D1792-06).

| Cleaner | Coupon | 50 Cycles | 100 Cycles | Rating |
|----------------|---------|-----------|------------|-----------|
| A00808 | 1-1 VCT | 100 | | Excellent |
| | 1-2 VCT | 100 | | Excellent |
| | 1-3 VCT | 100 | | Excellent |
| | 1-1 BB | 100 | | Excellent |
| | 1-2 BB | 100 | | Excellent |
| | 1-3 BB | 100 | | Excellent |
| A00806 | 2-1 VCT | 100 | | Excellent |
| | 2-2 VCT | 95 | 100 | Good |
| | 2-3 VCT | 100 | | Excellent |
| | 2-1 BB | 100 | | Excellent |
| | 2-2 BB | 100 | | Excellent |
| | 2-3 BB | 100 | | Excellent |
| Troubleshooter | 3-1 VCT | 90 | 100 | Good |
| | 3-2 VCT | 95 | 100 | Good |

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| | | | | |
|--------------------|---------|-----|-----|-----------|
| | 3-3 VCT | 70 | 100 | Good |
| | 3-1 BB | 100 | | Excellent |
| | 3-2 BB | 100 | | Excellent |
| | 3-3 BB | 100 | | Excellent |
| Shineline Stripper | 4-1 VCT | 85 | | Good |
| | 4-2 VCT | 70 | 100 | Good |
| | 4-3 VCT | 100 | | Excellent |
| | 4-1 BB | 100 | | Excellent |
| | 4-2 BB | 100 | | Excellent |
| | 4-3 BB | 100 | | Excellent |
| Baseboard Cleaner | 5-1 VCT | 100 | | Excellent |
| | 5-2 VCT | 100 | | Excellent |
| | 5-3 VCT | 100 | | Excellent |
| | 5-1 BB | 95 | 100 | Good |
| | 5-2 BB | 100 | | Excellent |
| | 5-3 BB | 100 | | Excellent |

Gloss Readings on Baseboard Tiles

| Cleaner | Untreated Ave | Floor coating Ave | Stripped Ave | Initial - Final |
|----------------------------|---------------|-------------------|--------------|---------------------|
| Amrep A00808 | | | | |
| | 11.1 | 58.3 | 8.6 | |
| | 13 | 54.5 | 11.5 | |
| | 12.3 | 12.1 | 31 | 47.9 6.2 8.8 3.4 |
| Amrep A00806 | | | | |
| | 10.2 | 25.4 | 8.5 | |
| | 12.3 | 39 | 7.8 | |
| | 5.7 | 9.4 | 25.6 | 30 5.6 7.3 2.1 |
| 3M Troubleshooter | | | | |
| | 9.7 | 28.4 | 11.5 | |
| | 3.7 | 23.9 | 11 | |
| | 10.5 | 8 | 44.7 | 32.3 15.2 12.6 -4.6 |
| Spartan Shineline stripper | | | | |
| | 7 | 15 | 10.5 | |
| | 14.3 | 54.2 | 10.2 | |
| | 13.2 | 11.5 | 36.8 | 35.3 10.9 10.5 1 |
| Claire Baseboard cleaner | | | | |
| | 12.5 | 29.8 | 9.3 | |
| | 6.9 | 45.9 | 12 | |
| | 12.2 | 10.5 | 33.7 | 36.5 5.2 8.8 1.7 |

Four of five products lowered the gloss level to less than the initial on the baseboard tiles. There may have been some surface scratching from the abrasive pad used in cleaning. The one product with a higher final gloss reading also was ranked as the lowest effective baseboard stripper based on ASTM ranking methodology.

Gloss Readings on VCT Tiles

| Cleaner | Untreated Ave | Floor coating Ave | Stripped Ave | Initial - Final |
|---------|---------------|-------------------|--------------|-----------------|
|---------|---------------|-------------------|--------------|-----------------|

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| | | | | | | | |
|----------------------------------|------|------|------|------|-----|-----|------|
| Amrep A00808 | | | | | | | |
| | 17.2 | 48.9 | 7.1 | | | | |
| | 15.7 | 52.7 | 7.5 | | | | |
| | 10.8 | 14.6 | 63.7 | 55.1 | 7.8 | 7.5 | 7.1 |
| Amrep A00806 | | | | | | | |
| | 16.2 | 51.2 | 6 | | | | |
| | 14.1 | 51 | 4.5 | | | | |
| | 17.6 | 16 | 64.2 | 55.5 | 5.7 | 5.4 | 10.6 |
| 3M Troubleshooter | | | | | | | |
| | 15 | 55.4 | 5.9 | | | | |
| | 14.5 | 57.3 | 6.5 | | | | |
| | 21 | 16.8 | 63.5 | 58.7 | 4.5 | 5.6 | 11.2 |
| Spartan Shineline stripper | | | | | | | |
| | 19.2 | 54.3 | 3.6 | | | | |
| | 18.9 | 64.4 | 4.3 | | | | |
| | 11.2 | 16.4 | 68.2 | 62.3 | 4.4 | 4.1 | 12.3 |
| Claire Baseboard cleaner | | | | | | | |
| | 16.6 | 60.6 | 5.6 | | | | |
| | 14.8 | 23.8 | 5 | | | | |
| | 16.8 | 16.1 | 56.5 | 47 | 3.7 | 4.8 | 11.3 |

Each product lowered the gloss levels to a level below the initial readings. There may have been some surface scratching from the abrasive pad used in cleaning.

| Product | Overall Ave |
|--------------------|-------------|
| A00808 | 1 |
| A00806 | 1.2 |
| Troubleshooter | 1.5 |
| Shineline Stripper | 1.3 |
| Baseboard Cleaner | 1.2 |

Summary:

| Substrates: | Plastic | | | | |
|--------------------------|--|--------|-------------|-------------------------------------|---------------|
| Contaminants: | Coatings | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Amrep Inc | Aspire Baseboard Stripper A00808 Aerosol | 100 | | <input checked="" type="checkbox"/> | Rank = 1 |
| Amrep Inc | Misty X-Wax Stripper Aerosol | 100 | | <input checked="" type="checkbox"/> | Rank = 2 |
| 3M | Trouble Shooter Aerosol | 100 | | <input checked="" type="checkbox"/> | Rank = 5 |
| Spartan Chemical Company | Shineline Baseboard Stripper - Aerosol | 100 | | <input checked="" type="checkbox"/> | Rank = 4 |
| Claire Manufacturing | Baseboard Cleaner & Wax Stripper Aerosol | 100 | | <input checked="" type="checkbox"/> | Rank = 2 |

Conclusion:

Aspire was the only product tested that received Excellent ratings for both substrates. All six products received a removal rating at or above good based on the ASTM ranking methodology.