

SOTTER ENGINEERING CORPORATION Consultants

26705 Loma Verde Mission Viejo, CA 92691

T 949-582-0889 • F 949-916-2193

ANSI (American National Standards Institute) published the ANSI A137.1 -2012 American National Standard test for measuring dynamic coefficient of friction (DCOF) of common hard surface indoor level flooring materials in 2012. The ANSI standard has been incorporated as a requirement in "Section 2103.6 Ceramic Tile" of the 2012 International Building Code published by the International Code Council. This section states that "Ceramic tile shall be defined in, and shall conform to the requirements of ANSI A137.1"

ANSI A137.1 Flooring Slip Resistance Test Results

performed by Sotter Engineering Corporation

Client: Formula Corp

Test No. 1608-2624

Flooring Type: Terrazzo

Date Tested: 8/24/2016

Product Tested: Dynamic Research TRACTION

Report Date: 8/24/2016

Test Method:

Average Dynamic Coefficient of friction (DCOF) as found and tested using the BOT-3000E digital tribometer using the SBR rubber slider along with 0.05% SLS (Sodium Laurel Sulfate) solution. **Requirements include those surfaces that are to be walked upon wet shall have a wet DCOF of 0.42 or greater** when tested using the SLS solution per the procedure in Section 9.6.1.

BOT-3000E recalibration due June 17, 2017. BOT-3000E strain gauge verified on day of testing.

DRY Surface testing with TRACTION Temp. = 76°F / Relative humidity = 57%

AREA #1	<u>1st pass</u> 0.94	<u>2nd pass</u> 0.91	<u>3rd pass</u> 0.93	<u>4th pass</u> 0.87	<u>Overall Avg.</u> 0.91
AREA #2	<u>1st pass</u> 0.96	<u>2nd pass</u> 0.99	<u>3rd pass</u> 0.99	<u>4th pass</u> 1.00	<u>Overall Avg.</u> 0.99
AREA #3	<u>1st pass</u> 0.91	<u>2nd pass</u> 0.95	<u>3rd pass</u> 0.92	<u>4th pass</u> 0.92	<u>Overall Avg.</u> 0.93

DRY Overall Average: 0.94

Results: PASSED

COMMENT:

High Dynamic Coefficient of Friction (DCOF) value indicates potentially good traction.

WET Surface testing with TRACTION (using 0.05% SLS solution)**Temp. = 76°F / Relative humidity = 57%**

AREA #1	<u>1st pass</u> 0.41	<u>2nd pass</u> 0.35	<u>3rd pass</u> 0.43	<u>4th pass</u> 0.45	<u>Overall Avg.</u> 0.41
AREA #2	<u>1st pass</u> 0.43	<u>2nd pass</u> 0.41	<u>3rd pass</u> 0.45	<u>4th pass</u> 0.43	<u>Overall Avg.</u> 0.43
AREA #3	<u>1st pass</u> 0.36	<u>2nd pass</u> 0.37	<u>3rd pass</u> 0.54	<u>4th pass</u> 0.51	<u>Overall Avg.</u> 0.45

WET Overall Average: 0.43**Results: PASSED****COMMENT:****High Dynamic Coefficient of Friction (DCOF) value indicates potentially good traction.**

The ANSI A137.1 standard, Section 6.2.2.1.10 states that “Unless otherwise specified, tiles suitable for a **level interior spaces expected to be walked upon wet shall have a wet DCOF of 0.42 or greater** when tested using SLS solution as per the procedure in Section 9.6.1.” However, tiles with a DCOF of 0.42 or greater are not necessarily suitable for all projects. The specifier shall determine tiles appropriate for the specific project conditions, considering by way of example but not limited to; *type of use, traffic, expected contaminates, expected maintenance, expected wear and manufacturers guidelines and recommendations.*

This standard has no recommendation for outdoor floors or ramps.

Respectfully submitted,
SOTTER ENGINEERING CORPORATION



J. George Sotter, P.E., PhD.
President



*Licensed by the State of California
Board of Professional Engineers
And Land Surveyors*

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