

ABIC TESTING LABORATORIES, INC.

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To: Liguiguard Technologies
Re: SolidStepCote 02

January 24, 2012

From: Leonard Mackowiak

Subject: Abrasion Testing, ASTM D-4060
Project No 5435-01

Introduction

ABIC Testing Laboratories, Inc. was authorized to test submitted sample of coated VCT tile coated by the client. The coated VCT tile was tested for abrasion resistance according to ASTM D-4060 using CS-17 wheels.

Additionally the coated VCT tile was tested for static coefficient of friction according to ASTM D-2047 and stain resistance according to ASTM F-925

Methodology

The abrasion test procedure was based on ASTM D-4060 with the following modifications.

- The client coated VCT tile was used as received
- Test was performed use a Taber Abraser using CS-17 wheels
- Load 1000 grams
- Cycles 500 and 1000
- After each cycle period the following was determine on the individual tested pieces of the coated VCT tile:
 1. Weight loss (milligrams) after 500 and 1000 cycles
 2. Wear layer thickness loss after 500 and 1000 cycles
 3. Wear Index after 1000 cycles, calculation value based on ASTM C-501 test method

Results

Out results are shown in Exhibits I and Exhibit II attached.

Discussion

It is generally accepted that a walking surface must have a static coefficient of friction of 0.5 or greater to be considered slip resistant by this test procedure. The submitted coated tile meets this standard

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Discussion, continued

Additionally the coating is not affected by any of the staining materials except rubbing alcohol. The coating is completely removed by the rubbing alcohol when tested according to ASTM F-925

Respectfully submitted,



Leonard Mackowiak
Vice President

Exhibit I
Liquiguard Technologies
Test Results

Test: ASTM D-2047: Static Coefficient of Friction

<u>Test Product</u>	<u>StaticCoefficient Of Friction Values (SCOF)</u>	<u>Average</u>
VCT Tile: Client Coated	.63, .63, .67, .58, .65, .66, .67, .63 .64, .66, .66, .63	.6425

Test: ASTM F-925: Resistance to Chemicals

<u>Test Product</u>	<u>Requirement*</u>		
VCT Tile: Client Coated	No more than slight change in surface dulling, surface attack or staining by the following chemicals:		
	White vinegar (5 %)	No effect	Passes
	Rubbing alcohol (5%)	Surface Dulling (1)	Fails
	White mineral oil	No effect	Passes
	Sodium hydroxide (5%)	No effect	Passes
	Hydrochloric acid (5%)	No effect	Passes
	Household ammonia (5%)	No effect	Passes
	Household bleach (5.25%)	No effect	Passes
	Disinfectant-phenol type	No effect	Passes
	Unleaded gasoline	No effect	Passes

(1) Coating completely removed from tile

* According to ASTM F-1700 for the surface of vinyl tile tested by this procedure

**Exhibit II
Liquiguard Technologies, Inc.
Abrasion Test Results-CS 17 Wheels, 1000 gram Load**

<u>Product ID</u>	<u>Initial Wt</u>	<u>Weight Loss*</u>				<u>Coating Thickness Loss**</u>		<u>Wear Index***</u>
		<u>Weight After 500 Cycles</u>	<u>Loss After 500 Cycles</u>	<u>Weight After 1000 Cycles</u>	<u>Loss After 1000 Cycles</u>	<u>After 500 Cycles</u>	<u>After 1000 Cycles</u>	
Coated VCT Tile								
# 1	68.3096	68.2699	0.0397	68.2152	0.0944	0.001	0.002	44000
# 2	71.6495	71.6322	0.0173	71.5965	0.0530	0.001	0.001	88000
# 3	70.7420	70.7292	0.0321	70.6986	<u>0.0434</u>	<u>0.001</u>	<u>0.002</u>	<u>44000</u>
<u>Averages</u>			0.0297		0.0636	0.001	0.002	58667

* Weight Loss:
grams

** Coating Depth Loss: inches

*** Wear Index: 88/weight loss (grams) after 1000 cycles

Source: ABIC Testing Laboratories, Inc.