



## Construction Testing Laboratories Limited

7171 Torbram Road, Unit 24  
Mississauga, Ontario L4T 3W4

Telephone: (905) 671-9993  
ctlab95@yahoo.ca

Fax: (905) 671-9994

E-mail:

April 27, 2012

Report No.: MS12-05

### **MS International Inc.**

2095 N Batavia Street  
Orange, California  
92865

Fax: 714-685-7600

**Attention:** Mr. Morgan Huang

**Subject:** Slip Resistance of “Botanica Line”-Porcelain Tile Samples

**Reference Standard:** Determining the Co-Efficient of Friction of Porcelain Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method (ASTM C 1028-96)

Dear Morgan,

### **1.0 Introduction**

On April 12, 2012, Construction Testing Laboratories Limited received samples of “Botanica Line”- porcelain tile samples for the purpose of determining the static coefficient of friction.

### **2.0 Procedure**

The Neolite friction material was prepared as instructed by the Standard by sanding with 400 grit silica paper. The Neolite surface was re-sanded after each separate step of the procedure. Calibration of the Neolite heel assembly was then performed using the ASTM C 1028 Standard Tile in dry and then wet condition in order to determine the dry and wet calibration factors. Testing was then accomplished on the sample by performing four pulls, with each pull being 90° from the previous pull. The samples were tested in “dry” condition followed by testing in “wet” condition. The samples were then cleaned with Hillyard’s Renovator solution and retested.

Continued...



Professional Engineers  
Ontario

### **3.0 Test Results**

The static coefficient of friction results are listed on the table below.

**Table No. 1: Slip Resistance of “Botanica Line”-Porcelain Tile Samples (ASTM C1028-96)**

Samples	Calibration Factor		As Received Tiles		Cleaned Tiles		Average Coefficient of Friction		Overall Coefficient of Friction
	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry and Wet
<b>Botanica Line-Porcelain Tiles</b>	<b>0.15</b>	<b>-0.23</b>	<b>0.95</b>	<b>0.61</b>	<b>0.98</b>	<b>0.60</b>	<b>0.96</b>	<b>0.60</b>	<b>0.78</b>

### **4.0 Closure**

The static coefficient of friction of the “Botanica Line ”-porcelain tile samples was found to be 0.96 in dry and 0.60 in wet test conditions.

The Occupational Safety and Health Administration recommends a static coefficient of 0.5 on walking surfaces, while the Access Board recommends 0.6 on walking surfaces with disability.

We trust this will meet your report requirements. If additional information is required, please contact the undersigned.

Respectfully submitted  
**Construction Testing Laboratories Limited**



Bill Wong.  
Manager

*I cc :fantom/ Client  
I cc: fantom/ File, xplio e:\2012\report\ms12-05 Coefficient of friction\ Botanica Line samples*