



2025-0728

2040 Industrial Pkwy
Elkhart, IN, 46516
US

Reference: File: SA12561 Project : 4791643043

Subject: ASTM F462 evaluation of shower base

Dear Ed,

Per your request, project 4791643043 was opened, in accordance with your requested test protocol for the evaluation of Shower Pans. A copy of the test data has been included at the end of this report.

UL LLC did not select the samples, determine whether the samples were representative of production samples, witness the production of the test samples, nor were we provided with information relative to the formulation or identification of component materials used in the test samples. The test results apply only to the actual samples tested.

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This letter will serve to report that all tests on the subject product have been completed.

Thank you for the opportunity to provide your company with these services. Please do not hesitate to contact us if you should have any questions or comments.

Very truly yours,
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PRODUCT TESTED:

The product(s) tested for this investigation were 6237TD.

GENERAL:

This report covers the ASTM F462 evaluation of a shower base.

SAMPLES:

The samples described below were evaluated in accordance with the requirements of ASTM F462 SLIP RESISTANCE. The sample(s) evaluated included 6237TD. Models of 3636LST, 4836LST, 4836LST-L, 4836LST-R, 6237TD, 6032LST-L, 6032LST-R, 6030LST-L, 6030LST-R, 3636ECS, 3838ECR, 6036ECS, 6237ECS, 6237ECR, 4242CLW, 4248CLW, 4254CLW, 4260CLW, and 4272CLW were covered by the evaluation of 6237TD.

Results from the tests conducted were normalized as indicated below and reported in the "RESULTS" section of this Report. Test results relate only to the items tested.

SLIP RESISTANCE

8

METHOD

The method is designed to determine the slip resistance of a bathing surface by measuring its static coefficient of friction with an NIST-Brungraber Tester (FIG. 1 in Standard).

PREPARATION FOR TESTING:

Prepare samples in accordance with sections 7.2, 7.3, and 8.2 of the Standard.

SOAP SOLUTION:

Per 8.3 of Standard.

Use the soap solution at normal room temperature, 70 +/- 5°F (21.1 +/- 2.8°C).

REFERENCE SURFACE:

Per 8.4 of Standard.

TEST SENSOR:

Per 8.5 of Standard.

READINGS:

Per 8.6 and 9.1 of Standard.

The measurement of slip resistance is read opposite a notch in the indicator tube at the front of the recorder clamp from a linear-graduated scale imprinted along the length of the recorder shaft. This value can be directly translated to the static coefficient of friction by use of the calibration chart or table supplied with the tester. Attach a copy of the chart or table to this datasheet.

Note: (For information only) The chart or table is specific to the equipment and should be supplied by the manufacturer. The following equation is used to generate the chart:

$$\mu_s = \frac{C_f * (x - x_o)}{(l^2 - (x - x_o)^2)^{1/2}} - (1 - C_f) * \tan(\beta)$$

Where:

μ_s = static coefficient of friction	x_o = initial position
C_f = correction factor	l = length of articulated shaft
x = final position	β = angle of inclination of the surface

SLIP RESISTANCE (CONT'D):

8

RESULTS

Ambient Room Temperature	Soap Temperature
21.7° C	21.7° C

Reference Surface:

	Instrument Reading	Coefficient of Friction*
1	44.5	4.45
2	23.5	2.35
3	25.5	2.55
4	23.5	2.35
5	30.5	3.05
6	18.5	1.85

Sample Surface:

Zone	Angle of Inclination	Instrument Readings		Coefficient of Friction*		
		#1	#2	#1	#2	Average
1	1	44.5	48.0	4.45	4.80	4.63
2	1	31.0	32.5	3.10	3.25	3.18
3	1	23.5	28.0	2.35	2.80	2.58
4	1	25.5	32.0	2.55	3.20	2.88
5	1	26.0	33.0	2.60	3.30	2.95
6	1	23.5	31.0	2.35	3.10	2.73
7	1	30.5	42.0	3.05	4.20	3.63
8	1	25.0	36.0	2.50	3.60	2.60
9	1	18.5	26.0	1.85	2.60	2.23

* Coefficient of Friction determined for each instrument reading using the chart/table supplied with the tester.

Minimum Average Coefficient of Friction = 0.18

Compliance Criteria:

1. The lowest average static coefficient of friction in any of the nine measurement zones (average of the two readings) shall be the basis for determining compliance with this specification. The required level of performance for compliance with this specification shall be a static coefficient of friction no less than 0.04.

ASTM F462 Standard Consumer Safety Specification for Slip-Resistant Bathing Facilities¹

Area	1	2	3	4	5	6	7	8	9
Length, in	4	4	4	4	4	4	4	4	4
Trans, in	6.5	6.5	6.5	7.25	6.125	7.25	6.5	6.5	6.8
Paral, in	6.6	6.375	6.6	7.3	6.2	7.2	6.6	6.45	6.85
Trans,deg	58.4	58.4	58.4	61.1	56.9	61.1	58.4	58.4	59.5
paral,deg	58.8	57.9	58.8	61.3	57.2	60.9	58.8	58.2	59.7
Reading 1	4.45	3.10	2.35	2.55	2.60	2.35	3.05	2.50	1.85
Reading 2	4.80	3.25	2.80	3.20	3.30	3.10	4.20	3.60	2.60
Average	4.63	3.18	2.58	2.88	2.95	2.73	3.63	3.05	2.23
Coef/Fric	0.45	0.28	0.22	0.25	0.26	0.23	0.33	0.27	0.18

Lowest Coef/Fric 0.18

Note:

If the data sheet comes back as a whole m=number like 30 in the reading,
then

convert to 3.0 and so on.

On the report you will show the lowest reading(s). If you have two numbers that
match

then both need to be added to the report.