

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2005
 DateRun: 08/07/2005
 Experimenters: Jason Marshall
 ClientType: Cleaner Manufacturer
 ProjectNumber: Project #1
 Substrates: Marble
 PartType: Coupon
 Contaminants: Calcium/lime
 Cleaning Methods: Immersion/Soak
 Analytical Methods: Gravimetric, Photography

Purpose: To evaluate two products for marble immersion.

Experimental Procedure: Several marble chips of similar size and shape were weighed to determine the baseline weight of each piece. The selected chips were then immersed in the two supplied products at vendor recommended dilutions and allowed to soak for 18 hours. The marble chips were removed from the products and rinsed in a tap water spray at 120 F for 3 minutes to remove loose material from the chips. Then the chips were dried for 15 minutes using a Master Appliance Heat gun at 300 F. When the chips cooled to room temperature, final weights were recorded to determine weight loss, if any. Observations were made and photographs were taken after the initial immersion of the chips into solutions (5 minutes), at 60 minutes and then following the overnight immersion.

Results: Neither of the two products changed the weight of the marble chips to any significant level. Both dissolved less than 0.2% The table lists the initial and final weights as well as the removal percentages. Photographs are also included for the three time intervals and for the marble chips after soaking.

| Product | Initial wt | Final wt | % Wt loss |
|------------|------------|----------|-----------|
| Super H2O2 | 6.3208 | 6.3165 | 0.07 |
| | 10.1586 | 10.1477 | 0.11 |
| | 28.0580 | 28.0545 | 0.01 |
| H2Orange2 | 27.3926 | 27.3743 | 0.07 |
| | 7.2469 | 7.2188 | 0.39 |
| | 16.2702 | 16.2590 | 0.07 |
| | 26.6182 | 26.5973 | 0.08 |
| | 31.7948 | 31.7579 | 0.12 |

Summary:

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|----------------------|-------------------------------|---------------|--------------------|--------------------------|----------------------|
| Substrates: | Marble | | | | |
| Contaminants: | Calcium/lime | | | | |
| Company Name: | Product Name: | Conc.: | Efficiency: | Effective: | Observations: |
| Cleanline Products | H2O2 Super Citrus Concentrate | 5 | 0.06 | <input type="checkbox"/> | Average weight loss |
| Envirox LLC | H2Orange2 | 10 | 0.16 | <input type="checkbox"/> | Average weight loss |

Conclusion: Both products did not dissolve the marble.