

GROUPDLA

Apologies for getting this to you so late.
this was mailed to Warrington Caneil by
Mistake.

www.groupdla.com.au

ADDRESS

~~Level 8, 17 York St, Sydney, NSW, 2000~~

POSTAL

~~PO Box Q410, QVB PO, Sydney NSW 1230~~

PHONE

~~1200 014 612~~

FAX

~~+61 2 8934 0001~~

ABN

~~99 159 812 843~~

Davis Langdon

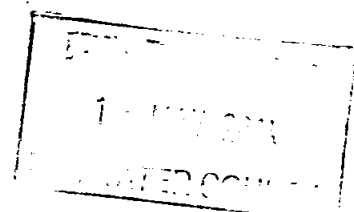
An AECOM Company

Davis Langdon
Level 21, 420 George Street
SYDNEY NSW 2000
PO Q410
QVB Post Office NSW 1230
www.davislangdon.com

+61 2 8934 2222 tel
+61 2 8934 0001 fax
ABN: 40 008 657 289

12 May 2014

The General Manager
Pittwater Council
PO Box 882
MONA VALE NSW 2103



Attention: Records Department

Proposed Sushi Bar - Woolworths Mona Vale Final Occupation Certificate No. 251937

Please find attached a copy of the Final Occupation Certificate signifying compliance with the Complying Development Certificate approval together with copies of the information relied upon, for your records.

Please also find enclosed cheque payable to Council for the appropriate certificate registration fee. Please send a receipt to the undersigned at our office at your earliest convenience.

Please contact this office should you have any queries regarding this matter.

Yours sincerely

Brian Banning
On behalf of Davis Langdon

B36 REC: 355970 13/5/14

Final Occupation Certificate

Issued under the Environmental Planning & Assessment Act 1979,
Sections 109C(1)(c), 109H and 109I and
Environmental Planning & Assessment Regulation 2000 – Part 8, Division 3

CDC No. 251937 Certificate No. 251937

1. Details of the applicant

Name Woolworths Limited
Address PO Box 8000 Baulkham Hills NSW 2153
Contact Tel: 02 8885 0000 Fax: 02 8888 2455 Email: _____

2. Details of the building

Address Woolworths Mona Vale Supermarket, 25-29 Park Street, Mona Vale NSW 2103
Description of the building
(whole or part) Installation of Sushi Bar within existing Woolworths Supermarket
Lot No. / Section --
DP / MPS No. -- Volume / Folio: --
BCA Classification 6 - Supermarket

3. Decision of the certifying authority

Decision Approved
Date of this decision 1 May 2014

4. Information attached to this decision

- ☒ A schedule of fire safety measures
- ☒ The final fire safety certificate
- ☒ Schedule "A" – Information relied upon in certificate determination
- ☒ Critical Stage Mandatory Inspection Summary Report

5. Final Occupation Certificate

Charles Slack-Smith certifies that :

- ☐ the health and safety of the occupants of the building have been taken into consideration (Interim Certificate only)
- ☐ a current development consent has been granted for the development
- ☒ a current complying development certificate has been issued for the development
- ☐ a current construction certificate has been issued with respect to the plans and specifications for the building
- ☒ the building is suitable for occupation or use in accordance with its classification under the Building Code of Australia as a **Class 6** building
- ☒ a final fire safety certificate has been issued for the relevant part of the building
- ☐ a final fire safety certificate has been issued for the building
- ☐ a final report from the Commissioner of Fire Brigades has been considered

Certificate No.: 251937 Date of this certificate: 1 May 2014

6. Certifying Authority

Name of Certifying Authority Charles Slack-Smith
Signature 
Address Davis Langdon Australia Pty Ltd ABN 40 008 657 289
Level 21, 420 George Street, Sydney, NSW 2000
Contact Tel: (02) 8934 2222 Fax: (02) 8934 0001
Accreditation Body Building Professionals Board
Accreditation No BPB0378

(continued)
Final Occupation Certificate

CDC No. 251937 Certificate No. 251937

7. Schedule A – Information Relied Upon in Certificate Determination

- Davis Langdon Application for Final Occupation Certificate by Chris Moyle of Woolworths Limited dated 29 January 2014
- Final Fire Safety Certificate for fire sprinkler installation issued by Chris Moyle of Woolworths Limited dated 29 January 2014
- Installation Certificate for Sprinklers issued by Graham Knights of Fire Protection Systems dated 30 January 2014
- Installation Certificate for Fire Seals issued by Tim Bayliss of Wildman Plumbing Pty Ltd dated 29 January 2014
- Installation Certificate for Portable Fire Extinguishers issued by Tanmay Siddharth of Inten Constructions dated 29 January 2014
- Installation Certificate for Plumbing issued by Tim Bayliss of Wildman Plumbing Pty Ltd dated 29 January 2014
- Certificate of Compliance for Hychem Resin Flooring Works issued by Andrew Pulsford of Ironbark Flooring & Maintenance Services Pty Ltd dated 21 May 2012
- Certificate of Compliance for Installation of Electrical Services issued by D Postill & C Papangelis of PSGKRS Electrical Communications dated 24 May 2012
- Reaction to Fire Test Report No. 7-573598-CV issued by AWTA Product Testing dated 6 July 2010
- Summary of Slip Resistance Report No. 5372.5s issued by CSIRO dated 3 June 2010
-
-

(continued)
Final Occupation Certificate

CDC No. 251937 Certificate No. 251937

8. Fire Safety Certificate and Fire Safety Schedule

To ensure compliance with the requirements of the Environmental Planning & Assessments Act Regulation, the owner of the buildings shall submit to Council/Certifier a certificate of compliance in respect to each essential service required to be installed within the building.

- a) That the service(s) have been inspected and tested by a person competent to carry out such an inspection test; and
- b) That the service was or was not (as at the date on which it was inspected and tested) found to have been designed, installed and to be capable of operating to the standard as specified.

Such a certificate is required to be submitted on completion and prior to occupation of the building.

Essential services are required to be installed and maintained to approved operating standards as set out in the schedule attached hereto.

The owner of the building is required to submit to Council at least once in each twelve (12) month period after a certificate has been issued, a further certificate with respect to each essential service installed in the building.

Fire Safety Measure	Standard of Performance	Existing Fire Safety Measures	Alternative Fire Safety Measures
Automatic fire suppression systems – sprinkler*	AS 2118.1 – 1978	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Emergency lighting	Ord 70 Part 55.12 & AS 2293.1 – 1995	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Exit signs*	Ord 70 Part 24.29 & AS 2293.1 – 1995	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire doors	Ord 70 Part 22.6 & AS 1905.1 – 1980	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire hydrant systems	Ord 70 Part 27.4 & AS 2419.1 – 1980	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire seals	Ord 70 Part 22.13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Hose reel systems	Ord 70 Part 27.3 & AS 2441 – 1988	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Path of travel, stairways, passageways & ramps	EPA Regs 2000 Part 9 Division 7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Portable fire extinguishers	AS 2444 – 1995	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**APPLICATION FOR
OCCUPATION CERTIFICATE**

Under Sections 109C (1)(b), 81A (4) of the Environmental Planning and Assessment Act 1979

Application submitted to
Davis Langdon
Level 21, 420 George Street
Sydney NSW 2000
Tel: (02) 8934 2222 Fax (02) 8934 0001

Date Stamp Received:

RECEIVED

29 JAN 2014

Office Use Only

The Application form as required by Clause 109C or 81A of the EP & A Act is submitted to the following PCA:

- ☐ Charles Slack-Smith BPB 0378
☒ Brett Clabum BPB0064
☐ Robert Briant BPB0048
☐ Shane Berry BPB0721
☐ Bruno Scenna BPB 0363
☐ Justin Jones-Gardiner BPB 0204
☐ Paul Schenko BPB 0365

Office Use Only

IOC/OC No. 251937

Applicant Details

Names / Company: Woolworths Limited

**ABN No. (Mandatory) 88000014675

Address: PO Box 8000

Baulkham Hills Post Code: 2153

Contact Numbers: Phone: 8885-2455 Mobile: 0404 829 046

Facsimile: 8888-2455 Email: cmoyle@woolworths.com.au

By Completing this section I hereby confirm that I am not the Principal Contractor or Builder, See Note 1

Name of Applicant (in full) CHRIS MOYLE

Signature of Applicant: Chris Moyle Date: 29 JAN 2014
(Capacity)

We hereby wish to apply for: ☐ Interim Occupation Certificate** ☒ Final Occupation Certificate
in respect of this proposal.

Proposal Details

Address: 25-29 Park Street

Mona Vale Post Code 2103

Lot No, DP, SP, etc Lot No. _____ DP _____

Classification of the building: Class 1a / 1b / 2 / 3 / 5 (6) / 7a / 7b / 8 / 9a / 9b / 9c / 10a / 10b / 10c

- ☐ Part of building covered under this proposal.
☐ Other parts of the building covered under this proposal.

**If this application is for an Interim Occupation Certificate, please complete the following to identify the part subject to the interim OC:

Date on which the remainder of the works will be completed:

- Notes:**
- 1 In accordance with Clause 139(1A) and Clause 149(2B) of the EP&A Regs 2000, the applicant cannot be the Principal Contractor or Builder. The applicant is to be the person having the benefit of the Development Consent, for example, the owner, tenant, architect, design or project manager (who is not the builder or Principal Contractor).
 - 2 A Final Occupation Certificate is to be obtained before all of the building / project is occupied.
 - 3 This Application must be accompanied by:
 - o a copy of the relevant Development Consent; OR Complying Development Certificate;
 - o a copy of the relevant Construction Certificate;
 - o a copy of any relevant Fire Safety Certificate;
 - o a copy of any Compliance Certificate(s) which have been issued.
 - 4 This Application must be delivered by mail, by hand or emailed to our office. Regrettably, we are prevented from receiving these applications by facsimile.

See over

Final / Interim Fire Safety Certificate

Environmental Planning & Assessment Regulation 2000 – Part 8, Division 3

Certificate No. 251938

Type of Certificate

Type of Certificate issued

☐ Interim

☒ Final

Details of Certificate

Name of Owner/Agent I, Chris Moyle of Woolworths Limited

Address of PO Box 800 Baulkham Hills NSW

certify that:

(a) each of the essential fire measures listed below:

- has been assessed by a person (chosen by me) who was properly qualified to do so; and
- was found, when it was assessed to have been properly implemented and to be capable of performing to a standard not less than that required by the most recent fire safety schedule (copy attached) for the building for which the certificate is issued.

(b) the information contained in this certificate is, to the best of my knowledge and belief, true and accurate.

Identification of the Building

Street Sailors Bay Road

Side of street Northern

Nearest cross street Eastern Valley Way

House/Unit number 113

Description of the building
(whole or part) Part – Woolworths Supermarket

Date of Assessment

Date of assessment 29 January 2014

Essential Fire Safety Measures

Fire Safety Measure	Standard/Performance	Existing Fire Safety Measures	Altered Fire Safety Measures
Automatic fire detection and alarm system	AS 16760 (1995) to AS 1668.1 spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Automatic fire suppression system (excluding covered car parking area)	AS 2118.1 (1999)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Building occupant warning system	AS 1670 BCA E2.2A Cl 6	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Emergency lighting	AS/NZS 2293.1 (1998)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Exit signs	AS/NZS 2293.1 (1998)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire blankets	AS 2444 (2001) & AS 3504	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire doors	AS 1905.1 (1987)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire hose reels	AS 2441 (1998)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mechanical air handling (shutdown trip from the fire panel)	AS 1668.1 (1998)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire hydrant system	AS 2419.1 (1994)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Paths of travel/warning & operational signs	EP&A (Regulation) Part 9 Div. 7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Portable fire extinguishers	AS 2444 (2001)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

(continued)
Final / Interim Fire Safety Certificate

Date of Certificate

Date of this certificate 29 January 2014

Signature

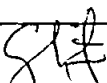
Agent / Owner's Signature

Chris Mayle

Capacity **Project Manager**

- A copy of this certificate together with the relevant fire safety schedule must be forwarded to the Council and the Commissioner of the New South Wales Fire Brigades.
- A copy of this certificate together with the relevant fire safety schedule must be prominently displayed in the building.
- A Fire Safety Certificate is a certificate issued by or on behalf of the owner of the building.

SPRINKLERS - INSTALLATION CERTIFICATE

ADDRESS:	WOOLWORTHS MONA VALE, WARATA STREET		
PROJECT:	NW MONA VALE, SUSHI BAR		
1. <u>GRAHAM KNIGHTS</u> (Name) of <u>FIRE PROTECTION SYSTEMS</u> (company)			
(Address)			
My Qualifications, accreditations, licenses are as follows:			
Qualifications and Experience:	FIRE SYSTEM DESIGNER		
Phone Numbers:	Bus:	Fax:	Mob: 0404 471 714
Hereby certify:			
That the following elements / service/s or works have been inspected during construction: <ul style="list-style-type: none"> • Sprinklers • 			
Have been installed/completed in accordance with the following measures/requirements to comply with:			
a. The relevant clauses of the Building Codes of Australia, as follows: <ul style="list-style-type: none"> • E1.5 • 			
b. The design detail submitted at the construction approval stage			
c. The relevant Australian Standards listed in the Building Code of Australia (Specification A1.3) as follows: <ul style="list-style-type: none"> • AS 2118.1 - 1995 • 			
d. The following additional Australian Standards (if applicable):			
e. Other practices, standards or reports (Fire Safety Engineers reports, Disabled Access reports or the like) relied upon or that alter the BCA or Australian standards listed for this certification:			
f. Exclusions: YES / NO			
I am a properly qualified person and have a good working knowledge of the standards referenced above. The information contained in this statement is true and accurate to the best of my knowledge.			
Signature:		Date:	
		30/1/14	

FIRE SEALS - INSTALLATION CERTIFICATE

ADDRESS:	WOODWORTH'S MONA VALLE WARATA STREET		
PROJECT:	WW MONA VALLE SUSHI BAR		
1.	I, <u>Tim Bayless</u> of <u>Wildman Plumbing Pty Ltd</u> <small>(Name)</small> <u>PO Box 559 Winston Hills NSW 2153</u> <small>(Address)</small>		
My Qualifications, accreditations, licenses are as follows:			
Qualifications and Experience:	<u>Lic: 162120C</u>		
Phone Numbers:	Bus:	<u>0412913391</u>	Fax: <u>—</u> Mob: <u>0412913391</u>
Hereby certify:			
That the following elements / service/s or works have been inspected during construction:			
<ul style="list-style-type: none">• Fire Seals			
Have been installed/completed in accordance with the following measures/requirements to comply with:			
<ul style="list-style-type: none">a. The relevant clauses of the Building Codes of Australia, as follows:<ul style="list-style-type: none">• C3.15 & Specification C3.15b. The design detail submitted at the construction approval stagec. The relevant Australian Standards listed in the Building Code of Australia (Specification A1.3) as follows:<ul style="list-style-type: none">• AS 1530.4 - 2005• AS 4072.1 - 2005d. The following additional Australian Standards (if applicable):e. Other practices, standards or reports (Fire Safety Engineers reports, Disabled Access reports or the like) relied upon or that alter the BCA or Australian standards listed for this certification:f. Exclusions: YES / NO			
I am a properly qualified person and have a good working knowledge of the standards referenced above. The information contained in this statement is true and accurate to the best of my knowledge.			
Signature:	<u>T.A. Bayless</u>		Date: <u>29 JAN 2014</u>

PORTABLE FIRE EXTINGUISHER - INSTALLATION CERTIFICATE

ADDRESS	WW MONA VALE, WARATA STREET		
PROJECT	WW MONA VALE SUSHIBAR		
I, <u>TANMAY SIDDHARTH</u> of <u>INTEN CONSTRUCTIONS</u> (Name) (company)			
(Address)			
My Qualifications, accreditations, licenses are as follows:			
Qualifications and Experience	PM INTEN CONSTRUCTIONS - 3 YRS BACHELOR OF CONSTRUCTION MGMT		
Phone Numbers	Bus:	2878 2400	Fax: Mob: 0433 881181
Hereby certify			
That the following elements / service/s or works have been inspected during construction:			
<ul style="list-style-type: none"> Portable Fire Extinguisher 			
Have been installed/completed in accordance with the following measures/requirements to comply with:			
<p>a. The relevant clauses of the Building Codes of Australia, as follows:</p> <ul style="list-style-type: none"> BCA Clause E1.6 <p>b. The design detail submitted at the construction approval stage</p> <p>c. The relevant Australian Standards listed in the Building Code of Australia (Specification A1.3) as follows:</p> <ul style="list-style-type: none"> AS2444 – 2001 <p>d. The following additional Australian Standards (if applicable):</p> <p>e. Other practices, standards or reports (Fire Safety Engineers reports, Disabled Access reports or the like) relied upon or that alter the BCA or Australian standards listed for this certification:</p> <p>f. Exclusions: YES / NO</p>			
I am a properly qualified person and have a good working knowledge of the standards referenced above. The information contained in this statement is true and accurate to the best of my knowledge.			
Signature	Date 29/1/14		

PLUMBING - INSTALLATION CERTIFICATE

ADDRESS:	WHEELWORTHS MONA VALE WARRATA STREET		
PROJECT:	WW MONA VALE CUSHI BAY		
1. <u>Tim Baylis</u> of <u>Wildman Plumbing Pty Ltd</u>			
<small>(Name)</small> <u>Po Box 559 Winston Hills NSW 2155</u> <small>(Address)</small>			
<small>(company)</small>			
My Qualifications, accreditations, licenses are as follows:			
Qualifications and Experience:	Lic: 162120C		
Phone Numbers:	Bus:	041291339	Fax: — Mob: 041291339
Hereby certify:			
That the following elements / service/s or works have been inspected during construction:			
• Plumbing Works			
Have been installed/completed in accordance with the following measures/requirements to comply with:			
a. The relevant clauses of the Building Codes of Australia, as follows:			
• BCA Part J7			
b. The design detail submitted at the construction approval stage			
c. The relevant Australian Standards listed in the Building Code of Australia (Specification A1.3) as follows:			
• AS3500 – 2003			
d. The following additional Australian Standards (if applicable):			
e. Other practices, standards or reports (Fire Safety Engineers reports, Disabled Access reports or the like) relied upon or that alter the BCA or Australian standards listed for this certification:			
f. Exclusions: YES / NO			
I am a properly qualified person and have a good working knowledge of the standards referenced above. The information contained in this statement is true and accurate to the best of my knowledge.			
Signature	T.A. Baylis		Date: 29 JAN 2014

IRONBARK

FLOORING & MAINTENANCE SERVICES PTY LTD
ABN 68 059 486 109 Contractors Licence 51452C

4 Rothwell Ave. Concord West NSW 2138
Phone: (02) 9743 2707 Fax: (02) 9743 2711
CHRIS WOOD – Mobile: 0418 111 602
STEVE TOMANOVIC – Mobile: 0419 966 288
ANDREW PULSFORD – Mobile 0418 461 451



21st May 2012

Certificate of Compliance **Woolworths Sushi – Mona Vale, Inten Constructions**

Ironbark Flooring & Maintenance Services warrants that the towelled resin epoxy application of the Hychem resin flooring works is as per the manufacturers written specifications.

The warranty includes adhesion to substraigh, chemical & impact resistance within the manufacturers published data limits.

This warranty does not cover normal changes in colour or texture over time or damage due to localised impact or abuse beyond published limits of the product.

Warranty claims made under the warranty must be notified in writing to Ironbark Flooring & Maintenance Service Pty Ltd within one month of damage otherwise warranty is void.

Repairs made under warranty will be limited to the damaged area.

Supplier - Hychem International
Slip resistance – R12
Colour – Curtain Call Grey

Yours faithfully
Ironbark Flooring & Maintenance Services Pty Ltd

Andrew Pulsford
Director



Head Office
38 Garema Circuit
Kingsgrove NSW 2208
PO Box 20
Kingsgrove NSW 1480
T / (02) 9784 3000
F / (02) 9740 8511
E / info@psgkrs.com.au
www.psgkrs.com.au

**CERTIFICATE OF COMPLIANCE
INSTALLATION OF ELECTRICAL SERVICES**

- *Australian & New Zealand Wiring Rules- AS/NZS 3000:2000*
- *AS/NZS 1680.0 MINIMUM LUMINANCE LEVELS ARTIFICIAL LIGHTING*
- *Artificial Lighting and Power as per BCA 2009 Section J*
- *External Lighting- AS/NZS 4282*

Status of Installation: **Practical Completion**
Date of Certificate: **24-05-12**
Building No. or Name: **INTEN CONSTRUCTIONS**

Street: **25-29 Park St**
District/Town/Village : **MONA VALE**
State: **NSW**
Postcode: **2103**

Nature of Electrical Service	Date of Inspection	Name & Address of person by whom service was installed, inspected/tested	Was the service found to have been installed, and to be capable of operating to the relevant standard? (yes/no)
Electrical Services	05-12-11	Daniel Postill 2/38 Garema Cct Kingsgrove 2208 NSW	Yes

I, Daniel Postill of PSG Electric Pty Ltd, certify that I am the persons who inspected and/or tested the services, the subject of this certificate, and those inspections and/or tests, and the information contained in this certificate is, to the best of my knowledge and belief, true and accurate.

Signed: **D POSTILL**
(Installer)

I, Con Papangelis of PSG Electric , certify that the persons who inspected and/or tested the services the subject of this certificate, were to the best of my knowledge and belief, competent to conduct those inspections and/or tests and that the information contained in this certificate is, to the best of my knowledge and belief, true and accurate.

Signed: **C PAPANGELIS**
(Project Manager)

AWTA PRODUCT TESTING

Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
A.B.N. 43 006 014 106
1st Floor, 191 Racecourse Road, Flemington, Victoria 3031
P.O. Box 240, North Melbourne, Victoria 3051
Phone (03) 9371 2400 Fax (03) 9371 2499

TEST REPORT

CLIENT : ARMSTRONG WORLD INDUSTRIES
(AUSTRALIA) PTY LTD
29-39 MILLS ROAD
BRAESIDE VIC 3195

TEST NUMBER : 7-573598-CV
ISSUE DATE : 06/07/2010
PRINT DATE : 23/07/2010
ORDER NUMBER : 48144
ORDER NUMBER : 48144

SAMPLE DESCRIPTION Clients Ref: "Armolon NG"
Homogeneous commercial vinyl floorcovering adhered to 6mm
thick cement sheet using Armstrong SV200 Acrylic adhesive
Colour: Light Grey
Nominal thickness: 2.0mm

Material Specification:
Nominal composition: Given to AWTA in confidence
Nominal total pile mass: 3.5kg/m2

ASISO 9239.1-2003 Reaction to Fire Tests for Floorings
Part 1 Determination of the Burning Behaviour
using a Radiant Heat Source
Date of sample arrival: 08/06/2010
Date tested: 06/07/2010
Results: CHF (Critical Heat Flux / Critical Radiant Flux)
1 2 3 Mean
Non directional > or equal > or equal > or equal > or equal
to 11 to 11 to 11 to 11 kW/m2
Non directional 8 Smoke Value 4 6 6 % min

Observations: blistering

Note: Sample was conditioned in accordance with BSEN 13238-2001 at a
temperature of 23+/-2degC and Relative Humidity of 50+/-5% for a minimum of
48 hours prior to testing

No directional properties, three specimens tested only

Each specimen was clamped as supplied by client prior to testing

The test results relate to the behaviour of the test specimens of a product
under the particular conditions of the test, they are not intended to be the
sole criterion for assessing the potential fire hazard of the product in use

182276

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(END OF REPORT)

PAGE 1

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This Laboratory is accredited by the National Association of Testing Authorities, Australia, for:
-Chemical Testing of Textiles & Related Products : Accreditation No. 883
-Mechanical Testing of Textiles & Related Products : Accreditation No. 885
-Heat & Temperature Measurement : Accreditation No. 1358

This document is issued in accordance with NATA's accreditation requirements. Samples, and their
identifying descriptions have been provided by the client unless otherwise stated. AWTA Ltd makes no
warranty, implied or otherwise, as to the source of the tested samples. The above test results relate only to the
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amended or altered. This document, the names AWTA Product Testing and AWTA Ltd may be used in
advertising providing the content and format of the advertisement have been approved in advance by the
Managing Director of AWTA Ltd.



0204/11/05

APPROVED SIGNATORY

MICHAEL A. JACKSON B Sc (Hons)
MANAGING DIRECTOR



Industrial Research Services

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

Registered Testing Authority - CSIRO

8 June 2010

Our Ref. EN13 / 518 03/0212

TEST REPORT No. 5372.5a

Requested by: Armstrong World Industries (Australia) Pty Ltd
29-39 Mills Road (PO Box 109)
Braeside (Mordialloc)
VIC 3195

on (date): 3 June 2010
Manufacturer: Armstrong World Industries
Product Desc.: Armalon NG, Vinyl Floor Sheet
1000x500mm

Sampling details:
Where: Delivered
Date: 3 June 2010
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:	26	Y [LOW*]
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials, Appendix D: OIL-WET Ramp Mean overall acceptance angle:	9.2°	R 9 [HIGH*]

* = 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



Industrial Research Services

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.cimse.csiro.au>

REPORT NO: 5372.5s
ISSUE DATE: 8 June 2010
MANUFACTURER: Armstrong World Industries
PRODUCT DESC: Armalon NG, Vinyl Floor Sheet
1000x500mm

Page 2 of 4

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: 7 June 2010

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	32	28	27	24	25
	30	26	26	23	24
	29	26	25	22	24
Averages	30	27	26	23	24

Mean BPN : 26

CLASS :

Y [LOW*]

* = CSIRO classification



Industrial Research Services

Materials Science & Engineering, Graham Road (PO Box 56), Highett, Victoria, Australia 3100
Telephone: 61 3 9252 6000 Facsimile: 61 3 9252 6244 Email: tiles@csiro.au Web: <http://www.cmse.csiro.au>

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1000x500mm

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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: 8 June 2010

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure: ☒ Smooth
☐ Profiled
☐ Structured

RESULTS

Mean overall acceptance angle: 9.2 °

Displacement space: not tested

CLASSIFICATION:

Slip Resistance Assessment Group:

R 9 [HIGH*]

Displacement Space Assessment Group:

-

* = CSIRO classification



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Date and Place 8 June 2010, Highett, Vic

Name, Title and Digital Signature:

DAVID WEEKS
Technical Officer
Tel: 61 3 92526064
Fax: 61 3 92526011
Email: David.Weeks@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

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Addendum

DETERMINATION OF Rz SURFACE ROUGHNESS

(Using a Taylor-Hobson Surtronic Duo roughness meter using a 0.8mm cut off length)

Test Date: 7 June 2010

RESULTS

Location: Slip Resistance Laboratory

Rz values

1	7.2
2	13.8
3	6.6
4	4.6
5	7.1
6	6.0
7	6.0
8	5.2
9	10.7
10	6.5

Surface Roughness (Rz) mean = 7.4 microns

BS 7976:2002, Pendulum Testers, requires a different test foot preparation (lapping paper) for pedestrian surfaces that have a Rz roughness of less than 15 microns. This lapping paper tends to reduce the pendulum result, sometimes appreciably. CSIRO recommends the use of this procedure (CSIRO COF1) as an adjunct to AS/NZS 4586. It helps to discriminate among products that have marginal wet slip resistance and to identify those that may be dangerous if wet.

The measurement of the various aspects of surface roughness is complex given the number of potential roughness parameters. While there is still some uncertainty as to exactly what type of roughness needs to be measured, peak-to-trough roughness (Rz) gives a useful guide to the likely slip resistance in wet conditions. Research has suggested that hard floors need to have a slightly higher Rz roughness than polymeric floors for the same degree of safety in wet conditions, but whatever flooring material is used an Rz roughness value of at least 10 microns is required where wet slip resistance may be required. In circumstances where wetness is normal or expected, this figure should be increased by a factor of 2 or more.

Greater peak surface roughnesses are likely to be required where floors slope or where the floor is likely to become contaminated with high viscosity liquids.