

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2014  
 DateRun: 08/26/2014  
 Experimenters: Jason Marshall  
 ClientType: Adhesive Manufacturer  
 ProjectNumber: Project #1  
 Substrates: Marble  
 PartType: Part  
 Contaminants: Calcium/lime  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric, Visual

Purpose: To evaluate supplied product on the effects on marble substrate through overnight 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 supplied product at the recommended strength and allowed to sit overnight. After soaking at room temperature for 15 minutes, 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 24 hours at room temperature. After the cooling period, final weights were recorded to determine weight loss, if any. If there was no noticeable change during this timeframe, the test was rerun with full strength cleaners and allowed to run for 24 hours. 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. The % loss and the rate of loss was then calculated.

Results:

| Cleaner           | Initial | Final   | % Loss  | Sitting Period (min) | Rate of Loss (g/min) |
|-------------------|---------|---------|---------|----------------------|----------------------|
| J-Hydro 8.33%     | 17.4451 | 17.4439 | 0.00688 | 15                   | 8.00E-05             |
| CSB 10 xFF 10%    | 18.2562 | 18.2562 | 0.0000  | 15                   | 0                    |
| PC-115            | 16.9933 | 16.4930 | 2.9441  | 15                   | 3.34E-02             |
| J-Hydro - Full    | 4.0363  | 3.8069  | 5.6834  | 1440                 | 1.59E-04             |
| CSB 10 xFF - Full | 3.2076  | 3.2052  | 0.0748  | 1440                 | 1.67E-06             |

Summary:

| <b>Substrates:</b>    |   | Marble       |             |                                     |                     |
|-----------------------|---|--------------|-------------|-------------------------------------|---------------------|
| <b>Contaminants:</b>  |   | Calcium/lime |             |                                     |                     |
| Company Name:         | Product Name:   | Conc.:       | Efficiency: | Effective:                          | Observations:       |
| MassCor               | JTech All Clean Bathroom                                | 8.3          | 0.01        | <input type="checkbox"/>            | Minimal weight loss |
| Next-Gen Supply Group | PC 115 Mild Acid Disinfectant Restroom & Shower Cleaner | 100          | 2.94        | <input checked="" type="checkbox"/> | weight loss         |
| MassCor               | JTech All Clean Bathroom                                | 100          | 5.68        | <input checked="" type="checkbox"/> | weight loss         |

Conclusion:

The diluted concentrations of J-Hydro and CSB led to minimal changes in the weight of the marble blocks. Upon application at full strength for a 24 hour period, the J-Hydro dissolved almost 6% of the marble block; while CSB did not dissolve more than 0.1%. J-Hydro worked more effectively than CSB but not as effective as PC-115.