



LABORATORIES

74 Kent Street
Brooklyn, New York 11222-1517

Phone (718) 383-5080
Fax (718) 383-7445
E-mail: dllabs@aol.com

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Adsil, Inc.
1901 Mason Ave., Suite 101
Daytona Beach, FL 32117

December 7, 2004

Attn: Raj Dhawan, Technical Director

Re: DL-14336 Test Reference
ASTM D 4060 Taber Abrasion

OBJECTIVE

To perform ASTM D 4060 Taber Abrasion Test on samples of Adsil products. Taber Abrasion was evaluated using a CS-17 wheel, 500 grams weight and 1,000 cycles.

PRODUCTS TESTED

The following three-component products were submitted by Adsil for testing:

MicroGuard AD703 Concrete Clear Gloss Treatment
MicroGuard AD708 Hard Tile Clear Gloss Treatment

TEST PROCEDURES

Parts A & B for each formula tested were poured into a covered beaker containing a magnetic stirrer. The solution was allowed to stir for 15 minutes at slow speed. After the initial 15 minute mixing period, the Part C portion was added and the system was allowed to stir an additional 15 minutes. Upon completion of the mixing, the system was allowed to set for a 4 hour induction period at standard conditions to equilibrate.

The coatings were applied by drawdown bar to aluminum panels that had been cleaned and wiped with isopropyl alcohol and allowed to dry. The coatings were applied in two coats at 1.5 mils wet, with an overnight cure between coats. Before application of the second coat, the first coat was lightly sanded with 400 grit sand paper. The panels for Taber Abrasion were allowed to cure for 5 days at room temperature and then half a day at 120 degrees F.

TEST RESULTS

The test results are shown in the following Table.

ASTM TEST CONDUCTED	FORMULA #1	FORMULA #2
ASTM D 4060 Taber Abrasion	MicroGuard AD703	MicroGuard AD708
Test Results	20.5 mg film loss	24.5 mg film loss

DL Labs, Inc.
Thomas J. Silva
Vice President/Technical Director

Adsil Technical Bulletin

Taber Abrasion Testing (03/05/04)

Adsil contracted with DL Laboratory to conduct testing using the standard ASTM D 4060 Taber Abrasion Test on several of its clear treatments and is hereby publishing the results (**Table 1**).

As a comparative, we are also showing the Taber Abrasion results on various high performance generic organic coatings taken from the published Technical Sheets of a nationally distributed paint brand (**Table 2**).

Taber Abrasion Testing, most simply stated, is the ability of a coating to withstand abrasive erosion. The film erosion measurement is determined by the milligrams of weight (film) loss when subjected to 1000 erosion cycles, with 500 grams of weight, using various abrasive wheels of varying degrees of aggressiveness. As an example, a CS-10 wheel is less aggressive than a CS-17 wheel and would erode less film per revolution (cycle). Taber Abrasion Testing does not measure a coating's ability to resist surface scratching, but it does measure film loss of a coating due to abrasive wear.

Table 1: MicroGuard® Clear Siloxane Treatments

Test Method	AD703 (Concrete)	AD708 (Hard Tile)	AD95 (NF Metals)	AD35 (HVAC/R)
ASTM D 4060 1000 cycles @ 500 grams applied weight	20.5 mg (loss) CS-17 Wheel (highly abrasive)	24.2 mg (loss) CS-17 Wheel (highly abrasive)	12.5 mg (loss) CS-10 Wheel	12.5 mg (loss) CS-10 Wheel

Table 2: High Performance Generic Organic Coatings

Test Method	Polyamide Epoxy	Amine Adduct Epoxy	Aliphatic Urethane	Urethane/ Alkyd
ASTM D 4060 1000 cycles @ 500 grams applied weight	40.0 mg (loss) CS-10 Wheel	40.0 mg (loss) CS-10 Wheel	35.0 mg (loss) CS-10 Wheel	120.0 mg (loss) CS-10 Wheel

Taber Abrasion Testing is a very good method for determining overall film durability and is particularly well suited for measuring the wear-ability of floor coatings, which are constantly subjected to foot & forklift traffic or the wear-ability of other types of abrasive exposures for vertical surface coatings. As can be clearly observed, **MicroGuard®** Clear Siloxane Treatments exhibit superior abrasion resistance and can be used with great confidence, even against competitive, high performance industrial coatings.