SAFESPILL

Slip Resistance Testing of Safespill Floor

Also known as Ignitable Liquid Drainage Floor Assembly (ILDFA)

August 2024

Revision No. 2

NFPA® 2022 EDITION NFPA 409

FM APPROVED STANDARD 6090

Prepared by:
Kyle Giubbini
R&D Engineer
Safespill
Houston, TX 77054

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Revisions:

SAFESPILL SYSTEMS	Document Title: Slip Resistance Testing of Safespill Floor Document Number: 2000				
Issue Date	Revision No.	Revision Date	Prepared By	Approved By	Page No.
3/29/2022	0	-	K Giubbini	T Mackintosh	2
	1	3/18/2024	K Giubbini	T Mackintosh	1, 2, 12-14
	2	8/20/2024	K Giubbini	T Mackintosh	1, 2, 6-9, 12-14, Appendix B, Appendix C

Revision 1: New test data based on updated “knurling” design. “No Knurling” sample retested as control.
Revision 2: New test data based on updated design. “Knurling” removed. Test layout updated for new features. Updated Testing Certificate for Inspector. Additional Testing Reports Added.

1 Executive Summary

The Safespill floor, also known as an ignitable liquid drainage floor assembly (ILDFA), has recently been recognized as an industry standard fire protection system in NFPA 409 2022 and has been proposed for use in numerous military aircraft hangars. The installation of a Safespill floor would change the work surface for contractors, maintainers, and other personnel working in or walking through an aircraft hangar. Hangar floors are subject to many potential hazards, such as wet surfaces or lubricant spills. To address concerns regarding potential slip hazards on the Safespill floor, slip resistance testing was conducted on the Safespill floor according to ANSI/NFSI B101.1 using an American Slip Meter 825A Tribometer.

Testing was conducted on 3 different surfaces:

1) Safespill Floor Profile
2) Polished Concrete
3) Flooring Sample from NAVAIR Hangar, 10-year age (VX-30 Point Mugu, Hangar 372)

A comparison of SCOF between each surface under dry, wet, and oily conditions is shown in Table 1-1.

Table 1-1: SCOF of polished concrete vs Safespill floor

Conditions	Dry	Wet	Oily
Safespill	0.72 – High Traction	0.78 – High Traction	0.25 – Minimal Traction
Polished Concrete	0.84 – High Traction	0.76 – High Traction	0.16 – Minimal Traction
10-year Hangar Sample (PM-372)	0.73 – High Traction	0.56 – Moderate Traction	0.05 – Minimal Traction

Based on testing conducted with the ASM 825A in accordance with ANSI/NFSI B101.1, the Safespill floor profile provides comparable slip resistance to polished concrete and the PM-372 hangar sample under dry conditions and improved slip resistance under wet and oily conditions. The PM-372 sample represents a typical hangar floor after 10 years of daily activity. Multiple NAVAIR hangar floors at Point Mugu were inspected to confirm that the tested sample was consistent with a typical hangar floor surface. Values for all surfaces have been color-coded and described according to guidance from the National Floor Safety Institute (NFSI).

Table 1-2: Available Traction and Probability of Slipping based on SCOF

SCOF Value	Available Traction	Slip Probability
≥0.6	High Traction	Lower
0.4 ≤ SCOF < 0.6	Moderate Traction	Increased
<0.4	Minimal Traction	High

2 Testing Methods

2.1 Surfaces

2.1.1 Safespill Floor Profile

To prevent issues with moving equipment (tool carts, equipment carts, heavy machinery) across the Safespill floor the rib of the profile is removed. To provide adequate slip resistance, an anti-slip texture is then applied to the top surface where the rib had previously existed.

Figure 2.1: Safespill floor profile with rib removed and texture added

2.1.2 Polished Concrete

A polished concrete surface in the Safespill manufacturing facility (Houston, TX) was chosen to test for slip resistance. This area had been stripped of coating using a rotary concrete grinder, then polished using a 400 grit abrasive concrete polishing pad.

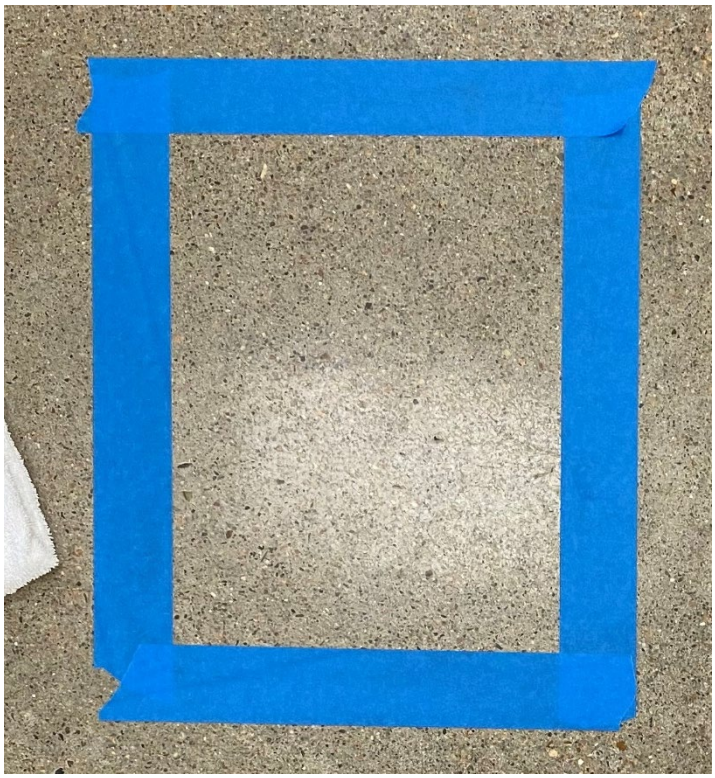


Figure 2.2: Polished concrete patch used for testing at Safespill manufacturing facility in Houston, TX

2.1.3 PM-372 Hangar Sample

During installation of a Safespill floor at Point Mugu Naval Base in Hangar 372, the concrete hangar floor was cut to install sub-grade trenches. During installation a sample piece was removed from the hangar to be used for testing.

This hangar floor had been recoated in 2012, so the age of the coating was approximately 10 years at the time of removal. While there is evidence of non-skid grit in the coating, the distribution of grit is much lighter than that of the freshly coated sample using the 5-coat system. There is also evidence of places where grit was once embedded but has been worn away leaving indentations.

Hangars 365 and 34 at Point Mugu Naval Air Station were visually inspected to confirm that the hangar 372 sample was consistent with other hangars.

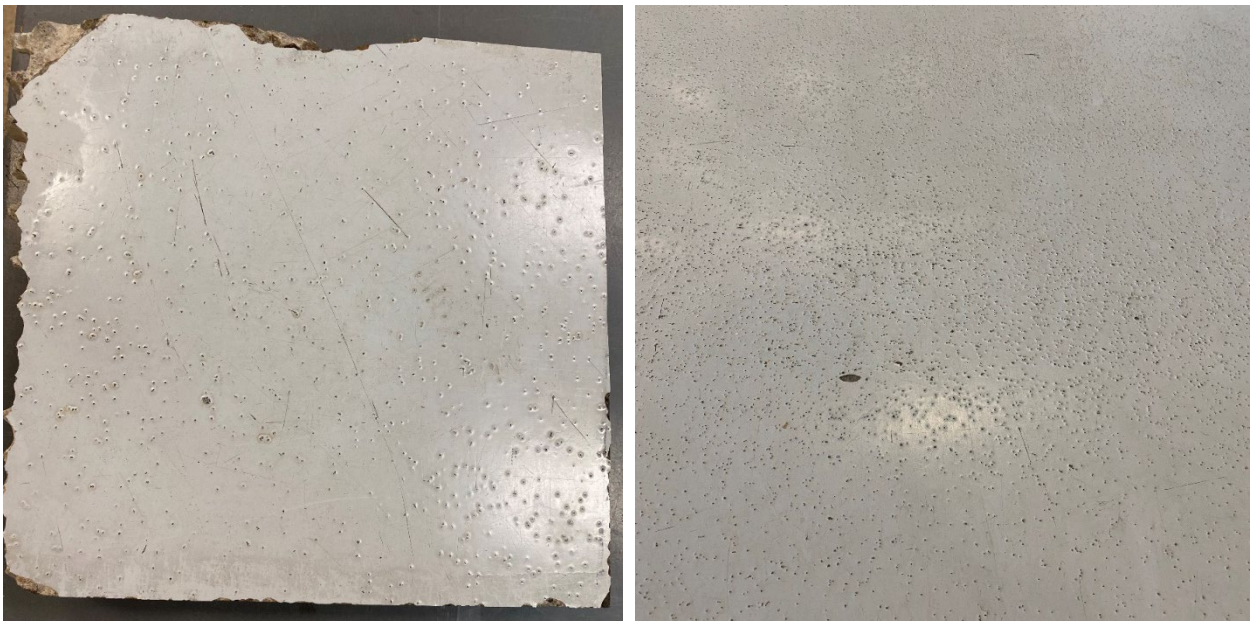


Figure 2.3: Hangar 372 Sample (left). Image of coated floor in Hangar 34 (right).

2.2 ASM 825A

The device used to measure SCOF on the Safespill floor and polished concrete is an ASM 825A. This device was properly calibrated and documented prior to testing. The calibration certificate can be found in Appendix A.

Figure 2.4: American Slip Meter 825A.

The ASM 825A utilizes three neoprene pads, referred to as “sensors”, which are placed on the testing surface. The testing professional then pulls on the chain slowly and with even pressure. When the ASM 825A moves, the maximum force applied is recorded and displayed as a coefficient of friction. Values for all tests were collected and documented by certified NFSI Walkway Auditor, Tim Hill of Slip Solutions of Houston. Testing was conducted according to NFSI B101.1-2020. These reports are included in Appendix C.

2.3 Testing Procedure

Due to the unique surface features of the Safespill floor profiles, a unique test procedure was used to fully evaluate the surface. Section 2.3.1 details the standard procedure for testing flat surfaces. Section 2.3.2 details the procedure used for testing the Safespill floor.

2.3.1 Flat Surfaces

When testing on a flat and level surface, testing consists of pulls in four directions as shown in Figure 2.3. These values are then averaged to determine the SCOF. This method was used for surfaces 3 and 4.

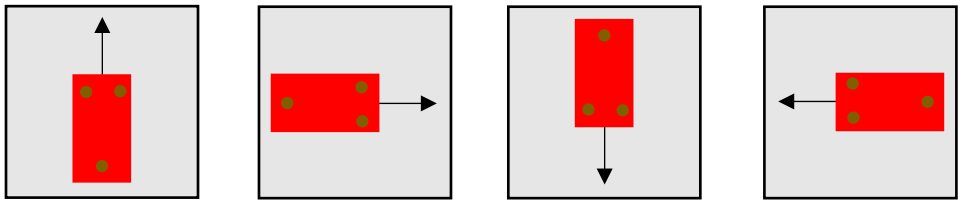


Figure 2.5 : Test Procedure for flat, level surfaces.

2.3.2 Safespill Floor

When testing the Safespill floor, there are numerous features with different potential slip resistance characteristics. Figure 2.6 shows the features of the top surface of the Safespill floor.

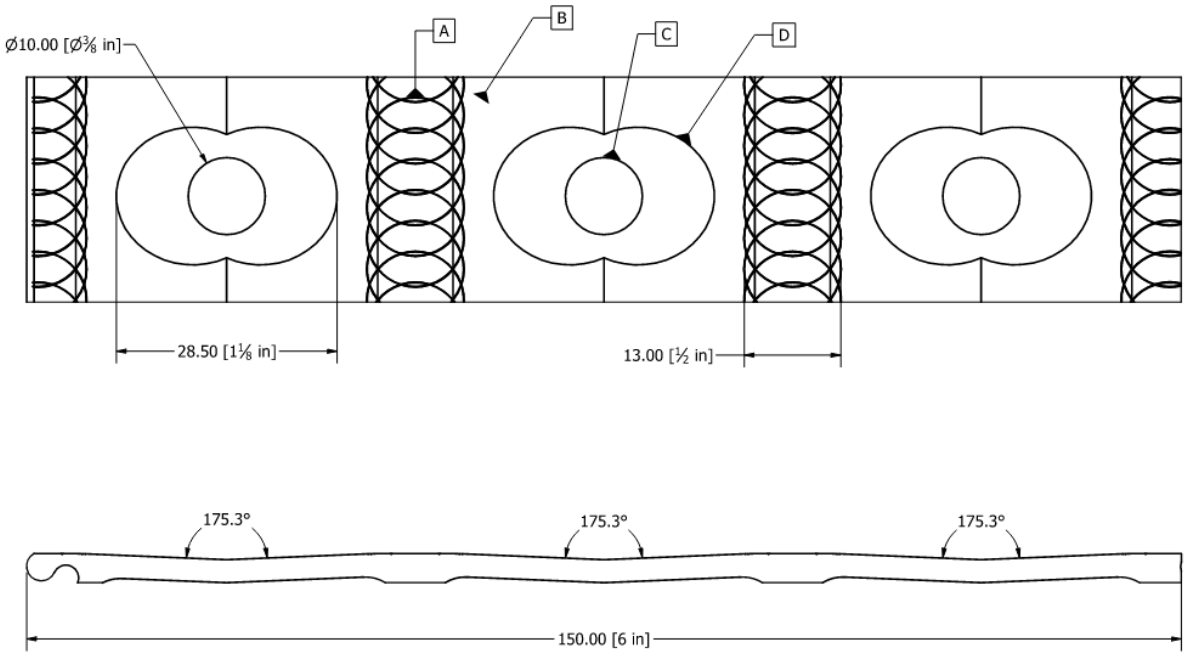
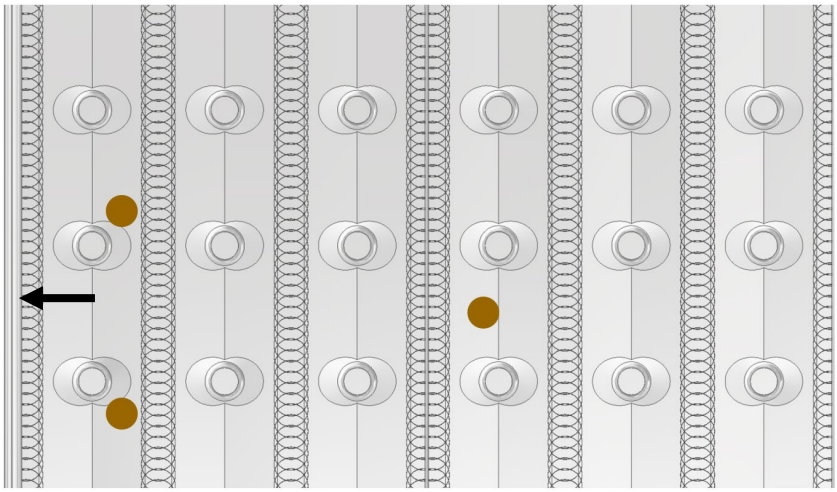


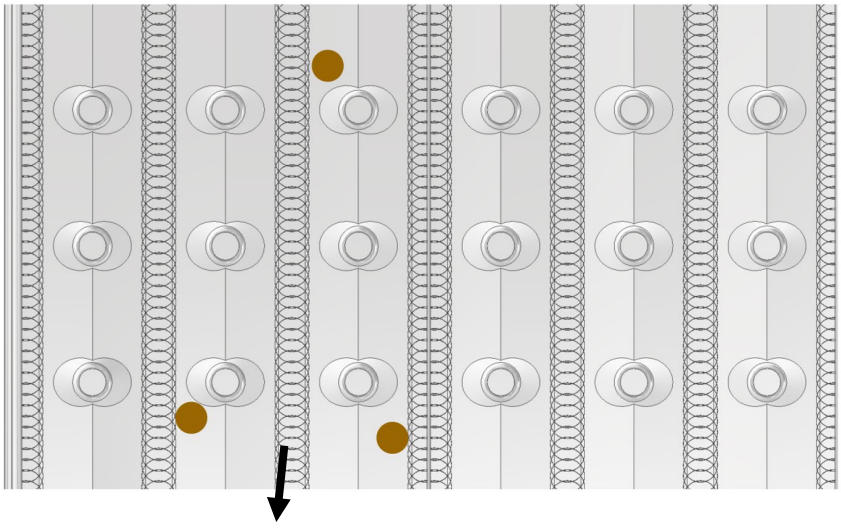
Figure 2.6: Dimensional drawing of top surface of Safespill floor. All dimensions in millimeters [inches].

Key features of the surface geometry are labeled in Figure 2.6.
A – Profile Anti-slip Texture. This feature separates the individual channels of the floor and provides additional traction to the top surface of the profile.
B – Sloped Surface. Most of the surface consists of a sloped face which prevents standing liquid on the top surface.
C – Drainage Hole. These holes allow liquid to flow into the internal channels of the floor.
D – Machined Surface. A chamfer feature around the drainage hole created during manufacturing.

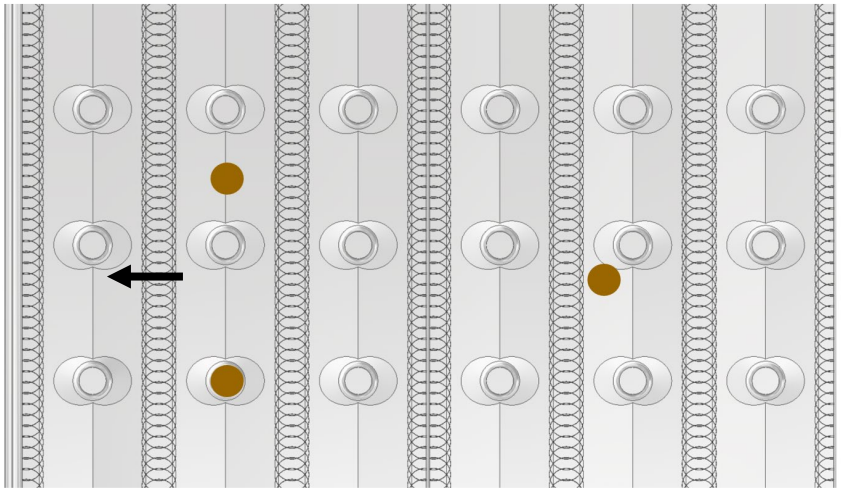
To properly account for each feature, testing consisted of multiple sensor placements and pull directions, described below.



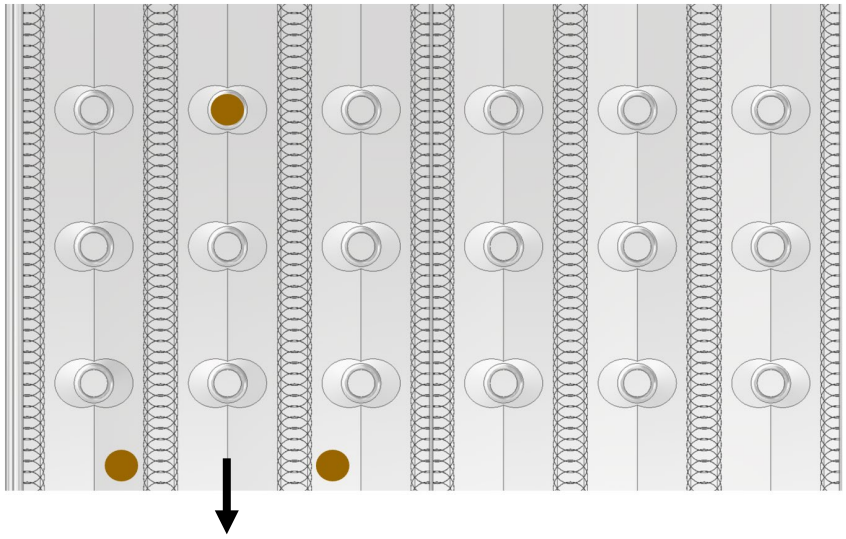
Position 1, Direction 1:
All sensors placed on sloped surfaces of profile. Pull direction perpendicular to ribs.



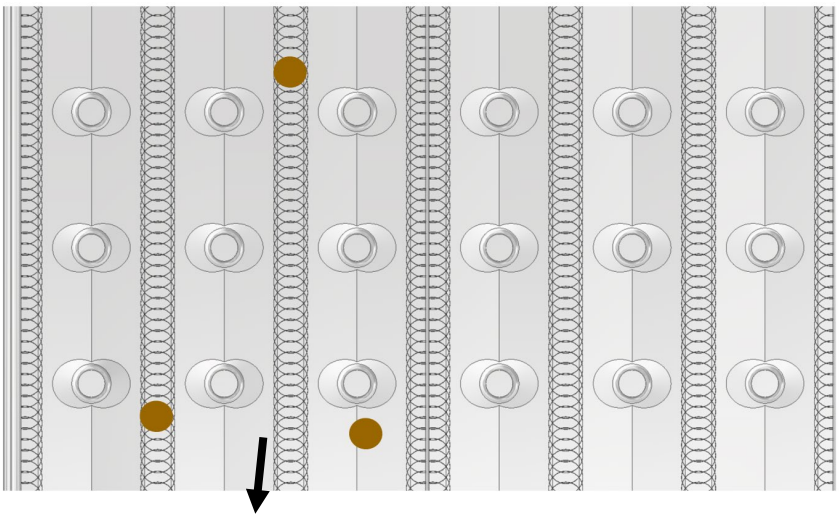
Position 1, Direction 2:
All sensors placed on sloped surfaces of profile. Pull direction parallel to ribs.



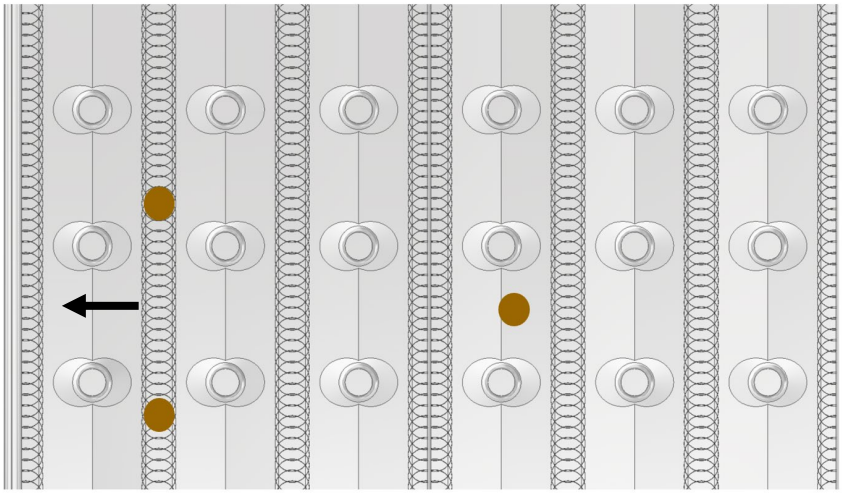
Position 2, Direction 1:
One sensor placed on drainage hole. Pull direction perpendicular to ribs.



Position 2, Direction 2:
One sensor placed on drainage hole. Pull direction parallel to ribs.



Position 3, Directions 1 & 2: Two sensors placed on top of anti-slip feature. Pull direction parallel to feature in both directions



Position 4, Directions 1 & 2: Two sensors placed on top of anti-slip feature. Pull direction perpendicular to feature in both directions

2.4 Conditions

Each location and pull direction was executed under wet, dry, and oily conditions. For all conditions, the floor surface was wiped clean using a microfiber cloth.

For dry conditions, both the floor surface and the sensors used for testing were dried with a microfiber cloth and cleaned using a brush prior to each test.

Figure 2.7 : Area of Safespill floor taped off and prepared for dry testing

For wet conditions, purified water was sprayed onto the surface of the floor using a spray bottle. The sensors were allowed to sit in a pool of water for 5 minutes to ensure that the sensors absorbed water and remained wet throughout the duration of the test. During testing, additional water was sprayed onto the sensors and the surface as needed.

Figure 2.8: Sensors of ASM 825A allowed to sit in standing water for 5 minutes to absorb moisture

For oily conditions, 4 ounces of ISO VG 46 hydraulic oil was poured on top of the floor surface. The sensors were allowed to sit in a pool of oil for 5 minutes to ensure that the sensors absorbed oil and remained lubricated throughout the duration of the test.

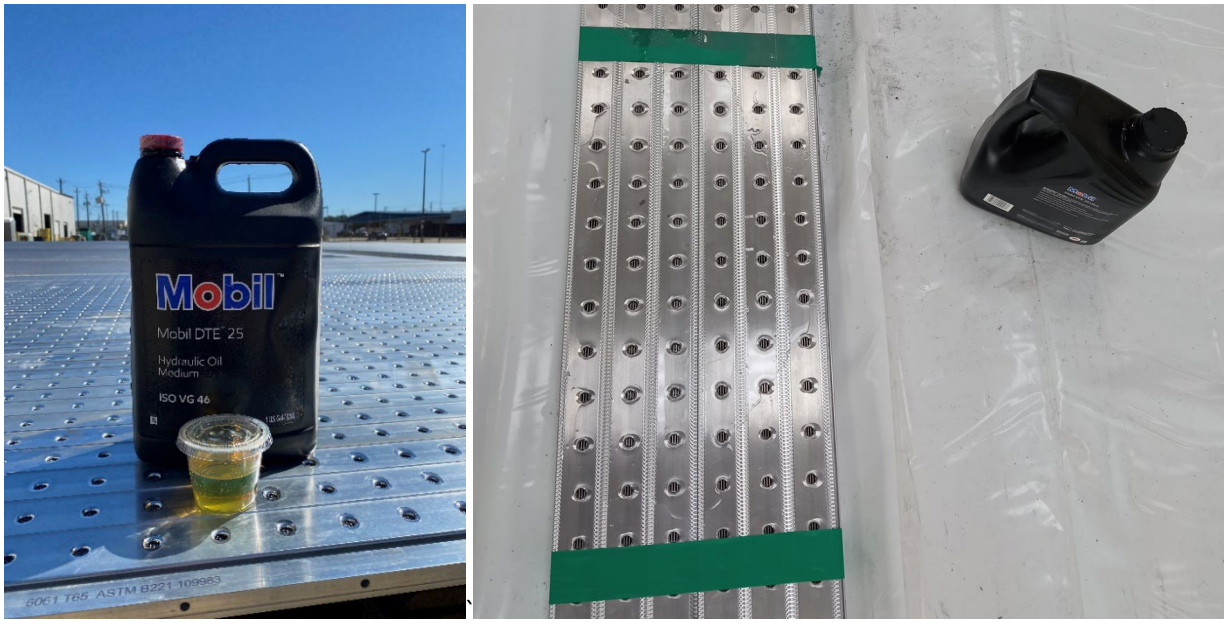


Figure 2.9: Mobil DTE 25, ISO VG 46 hydraulic oil. 4 oz measured (left). Hydraulic fluid on surface of floor for testing (right).

3 Results

3.1 Safespill Floor

The SCOF values for the Safespill floor profiles are given in Tables 3-1, 3-2, and 3-3.

Table 3-1: SCOF Testing Results for Safespill Floor under Dry Conditions

Position #	Direction 1	Direction 2	Direction 3	Average
Position 1, Sloped Surface	0.65	0.58		0.62
Position 2, One Sensor in Drainage Hole	0.96	0.95		0.96
Position 3, Two Sensors against Profile Rib	0.60	0.71		0.65
Position 4, Two Sensors on top of Profile Rib	0.65	0.62		0.64
Average for All Positions				0.72

Table 3-2: SCOF Testing Results for Safespill Floor under Wet Conditions

Position #	Direction 1	Direction 2	Direction 3	Average
Position 1, Sloped Surface	0.52	0.52		0.52
Position 2, One Sensor in Drainage Hole	1.1	1.1		1.1
Position 3, Two Sensors against Profile Rib	0.74	0.84		0.79
Position 4, Two Sensors on top of Profile Rib	0.73	0.67		0.7
Average for All Positions				0.78

Table 3-3: SCOF Testing Results for Safespill Floor under Oily Conditions

Position #	Direction 1	Direction 2	Direction 3	Average
Position 1, Sloped Surface	0.20	0.17		0.19
Position 2, One Sensor in Drainage Hole	0.21	0.31		0.26
Position 3, Two Sensors against Profile Rib	0.26	0.33		0.3
Position 4, Two Sensors on top of Profile Rib	0.22	0.27		0.25
Average for All Positions				0.25

3.2 Polished Concrete

For the polished concrete, SCOF under dry, wet, and oily conditions is given in Table 3-4.

Table 3-4: SCOF Testing Results for Polished Concrete

Condition	Dry	Wet	Oily
SCOF, Direction 1	0.78	0.67	0.20
SCOF, Direction 2	0.86	0.79	0.14
SCOF, Direction 3	0.79	0.80	0.16
SCOF, Direction 4	0.92	0.79	0.17
SCOF, Average	0.84	0.76	0.16

3.3 PM-372 Sample

For the PM-372 sample, SCOF under dry, wet, and oily conditions is given in Table 3-5.

Table 3-5: SCOF Testing Results for PM-372 Sample

Condition	Dry	Wet	Oily
SCOF, Direction 1	0.72	0.59	0.0
SCOF, Direction 2	0.66	0.49	0.0
SCOF, Direction 3	0.75	0.57	0.1
SCOF, Direction 4	0.81	0.59	0.0
SCOF, Average	0.73	0.56	0.05

Appendix A: ASM 825A Calibration Certificate

American Slip Meter, Inc.
720 N Indiana Avenue
Englewood, FL 34223 USA

Customer: SLIP SOLUTIONS OF HOUSTON, LLC

Purchase Order: N/A

Meter Verification / Certification to test method NFSI B101.1

Model 825A **Serial No.** 82504608 **Date** 07/09/2020 **Auditor** CS

Verification Tile Serial No. NFSI 0110 **Dry Value** N/A **Wet Value** .51 ± .05

Temperature 74°F **Humidity** 58%

TEST RESULTS

DIRECTION	N ▲	E →	S ▼	W ←	
	SCOF	**SCOF**	**SCOF**	**SCOF**	**Average**
Wet Tile Verification Results	.48	.51	.52	.49	.50
Wet Tile Verification Results	.49	.50	.51	.50	.50
WET Tile Verification Results	.50	.48	.48	.52	.50

Average of 3 Trials: .50

Notes: TEST RESULTS PASSED W/ ± .05 OF MEAN TILE VALUE

Craig Stephenson
President
American Slip Meter, Inc.

This certification is to verify that the above listed meter, by serial number, tested according to the above listed test tile and test method. These results are derived from the test data listed on the day of testing with the conditions noted. The directions listed are to represent performing a test in four directions on the tile with each test direction being a 90 degree rotation, not testing to a compass heading.

Appendix B: Certification for Testing Professional

NFSI
NATIONAL FLOOR SAFETY INSTITUTE

Certificate No.
00211

The National Floor Safety Institute,
A Program Certificate Issuer,
hereby affirms that

Tim Hill

has successfully completed all requirements of the

Walkway Auditor Certificate Program

As such, the certificate holder is entitled to use the designation:

WACH
WALKWAY AUDITOR CERTIFICATE HOLDER

Date of Issue: 6/10/2021 **Certificate Issued by:** *Karen Wills*

Term of Validity: 3 years from the date of issue – 6/10/2024

This training program meets the requirements of:
NFSI B101.0 Walkway Surface Auditing Procedure for the Measurement of Walkway Slip Resistance

NFSI
NATIONAL FLOOR SAFETY INSTITUTE

Certificate No. 00211

The National Floor Safety Institute,
A Program Certificate Issuer,
hereby affirms that

Tim Hill

has successfully completed all requirements of the

Walkway Auditor Certificate Program

As such, the certificate holder is entitled to use the designation:

WACH
WALKWAY AUDITOR CERTIFICATE HOLDER

Date of Issue: 5/13/2024 **Certificate Issued by:** *Karen Wills*

Term of Validity: 3 years from the date of issue – 5/13/2027

This training program meets the requirements of:
NFSI B101.0 Walkway Surface Auditing Procedure for the Measurement of Walkway Slip Resistance

Appendix C: Testing Reports from Slip Solutions of Houston

Slip Solutions of Houston, LLC

B101.0

DRY TESTING SUMMARY

Customer / Contact:
Safespill, Inc
1900 Cross Point Ave
Houston, TX 77054
www.safespill.com

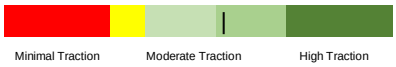
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

Date: 7/23/2024
Tribometer: American Slip Meter Digital 825A
Model: Manual Drag Sled

Zone	Risk Class	Description of Area	Test Results	
1	2	Polished Track 1	→	.62
			←	.41
			→	.98
			←	.43
			Avg	.61
2	2	Polished Track 2	→	.57
			←	.70
			→	.60
			←	.43
			Avg	.57
3	2	Unpolished Track 1	→	.60
			←	.72
			→	.54
			←	.87
			Avg	.68
4	2	Unpolished Track 2	→	.60
			←	.78
			→	.74
			←	.73
			Avg	.71

SCOF Scale

Markings are general indications only



Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Project Scope: Technician conducted wet surface friction measurements for static coeeficient of friction at multiple locations for parity.
Testing performed according to NFSI / ANSI SCOF standards for surface composition with the scale of **0.00 - 1.00**

Recommendation: Clean surface as needed with pH balanced detergent and a soft bristled broom.

Disclaimer: There is no expressed or implied warranty with these test results. This test method does not purport to address all safety concerns, if any, associated with its use. It is the respons
of the recipient to establish appropriate safety practices and determine the applicability of its limitations prior to use.
Averages provided here are results under these specific testing conditions.
- Manufactured aluminum with profiled surface

Slip Solutions of Houston, LLC	Tim Hill	7/23/2024
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

WET TESTING SUMMARY

Customer / Contact:
Safespill, Inc
1900 Cross Point Ave
Houston, TX 77054
www.safespill.com

Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

Date: 7/23/2024
Tribometer: American Slip Meter Digital 825A
Model: Manual Drag Sled

Zone	Risk Class	Description of Area	Test Results	
1	2	Polished Track 1	→	.82
			←	.61
			→	.90
			←	.53
			Avg	.71
2	2	Polished Track 2	→	.71
			←	.63
			→	.82
			←	.51
			Avg	.66
3	2	Unpolished Track 1	→	.65
			←	.90
			→	.90
			←	.90
			Avg	.83
4	2	Unpolished Track 2	→	.78
			←	.75
			→	.72
			←	.74
			Avg	.74

SCOF Scale

Markings are general indications only

Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Project Scope: Technician conducted wet surface friction measurements for static coeeficient of friction at multiple locations for parity.
Testing performed according to NFSI / ANSI SCOF standards for surface composition with the scale of **0.00 - 1.00**

Recommendation: Clean surface as needed with pH balanced detergent and a soft bristled broom.

Disclaimer: There is no expressed or implied warranty with these test results. This test method does not purport to address all safety concerns, if any, associated with its use. It is the respons
of the recipient to establish appropriate safety practices and determine the applicability of its limitations prior to use.
The Averages provided here are results under these specific testing conditions:
- Manufactured aluminum with profiled surface

Slip Solutions of Houston, LLC	Tim Hill	7/23/2024
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

OIL TESTING SUMMARY

Customer / Contact:
Safespill, Inc
1900 Cross Point Ave
Houston, TX 77054
www.safespill.com

Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

Date: 7/23/2024
Tribometer: American Slip Meter Digital 825A
Model: Manual Drag Sled

Zone	Risk Class	Description of Area	Test Results	
1	2	Polished Track 1		.46
				.17
				.37
				.10
			Avg	.27
2	2	Polished Track 2		.28
				.13
				.43
				.17
			Avg	.25
3	2	Unpolished Track 1		.19
				.37
				.14
				.48
			Avg	.29
4	2	Unpolished Track 2		.12
				.22
				.39
				.34
			Avg	.26

SCOF Scale

Markings are general indications only

Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Project Scope: Technician conducted wet surface friction measurements for static coeeficient of friction at multiple locations for parity.
Testing performed according to NFSI / ANSI SCOF standards for surface composition with the scale of **0.00 - 1.00**

Recommendation: Clean surface as needed with pH balanced detergent and a soft bristled broom.

Disclaimer: There is no expressed or implied warranty with these test results. This test method does not purport to address all safety concerns, if any, associated with its use. It is the respons
of the recipient to establish appropriate safety practices and determine the applicability of its limitations prior to use.
The Averages provided here are results of these specific testing conditions.:
- Manufactured aluminum with profiled surface

Slip Solutions of Houston, LLC	Tim Hill	7/23/2024
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

TESTING SUMMARY

Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

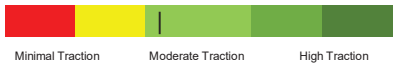
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

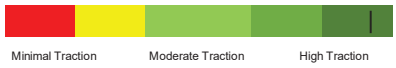
Date: 10/29/2021
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

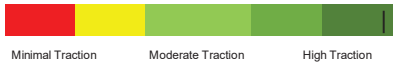
Zone	Risk Class	Description of Area	Test Results	
6	1	Engineered Aluminum Plating Dry Testing Inclination <6 Degrees		.65
				.58
				NA
				NA
			Avg	.61
7	1	Engineered Alluminum Plating Dry Testing One Sensor in Drain Hole		.96
				.95
				NA
				NA
			Avg	.95
8	1	Engineered Aluminum Plate Dry Testing Two Sensors Against Ridge		1.2
				NA
				1.2
				NA
			Avg	1.2
9	1	Engineered Aluminum Plate Dry Testing Three Sensors Set On Top of Ridge		.40
				NA
				.39
				NA
			Avg	.39

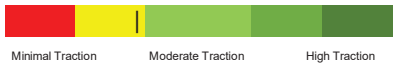
SCOF Scale

Markings are general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	10/29/2021
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

TESTING SUMMARY

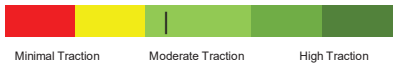
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

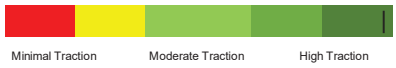
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

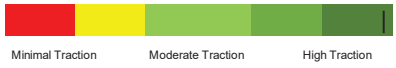
Date: 10/29/2021
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

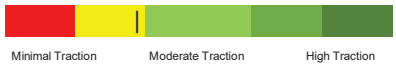
Zone	Risk Class	Description of Area	Test Results	
1	1	Engineered Aluminum Plating Wet Testing Inclination <6 Degrees	→	.52
			→	.52
			←	NA
			←	NA
			Avg	.52
2	1	Engineered Alluminum Plating Wet Testing One Sensor in Drain Hole	→	1.1
			→	1.1
			←	NA
			←	NA
			Avg	1.1
3	1	Engineered Aluminum Plate Wet Testing Two Sensors Against Ridge	→	1.2
			→	NA
			←	1.2
			←	NA
			Avg	1.2
4	1	Engineered Aluminum Plate Wet Testing Three Sensors Set On Top of Ridge	→	.37
			→	NA
			←	.41
			←	NA
			Avg	.39

SCOF Scale
Markings general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	10/29/2021
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

TESTING SUMMARY

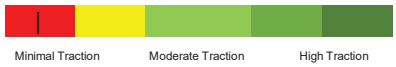
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

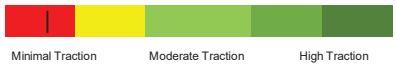
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

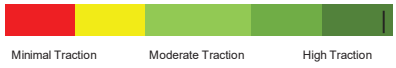
Date: 10/29/2021
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

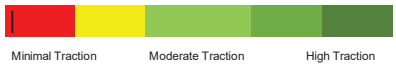
Zone	Risk Class	Description of Area	Test Results	
11	1	Engineered Aluminum Plating Oil Testing Inclination <6 Degrees		.20
				.17
				NA
				NA
			Avg	.18
12	1	Engineered Alluminum Plating Oil Testing One Sensor in Drain Hole		.21
				.31
				NA
				NA
			Avg	.26
13	1	Engineered Aluminum Plate Oil Testing Two Sensors Against Ridge		1.2
				NA
				1.2
				NA
			Avg	1.2
14	1	Engineered Aluminum Plate Oil Testing Three Sensors Set On Top of Ridge		0.0
				NA
				0.0
				NA
			Avg	0.0

SCOF Scale
Markings general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	10/29/2021
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

TESTING SUMMARY

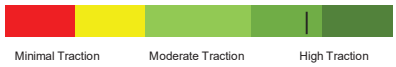
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

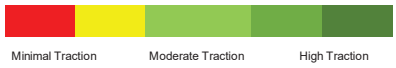
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

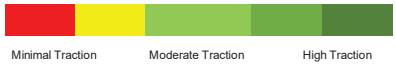
Date: 10/29/2021
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

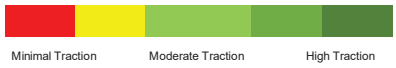
Zone	Risk Class	Description of Area	Test Results
17	1	Polished Concrete Dry Testing	.78 .86 .79 .92 Avg .83
			Avg
			Avg
			Avg
			Avg

SCOF Scale
Markings general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	10/29/2021
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

TESTING SUMMARY

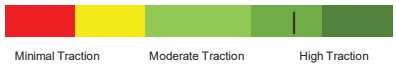
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

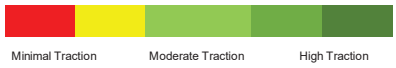
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

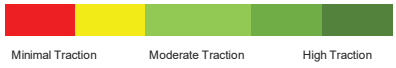
Date: 10/29/2021
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

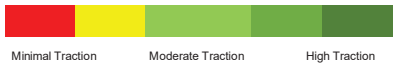
Zone	Risk Class	Description of Area	Test Results
16	1	Polished Concrete Wet Testing	.67 .79 .80 .79 Avg .76
			Avg
			Avg
			Avg

SCOF Scale
Markings general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	10/29/2021
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

TESTING SUMMARY

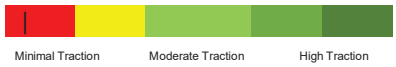
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

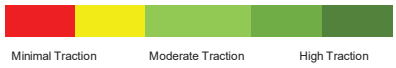
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

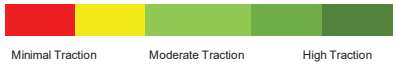
Date: 10/29/2021
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

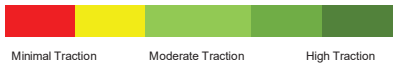
Zone	Risk Class	Description of Area	Test Results	
18	1	Polished Concrete Oil Testing		.20
				.14
				.16
				.17
			Avg	.16
			Avg	
			Avg	
			Avg	

SCOF Scale
Markings general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	10/29/2021
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

DRY TESTING SUMMARY

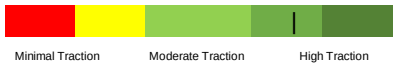
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

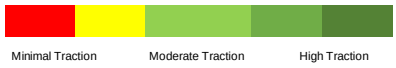
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

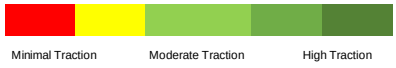
Date: 3-4-2022
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

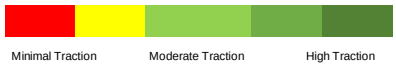
Zone	Risk Class	Description of Area	Test Results	
10	1	Old Coating Test Block		.72
				.66
				.75
				.81
			Avg	.73
NA				
			Avg	
NA				
			Avg	
NA				
			Avg	

SCOF Scale
Markings general indications only









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed
Notes: Surface abrasions non-uniform

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	3/4/2022
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

WET TESTING SUMMARY

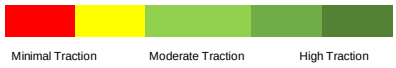
Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

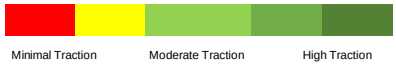
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

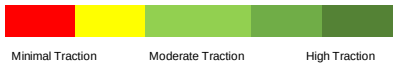
Date: 3-4-2022
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

Zone	Risk Class	Description of Area	Test Results
11	1	Old Coating Test Block	.59
			.49
			.57
			.59
			Avg .56
NA			
			Avg
NA			
			Avg
NA			
			Avg

SCOF Scale
Markings general indications only







Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed
Notes: Surface abrasions non-uniform

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	3/4/2022
Provider	**Name**	**Date**

Slip Solutions of Houston, LLC

B101.0

OIL TESTING SUMMARY

Customer / Contact:
Safespill
1900 Crosspoint Ave
Houston, TX 77054

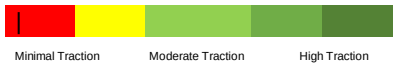
Test Performed By: Tim Hill
Slip Solutions of Houston, LLC

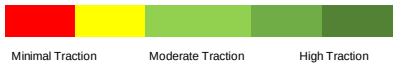
Date: 3-4-2022
Device Used: American Slip Meter
Model: ASM 825A Digital Dragsled

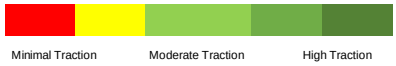
Zone	Risk Class	Description of Area	Test Results	
12	1	Old Coating Test Block 1 oz oil applied to test surface		0.0
				NA
				0.1
				NA
			Avg	.05
NA				
			Avg	
NA				
			Avg	
NA				
			Avg	

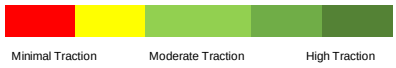
SCOF Scale
Markings general indications only

Minimal Traction | Moderate Traction | High Traction









Risk Class Definitions

1	Walkway normal dry & free of contaminants
2	Walkway occasionally wet & contaminated
3	Floors intended for use in wet areas

Scope: Technician conducted surface friction measurements for static coeficient of friction per ANSI / NFSI Standard B101.1-2009
Recommendations: Clean as needed
Notes: Surface abrasions non-uniform

Checklist and Procedures:	YES	NO	Notes
Did you follow the slipmeter user instructions?	x		
Did you calibrate the machine?	x		
Did you use new test feet?		x	
Did you sand the test feet per instructions?	x		
Did you Perform Wet Testing?	x		
Was the Test Feet Soaked prior to test?	x		Minimum five minutes
Did you use distilled or deoinized water?	x		Distilled water used
Did you inspect the test feet after each test?	x		
Did you test to an ANSI Standard?	x		ANSI / NFSI B101.1
Did you use a brush to move the test water?		x	Spray bottle used
Did you perform at least 2 tests per area?	x		

Test performed by Slip Solutions of Houston, LLC

SIGN AND DATE:

Slip Solutions of Houston, LLC	Tim Hill	3/4/2022
Provider	**Name**	**Date**