***TorTest[SM] Floor Friction Testing Service***
**SOTTER ENGINEERING CORPORATION**
Consultants

26705 Loma Verde, Mission Viejo, CA 92691
Telephone/FAX: 949-582-0889

*Licensed by the State of California Board for Professional Engineers and Land Purveyors*

*Approved by City of Los Angeles for testing slip resistance of flooring*

# Flooring Slip Resistance Test Results — BOT 3000

Client: **Skudo USA Inc.**

Flooring: **MT Skudo mat (Yellow) mounted on fiber board** Report date: 9/16/12

Page 1 of 2 Sample no.: 1209-1413 Pieces tested: 1

Date tested: 9/15/12 Sample size: 13 in x 13 inches
Where tested: Sotter Engineering Corp. lab
How and when sample obtained: Supplied by client 9/14/12

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**Static and dynamic coefficient of friction (COF) by BOT-3000 digital tribometer, using ANSI B101.1 and B101.3 test methods for *wet* friction. The same test methods, but without wetting, are used for dry friction.**

**Average static (S) and dynamic (D) coefficient of friction:**

| | AS RECEIVED | |
|---|---|---|
| | **Dry** | **Wet** |
| **SCOF** | **1.00** | **1.00** |
| **DCOF** | **0.68** | **0.64** |

Results apply only to the sample tested. Values of 0.90 or higher may be lower than actual COF because the BOT-3000 cannot measure instantaneous values exceeding 1.00. High values indicate potentially good traction. Slip resistance can be affected by maintenance-related items including wear, floor coatings, buffing, and contamination, as well as footwear. Please see the next page for ANSI minimum recommendations regarding average SCOF and DCOF.

The BOT-3000 uses 28 mm (1.1 inch) wide curved laboratory-grade artificial hard rubber test feet. Further information on the BOT-3000, and a video demonstration of the instrument, can be found at

http://www.safetydirectamerica.com/BOT-3000.html

ANSI denotes the American National Standards Institute — a private, not-for-profit organization. Their method B 101.1 is "Test Method for Measuring Wet SCOF of Common Hard-Surfaced Floor Materials." The method quotes the following reference values:

| Wet average SCOF value | Available traction |
|---|---|
| ≥ 0.60 | High traction — lower probability of slipping |
| 0.40 – <0.60 | Moderate traction — increased probability of slipping |
| <0.40 | Minimal available traction — higher probability of slipping |

ANSI B101.3 is "Test Method for Measuring Wet DCOF of Common Hard-Surface Floor Materials." The method quotes the following reference values:

| Wet average DCOF value | Slip resistance potential |
|---|---|
| 0.43 or higher (level floor)<br>0.46 or higher (inclines) | Lower probability of slipping |
| 0.30–0.42 (level floor)<br>0.30–0.45 (inclines) | Increased probability of slipping |
| Less than 0.30 | Higher probability of slipping |

Sotter Engineering Corporation, and most leading slip-and-fall forensic experts, believe that *dynamic* friction is a more reliable way of assessing wet slip potential than is *static* friction.

Individual values of wet DCOF for the sample, as required by ANSI B101.3:

| | | | | | |
|---|---|---|---|---|---|
| 0 degrees | 63 | 64 | 63 | 63 | 64 |
| 90 degrees | 66 | 61 | 62 | 58 | 65 |
| 180 degrees | 67 | 67 | 68 | 64 | 65 |
| 270 degrees | 65 | 61 | 64 | 62 | 62 |

Respectfully submitted,
SOTTER ENGINEERING CORPORATION

George Sotter

J. George Sotter, P.E., Ph.D.
President