



Infrastructure Technology

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Registered Testing Authority - CSIRO

12 February 2013

Our Ref. EN13 / 734 03/0212

TEST REPORT No. 6520s

Requested by: Forbo Floorcoverings P/L
23 Ormsby Place
Wetherill Park
NSW 2164

on (date): 30 November 2012

Manufacturer:
Product Desc.: Colorex Plus Vinyl Tile, 608x608mm

Sampling details:
Where: Delivered
Date: 30 November 2012
By whom: Courier
How (methods): N/A

The results reported relate only to the sample(s) tested and the information received. No responsibility is taken for the accuracy of the sampling unless it is done under our own supervision. CSIRO cannot accept responsibility for deviations in the manufactured quality and performance of the product. While CSIRO takes care in preparing the reports it provides to clients, it does not warrant that the information in this particular report will be free of errors or omissions or that it will be suitable for the client's purposes. CSIRO will not be responsible for the results of any actions taken by the client or any other person on the basis of the information contained in the report or any opinions expressed in it. The reproduction of this test report is only authorised in the form of a complete photographic facsimile. Our written approval is necessary for any partial reproduction.

This test report consists of 8 pages



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SUMMARY OF SLIP RESISTANCE TESTS PERFORMED:

		Result	Class
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials Appendix A: WET Pendulum (Four S). Mean BPN:	41	X [MEDIUM*]
	Appendix B: DRY (FFT). Mean COF:	0.70	F
	Appendix A,B: Dual classification:		X [MEDIUM*]F
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials Appendix C: WET/BAREFOOT Ramp		
	Mean angle of inclination:	30°	C
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials, Appendix D: OIL-WET Ramp		
	Mean overall acceptance angle:	18.3°	R 10 [HIGH*]
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials Appendix E: Displacement Volume, space assessment group:		V 6

* = CSIRO classification

In order to interpret the classifications, please refer to Standards Australia Handbook 197, An Introductory Guide to the Slip Resistance of Pedestrian Surface Materials, which recommends minimum classifications for a wide variety of locations.

It is important to realise that test results obtained on unused factory-fresh samples may not be directly applicable in service, where proprietary surface coatings, contamination, wear and subsequent cleaning all influence the behaviour of the pedestrian surface.



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SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

WET PENDULUM TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH
AS/NZS 4586:2004 (Appendix A)

Test Date: 30 November 2012

RESULTS: Location: Slip Resistance Laboratory Rubber slider used: Four S
Sample: Unfixed Conditioned with grade P400 paper, dry
Cleaning: Deionized water
Temperature: 23°C

Pendulum Friction Tester: Munro-Stanley (S/N: 0312, calibrated 20/04/2012)
Test conducted by: Andy Giang

	Specimen				
	1	2	3	4	5
Last 3 swings	42	41	41	41	39
	41	41	41	41	39
	41	40	41	41	38
Averages	41	41	41	41	39

Mean BPN : 41

CLASS :

X [MEDIUM*]

* = CSIRO classification



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SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

DRY FLOOR FRICTION TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH
AS/NZS 4586:2004 (Appendix B)

Test Date: 4 December 2012

RESULTS Location: Slip Resistance Laboratory
Sample Sample Unfixed
Cleaning: Deionized water
Temperature: 23°C
FFT measurements taken over 2 passes of 800mm each
Rubber Type: Four S
Conditioned with grade P400 paper, dry

Floor Friction Tester: Tortus Mk II (S/N: 224)
Test conducted by: Andy Giang

Run 1: Average COF: 0.72
Run 2: Average COF: 0.70
Mean COF: 0.71

According to AS/NZS 4586 the Dry Coefficient of Friction shall be reported as :
(mean rounded to the nearest 0.05)

0.70

CLASS :

F



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SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

WET/BAREFOOT RAMP TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH
AS/NZS 4586:2004 (Appendix C)

Test Date: 12 February 2013

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure: Smooth
 Profiled
 Structured

RESULTS

	Actual mean	Reported mean
Mean angle of inclination:		
Calibration Board A:	12.80 °	13 °
Calibration Board B:	20.00 °	20 °
Calibration Board C:	27.13 °	27 °
Mean angle of inclination of Test Board:	30.05 °	30 °

CLASSIFICATION:

Quality Group:

C



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SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

OIL-WET RAMP TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH
AS/NZS 4586:2004 (Appendix D)

Test Date: 14 December 2012

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure: Smooth
 Profiled
 Structured

RESULTS

Mean overall acceptance angle: 18.3 °

Displacement space: 6 cm³/dm²

CLASSIFICATION:

Slip Resistance Assessment Group:

R 10 [HIGH*]

Displacement Space Assessment Group:

V 6

* = CSIRO classification



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SLIP RESISTANCE CLASSIFICATION OF NEW PEDESTRIAN SURFACE MATERIALS

DISPLACEMENT VOLUME TEST METHOD

TEST CARRIED OUT IN ACCORDANCE WITH
AS/NZS 4586:2004 (Appendix E)

Test Date: 13 December 2012

Location: Slip Resistance Laboratory

Surface structure: Smooth
 Profiled
 Structured

RESULTS

Displacement Space: 6 cm³/dm²

Displacement Space Assessment Group: V 6



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Date and Place 12 February 2013, Highett, Vic

Name, Title and Digital Signature:



ANDY GIANG
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***CSIRO recommended classification of Slip Resistance as determined from:
AS/NZS 4586: 2004 Slip Resistance Classification of New Pedestrian Surface Materials (Appendices A & D).**

Wet Pendulum Class	BPN 4S Rubber	CSIRO Class LOW	CSIRO Class MEDIUM	CSIRO Class HIGH
V	>54	54-57	58-61	>61
W	45-54	45-48	49-51	52-54
X	35-44	35-38	39-41	42-44
Y	25-34	25-28	29-31	32-34
Z	<25	<18	18-21	22-25
Oil Wet Ramp Class	Angle (degrees)	CSIRO Class LOW	CSIRO Class MEDIUM	CSIRO Class HIGH
R9	≥6 to <10	≥6 to 7.5	7.6 to 9	9.1 to 9.9
R10	≥10 to <19	≥10 to 12	12.1 to 15	15.1 to 18.9
R11	≥19 to <27	≥19 to 21	21.1 to 24	24.1 to 26.9
R12	≥27 to <35	≥27 to 29	29.1 to 32	32.1 to 34.9
R13	≥35	≥35 to 36	36.1 to 38	≥38.1

This table should not be read or relied upon without reference to the CSIRO/Standards Australia publication:
AS/NZS 4586 Slip Resistance Classification of New Pedestrian Surface Materials (Appendices A & D).

CSIRO has categorized the AS4586 classifications into sub-groups Low, Medium & High. The slip resistance test classification is still determined according to AS 4586 Australian Standard (Appendices A & D). The added information of Low, Medium and High allows professionals to make a better judgement of pedestrian floor requirements.