ISTS

Reduce Your Risk!®

Independent Slip Testing Services

INSTRUMENT CALIBRATION

TEST REPORT

SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

AS/NZ: 4586.2004
Appendix A - Wet Pendulum Testing
Appendix B - Dry Friction Testing

Prepared For:

Forte

Product Description:

Loft Collection, Timber Board, Brown, 16x20cm

Issue Date: 14-06-2023

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TEST REPORT- Wet Pendulum Slip Resistance Classification (New Zealand Standard)

Report Prepared for: Forte
3 Keith Place
Pukekohe 2120

Contract #: 8006

Test Date: 14/06/2023
Test Site: Independent Slip Testing Services- Slip Resistance Testing Facility (Lota HQ QLD Australia)
Testing Technician: N.Holzberger
Testing Instrument: Pendulum Skid Tester with Slider 96 (4S) rubber slider
Testing Instrument W1- Serial #: SK1105

TESTING SPECIMEN DESCRIPTION, SIZE, COLOUR, TYPE, & COATING (if applicable)
1. 1x Loft Collection, Timber Board, Brown, Sample Size 16x20cm
2. 1x Loft Collection, Timber Board, Brown, Sample Size 16x20cm
3. 1x Loft Collection, Timber Board, Brown, Sample Size 16x20cm
4. 1x Loft Collection, Timber Board, Brown, Sample Size 16x20cm
5. 1x Loft Collection, Timber Board, Brown, Sample Size 16x20cm

Surface Condition:	Smooth	**Cleaning:**	Tested as received
Fixed/ Unfixed:	Unfixed	**Rz Mean:**	n/a
Environmental Conditions:	Air conditioning	**Air Temp:**	23 Deg.C
Direction of Test:	As indicated on underside of sample	**Slope:**	n/a

INTERPRETATION OF THE WET PENDULUM RESULTS

Classification	Pendulum mean BPN Slider 96 (4S) rubber	Notional contribution of the floor surface to the risk of slipping when wet
V	>54	*Very Low*
W	45-54	*Low*
X	35-44	*Moderate*
Y	25-34	*High*
Z	<25	*Very High*

TEST RESULTS

Specimen	#1 Result:	44 bpn	Slider condition (P400):	83 BPN
	#2 Result:	42 bpn	Temperature adjustment:	n/a
	#3 Result:	41 bpn		
	#4 Result:	41 bpn		
	#5 Result:	40 bpn		

CLASSIFICATION

CLASSIFICATION	PENDULUM MEAN BPN Slider 96 (4S) rubber	NOTIONAL CONTRIBUTION OF THE FLOOR SURFACE TO THE RISK OF SLIPPING WHEN WET
X	**42 BPN**	**Moderate**

The mean results of the five specimens is reported (rounded to nearest whole number)

^ When an individual result both below the result classification and below the mean result minus 20% shall be considered of lower classification

Maximum Slope Design Value (Internal):	3.5 deg
Maximum Slope Design Value (External):	N/A

Accredited for compliance with ISO/IEC 17025 testing and calibration. NATA is a signatory to the APLAC mutual recognition arrangement for the mutual recognition of the equivalence of testing, calibration and inspection reports.

Signatory: Mick Walton

Accreditation No. 14967

Testing was carried out using the Wet Pendulum Test Method
in accordance with New Zealand Standard AS/NZS.4586:2004

INTERPRETING WET TEST RESULTS

How to interpret your wet test report…

Wet test results offer five possible outcomes- classification **'V', 'W', 'X', 'Y'** or **'Z'.**

The classification **'Z'** reflects a lesser slip resistant surface, while **'V'** classification reflects the greatest slip resistance classification.

Step 1. If the test result classification reported meets (or exceeds) the related classification from **'TABLE 1'** below, the test surface is meeting the relevant requirement.

*TABLE 1

Pedestrian flooring selection guide- Minimum pendulum recommendations for specific locations (HB197:1999)

Location	Pendulum
1. External colonnade, walkways & pedestrian crossings	W
2. External ramps	V
3. Entry foyers hotel, office & public buildings -wet areas	X
4. Entry foyers hotel, office & public buildings -dry areas	Z
5. Shopping centre (excluding food court)	Z
6. Shopping centre food court	X
7. Internal ramps, slopes (greater than 2 degrees) -dry areas	X
8. Lift lobbies above external entry level	Z
9. Other separate shops inside shopping centres	Z
10. Other shops with external entrances- entry area	X
11. Fast food outlets, buffet food servery areas	X
12. Hospitals and aged care facilities- dry areas	Z
13. Hospitals and aged care facilities- ensuites	X
14. Supermarket aisles except fresh food areas	Z
15. Shop and supermarket fresh fruit & vegetable areas	X
16. Communal changing rooms	X
17. Swimming pool surrounds and communal shower rooms	W
18. Swimming pool ramps and stairs leading to water	V
19. Toilet facilities in offices, hotels, shopping centres	X
20. Undercover concourse areas of sports stadium	X
21. Accessible internal stair nosings (dry areas)- handrails present	X
22. Accessible internal stair nosings (wet areas)- handrails present	W
23. External stair nosings	W

*TABLE 2

Classification of Pedestrian Surface Materials (AS/NZS.4586:2004)

Interpretation of the Wet Pendulum Results (AS/NZS.4663:2004)

Pendulum* mean BPN		Classification	Notional contribution of the floor surface to the risk of slipping when water wet
Four S rubber	TRL rubber		
>54	>44	V	(Very Low)
45-54	40-44	W	(Low)
35-44	-	X	(Moderate)
25-34	-	Y	(High)
<25	-	Z	(Very High)

TREATMENT OPTIONS

For surfaces that achieve a BPN result below the recommendations the following are options are available to increase slip resistance and Reduce Your Risk!

While ISTS is solely an audit service, following is a short list of common types of treatments we see our clients using to improve the slip resistance of various pedestrian surface materials…

Cleaning procedures	Detergent residues can build up over time with heavy detergent use.
Acid etching	For tiled surfaces. Can vary in performance with different tile types.
Wet sand/ Soda blasting	To obtain a textured finish to tiles and other hard surfaces (may require sealing).
Shot blasting	More extreme treatment to wet sand blasting (may require sealing).
Textured coatings	Ensure a consistent texture is achieved.
Surface replacement	Replacement surface may be the most cost effective option in some locations

An internet search for 'flooring treatments' will identify surface treatment professionals in your local area. ISTS recommends sourcing a number of detailed proposals when considering treatments, outlining expected slip resistance improvements, visual changes, clean ability and life expectancy.

ADDITIONAL NOTES & REFERENCES

R' Ratings The Ramp 'R' ratings are obtained using the ramp test. An 'R' rating can not be achieved for in-situ testing. There is no correlation between 'R' ratings and wet pendulum test results.

References *Table 1- HB197:1999 "An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials" CSIRO 1999 and Standards Australia 1999

*Table 2- AS/NZS.4586:2004 Slip resistance classification of new pedestrian surfaces & AS/NZS.4663:2004 Slip resistance measurement of existing pedestrian surfaces

**The information provided is intended as a guide only, consult the referenced publications for further information in regards to measurement results and recommendations*

TEST REPORT- Dry Floor Friction Slip Resistance Classification (New Zealand Standard)

Report Prepared for: Forte
3 Keith Place
Pukekohe 2120

Program #: 8006

Test Date: 14/06/2023
Test Site: Independent Slip Testing Services- Slip Resistance Testing Facility (Lota HQ QLD Australia)
Testing Technician: N.Holzberger
Testing Instrument: Tortus Dry Floor Friction Tester with Slider 96 (4S) rubber
Testing Instrument D12- Serial #: 411

TESTING SPECIMEN DESCRIPTION, SIZE, COLOUR, TYPE, & COATING (if applicable)			
1. 1x Loft Collection, Timber Board, Brown, Sample Size 16x20cm			
Surface Condition:	Smooth	**Cleaning:**	With a dry lint free cloth
Fixed/ Unfixed:	Unfixed	**Rz Mean:**	n/a
Environmental Conditions:	Air conditioning	**Air Temp:**	23 deg.C
Direction of Test:	As indicated on underside of sample	**Slope:**	n/a

AS/NZS.4586:2004

INTERPRETATION OF THE DRY FLOOR FRICTION RESULTS		
CLASSIFICATION	FLOOR FRICTION TESTER MEAN VALUE	NOTIONAL CONTRIBUTION OF THE FLOOR SURFACE TO THE RISK OF SLIPPING WHEN DRY
F	≥40	*Moderate to Very Low*
G	< 40	*High to Very High*

TEST RESULTS

Specimen	Test Run #1 result:	0.47
	Test Run #2 result:	0.46

CLASSIFICATION

CLASSIFICATION	# Mean COF Rounded to 0.05	NOTIONAL CONTRIBUTION OF THE FLOOR SURFACE TO THE RISK OF SLIPPING WHEN DRY
F	**0.45**	**Moderate to Very Low**

Results Comments:
1. * Indicates an individual test run registered below 0.40
2. ** Indicates a test sector of an individual test run is < 0.35; resulting in a compulsory "G" classification
3. # The mean result of Test 1 & 2 is rounded to nearest 0.05
nb. Test specimens are disposed after 1 month if not collected by client

Signatory: Mick Walton

Testing was carried out using the Dry Friction Test Method
in accordance with New Zealand Standard AS/NZS.4586:2004

INTERPRETING DRY TEST RESULTS

How to interpret your dry test report…

Dry test results offer two possible outcomes- classification **'F'** or classification **'G'**.

The classification **'G'** reflects a less slip resistant surface, while the recommended **'F'** classification reflects a greater slip resistant surface.

Step 1. Note the test location described in the left side column of your report, and the corresponding test result classification achieved (listed in the far right side column).

Step 2. If the test result classification listed is **'F'**, the test surface is meeting the relevant recommendations.

FREQUENTLY ASKED QUESTIONS

1. **The mean test average is ≥0.40, however the result is 'G' classification ?**
   - A. *The mean of the test results should be equal to or greater than 0.40 and each individual result should be equal to or greater than 0.35. If either of this criteria is not met, the lot shall be considered to be 'G' classification'.*
2. **What does * and ** indicate?**
   - A. ** Indicates part of a test run registered under 0.40.*
     *** Indicates part of a test run registered less than 0.35 resulting in a compulsory 'G' classification'.*
3. **Why are test results rounded to the nearest 0.05?**
   - A. *As described in the relevant standards, the mean result of Test 1 & Test 2 is rounded to nearest 0.05.*
4. **What is the classification requirement for particular locations as stated in publication SS 485:2011 Annex B?**
   - A. *The New Zealand testing standard indicates floors should have a dry floor friction classification of F unless normal usage dictates that the floor should have a low dry coefficient of friction, eg. dance floors.*
5. **How about dry testing for external areas?**
   - A. *Dry slip resistance measurement does not apply to external surfaces. If a pedestrian surface is likely to become wet and remain wet for any significant period of time, wet pendulum testing is the appropriate test method.*
6. **How do I improve the slip resistance of a surface currently achieving 'G' classification?**
   - A. *Many treatments and procedures are available to improve slip resistance. Treatment options will vary depending on the type of surface and whether a sealed or unsealed finish is required. Described on the right are a list of options to improve slip resistance and Reduce Your Risk!*

***TABLE 3**

Classification of pedestrian surface materials according to the dry floor friction test.

Classification *(Notional contribution to risk)* (AS/NZS.4663:2004)	Test Result Mean Value (COF)
F (Moderate to Very Low)	≥ 0.40
G (High to Very High)	< 0.40

TREATMENT OPTIONS

For test results that achieve a result below recommendations, the following treatment options are available to increase slip resistance and Reduce Your Risk!

While ISTS is solely an audit service, following is a short list of common types of treatments we see our clients using to improve the slip resistance of various pedestrian surface materials…

Cleaning procedures	Minimising detergent residue build up or other contaminants.
Acid etching	Increasing surface texture.
Coatings and sealers	Surface coatings and penetrative types.
Surface texture	Coatings, etchants, sandblasting, shot blasting, etc.
Surface replacement	May be the most cost effective option in some instances.

An internet search for 'flooring treatments' will identify surface treatment professionals in your local area. ISTS recommends sourcing a number of detailed proposals when considering treatments, outlining expected slip resistance improvements, visual changes, clean ability and life expectancy.

ADDITIONAL NOTES & REFERENCES

References

*TABLE 1- HB197:1999 "An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials" CSIRO 1999 and Standards Australia 1999

nb. The information provided is intended as a guide only, consult the referenced publications for further information in regards to measurement results and recommendations.

TEST PRODUCT IMAGE

Product Description: Loft Collection, Timber Board, Brown, 16x20cm

Test Date: 14-06-2023

Accreditation No. 14967

END OF TEST REPORT

Have a successful day!

…Considering pedestrian surface enhancements, or developing your property?

Reduce Your Risk!®
Independent Slip Testing Services
GLOBAL PRODUCT CLASSIFICATION
地板产品的抗滑性测量

If you are selecting, purchasing or installing pedestrian surface materials, an independent, accredited classification is a useful tool providing confidence to all stakeholders the product will perform as specified.

Independent Slip Testing Services is the global leader in accredited slip resistance measurement and classification of pedestrian surface materials prior to installation.

see the ISTS 'GPC Results Interpretation Booklet' for guidance on pedestrian surface product selection.

TILES PAVERS STONE TIMBER VINYL RUBBER METAL TAPES COATINGS GRATINGS CONCRETE CARPETS STEP-NOSINGS TACTILES MOSAICS GLASS

Contact us any time if you have questions.
Have a successful day!

Recommended Slip Classifications
National & Global Guides
Slope Conversions

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