Report

Life Miracle Products, Inc.

Report No: 39680B
Project No: 224401.23922
Date: 11/25/98

Re: Magnetic Units for Bundle Test Evaluation

OBJECTIVE:

As directed by the client the objective of the project was to determine whether various soiled swatches washed in the presence of the Life Miracle magnetic units were cleaner after washing.

SAMPLE IDENTIFICATION:

Lab Sample No. M5357 - Two (2) Life Miracle Magnetic Units delivered to Shuster Laboratories on July 9, 1998.

PROCEDURE:

As a background note, "Bundle" testing normally consists of preparing a laundry bundle composed of various blends of fabric and soils that is representative of a "typical household" bundle. For this project, two (2) bundles were prepared using six (6) pound loads made up of ballast materials consisting of stripped towels and bedsheets that were blends of cotton and polyester. The stripping procedure is used to ensure that there are no contaminants from previous testing, since ballast materials are recycled. Additionally, three (3) towels were used for the attachment of the soiled swatches. Three (3) swatches of each type of the following soil/fabric combinations were attached to these towels and added to the wash bundle. The soil/fabric swatch combinations were clay on cotton, clay on cotton/polyester, dust & sebum on cotton, dust & sebum on cotton/polyester, coffee on cotton, cosmetic makeup on cotton, a blood/milk/ink soil combination on cotton, grass on cotton/polyester and mustard on cotton/polyester. These soil/fabric swatches are representative of what is used in the detergent industry to evaluate various laundry products effectiveness at removing soils and stains. The test swatches were initially measured for color (reflectance) with the use of a HunterLab Colorquest Spectrocolorimeter (Model CQS-1400) which provides color quantification using a color scale composed of L* a* b* values.

The bundles were washed in paired Kenmore washing machines using 105°F wash/70°F rinse temperatures at 150ppm water hardness (as $CaCo_3$). The Life Miracle magnetic units were placed on opposite sides of the agitator in the washing machine after the machine had filled and the bundle had been added. After the wash cycle was complete the bundle was placed into a Kenmore Dryer for forty-five (45) minutes to allow the swatches to dry.

PROCEDURE: (cont.)

After drying the reflectance of the swatches was again measured using the spectrocolorimeter. These values were compared to the values obtained before washing and provided a Delta E value or color difference which can be correlated to the soil removal qualities of a sample product. In this instance, the higher the Delta E value, the more soil removed by the sample. As is standard for this type of testing, a water control was also run to provide baseline/control data.

RESULTS:

The Delta E values for each of the nine (9) possible soil/fabric combinations washed with the Life Miracle magnetic units sample are shown in the table. The value reported represents the average of the three (3) swatches washed.

clay-cotton	clay-c/p	dust & sebum-cotton	dust & sebum-c/p	coffee-cotton	makeup-cotton	blood/ milk/ink-cotton	grass-c/p	mustard-c/p
13.2	18.0	6.4	3.2	10.7	15.7	13.8	7.6	11.5

CONCLUSION:

As can be seen from the Delta E data, the soiled fabric swatches exhibited soil removal after washing with the Life Miracle magnetic units.

Respectfully submitted,

SHUSTER LABORATORIES, INC.

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