



# Infrastructure Technology

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**Registered Testing Authority - CSIRO**

5 June 2013

Our Ref. EN13 / 2239 03/0212

## TEST REPORT No. SY6693.1s

Requested by: Opie Manufacturing Group Pty Ltd  
6 Bromley Road  
Emu Plains  
NSW 2750  
on (date): 23 May 2013  
Manufacturer: Opie Manufacturing Group Pty Ltd  
Product Desc.: TG1 - Floor Drains Showe/Balcony Courtyard Dranlage

Sampling details:  
Where: Delivered  
Date: 23 May 2013  
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 C: WET/BAREFOOT Ramp		
	Mean angle of inclination:	36°	C
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials, Appendix D: OIL-WET Ramp		
	Mean overall acceptance angle:	19.0°	R 11 [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.



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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: 3 June 2013

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure:  Smooth  
 Profiled  
 Structured

**RESULTS**

	Actual mean	Reported mean
<b>Mean angle of inclination:</b>	<b>Calibration Board A:</b> 11.81 °	12 °
	<b>Calibration Board B:</b> 18.96 °	19 °
	<b>Calibration Board C:</b> 24.63 °	25 °
<b>Mean angle of inclination of Test Board:</b>	36.28 °	36 °

**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: 5 June 2013

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: mm

Surface structure:  Smooth  
 Profiled  
 Structured

**RESULTS**

**Mean overall acceptance angle:** 19.0 °

**Displacement space:** not tested

**CLASSIFICATION:**

**Slip Resistance Assessment Group:**

**R 11 [LOW\*]**

**Displacement Space Assessment Group:**

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\* = CSIRO classification



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Date and Place 5 June 2013, North Ryde, NSW

Name, Title and Digital Signature:



**BABAK NAVAK**  
**Materials Scientist**  
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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.