



Infrastructure Technology

Materials Science & Engineering, Graham Road (PO Box 56), Highett, Victoria, Australia 3190
Telephone: 61 3 9252 6000 Facsimile: 61 3 9252 6244 Email: tiles@csiro.au Web: <http://www.cmse.csiro.au>

Registered Testing Authority - CSIRO

6 June 2011

Our Ref. EN13 / 518 03/0212

TEST REPORT No. 5760.1Bs

Requested by: Armstrong World Industries (Australia) Pty Ltd
PO Box 109
Mordialloc
VIC 3195

on (date): 6 June 2011

Manufacturer:
Product Desc.: Luxury Vinyl Tile / Plank EC-A

Sampling details:
Where: Delivered
Date: 6 June 2011
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 4 pages

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 slider):		
	Mean BPN:	23	Z [HIGH*]
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials, Appendix D: OIL-WET Ramp		
	Mean overall acceptance angle:	10.2°	R 10 [LOW*]

* = 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.



REPORT NO: 5760.1Bs
ISSUE DATE: 6 June 2011
MANUFACTURER:
PRODUCT DESC: Luxury Vinyl Tile / Plank EC-A

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: 13 April 2011

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: 9234, calibrated 23/09/09)
Test conducted by: Andy Giang

	Specimen				
	1	2	3	4	5
Last 3 swings	27	27	22	22	20
	27	27	22	21	20
	27	27	21	21	20
Averages	27	27	22	21	20
Mean BPN :					23

CLASS :

Z [HIGH*]

* = CSIRO classification



REPORT NO: 5760.1Bs
ISSUE DATE: 6 June 2011
MANUFACTURER:
PRODUCT DESC: Luxury Vinyl Tile / Plank EC-A

Page 3 of 4

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: 15 April 2011

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure: Smooth
 Profiled
 Structured

RESULTS

Mean overall acceptance angle: 10.2 °

Displacement space: not tested

CLASSIFICATION:

Slip Resistance Assessment Group:

R 10 [LOW*]

Displacement Space Assessment Group:

-

* = CSIRO classification



Infrastructure Technology

Materials Science & Engineering, Graham Road (PO Box 56), Highett, Victoria, Australia 3190
Telephone: 61 3 9252 6000 Facsimile: 61 3 9252 6244 Email: tiles@csiro.au Web: http://www.cmse.csiro.au

REPORT NO: 5760.1Bs
ISSUE DATE: 6 June 2011
MANUFACTURER:
TILE DESC: Luxury Vinyl Tile / Plank EC-A

Page 4 of 4

Date and Place 6 June 2011, Highett, Vic

Name, Title and Digital Signature:



PETER WESTGATE
Project Leader
Tel: 61 3 92526108
Fax: 61 3 92526244
Email: Peter.Westgate@csiro.au

***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.