# CLEANING LABORATORY EVALUATION SUMMARY

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|---|---|
| SCL #: | 2016 |
| DateRun: | 07/15/2016 |
| Experimenters: | James Keats |
| ClientType: | Cleaning Equipment Mfr |
| ProjectNumber: | Project #1 |
| Substrates: | Ceramics |
| PartType: | Coupon |
| Contaminants: | Food |
| Cleaning Methods: | Mechanical Agitation |
| Analytical Methods: | Visual |
| Purpose: | Evaluate beginning, middle, and end effectiveness of iRobot cleaning pad. |

Experimental Procedure:

Apply soil to 39” X 39” clean ceramic floor, spreading 1g of soil onto even numbered tiles with a swab and odd tiles by dripping 1g of soil onto them (9g per floor). Allow the floor to dry for 24h. Attach a cleaning pad to the Braava unit and completely fill with water. Then place the Braava unit onto the floor. Turn on the Braava unit, and begin the cleaning cycle. At intervals of 10 seconds, take a picture of the floor. Once the cycle is complete, empty any water still in the Braava unit and dispose of the pad.

Pictures are taken periodically to compare effectiveness of cleaning pad over time. This will allow beginning, middle, and end cleaning to be visually evaluated.

To evaluate total soil removal, a visual observation will be made. This observation will be an estimation of the % soil removed from each tile by comparing before and after pictures of the floor. In addition to this rating, observers will also be asked to rate the overall cleanliness of the floor from 1-5 (1 being no soil remaining).

Tile numbers

| | | |
|---|---|---|
| 9 | 4 | 3 |
| 8 | 5 | 2 |
| 7 | 6 | 1 |

^^^^^ Braava unit starts here

Results:

The floor was soiled and cleaned once.

- Found that the Braava unit stopped its cleaning cycle after ~21 minutes.
- All evaluators agreed that the floor was completely clean.

The tiles were too thin (1/2”) to be detected by the Braava unit. To keep the Braava unit on the surface, other tiles were used to block it.

**Percent removal Trial 1**

(Ex: 95% means that 5% of the initial soil remained on the tile

Observer 1 – rating: 1

| | | |
|---|---|---|
| 100% | 100% | 100% |
| 100% | 100% | 100% |
| 100% | 100% | 100% |

Observer 2 – rating: 1

| | | |
|---|---|---|
| 100% | 100% | 100% |
| 100% | 100% | 100% |
| 100% | 100% | 100% |

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Observer 3 – rating: 1

| | | |
|---|---|---|
| 100% | 100% | 100% |
| 100% | 100% | 100% |
| 100% | 100% | 100% |

Summary:

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| Substrates: | Ceramics | | | | |
|---|---|---|---|---|---|
| **Contaminants:** | Food | | | | |
| **Company Name:** | **Product Name:** | **Conc.:** | **Efficiency:** | **Effective:** | **Observations:** |
| iRobot | iRobot Braava unit | 100 | 0.00 | ☑ | |

Conclusion:

- Pad seemed to clean consistently across entire floor.
- Whether or not the tile is sprayed recently with water does not make as great a difference for the ceramic tiles as it has for other floor types.

The Braava unit successfully cleaned the floor.