



# Industrial Research Services

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## Registered Testing Authority - CSIRO

7 May 2010

Our Ref. EN13 / 1606 03/0212

### TEST REPORT No. 5333.5s

Requested by: Avery Dennison Materials Pty Ltd  
P.O. Box 4220  
West Footscray  
VIC 3012

on (date): 29 April 2010

Manufacturer: Avery Dennison Materials Pty Ltd

Product Desc.: DOL 2100 Matte, Pressure sensitive adhesive coated Decal  
1000x500mm

Sampling details:

Where: Delivered

Date: 5 May 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 5 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). Mean BPN:	40	X [MEDIUM*]
	Appendix B: DRY (FFT). Mean COF:	0.55	F
	Appendix A,B: Dual classification:		X [MEDIUM*]F
AS/NZS 4586:2004	Slip resistance classification of new pedestrian surface materials,		
	Appendix D: OIL-WET Ramp		
	Mean overall acceptance angle:	9.9°	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.

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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: 7 May 2010

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

Pendulum Friction Tester: Stanley (S/N: 7829, calibrated 17/11/08)  
 Test conducted by: David Weeks

	Specimen				
	1	2	3	4	5
<b>Last 3 swings</b>	<b>42</b>	<b>41</b>	<b>40</b>	<b>41</b>	<b>39</b>
	<b>42</b>	<b>41</b>	<b>40</b>	<b>40</b>	<b>38</b>
	<b>41</b>	<b>41</b>	<b>40</b>	<b>40</b>	<b>38</b>
<b>Averages</b>	<b>42</b>	<b>41</b>	<b>40</b>	<b>40</b>	<b>38</b>

**Mean BPN : 40**

**CLASS :**

**X [MEDIUM\*]**

\* = CSIRO classification

Comments:  
 Decal applied to polished porcelain tile for assessment.

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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: 7 May 2010

RESULTS Location: Slip Resistance Laboratory Rubber Type: Four S  
Sample Fixed Conditioned with grade P400 paper, dry  
Cleaning: Dry el/static cloth  
Temperature: 23°C  
FFT measurements taken over 2 passes of 800mm each

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

**Run 1: Average COF: 0.53**  
**Run 2: Average COF: 0.55**  
**Mean COF: 0.54**

According to AS/NZS 4586 the Dry Coefficient of Friction shall be reported as : **0.55**  
(mean rounded to the nearest 0.05)

**CLASS :**

**F**

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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: 7 May 2010

Location: Slip Resistance Laboratory

Sample Fixed

Joint width: 0 mm

Surface structure:  Smooth  
 Profiled  
 Structured

**RESULTS**

**Mean overall acceptance angle: 9.9 °**

**Displacement space: not tested**

**CLASSIFICATION:**

**Slip Resistance Assessment Group:**

**R 9 [HIGH\*]**

**Displacement Space Assessment Group:**

-

\* = CSIRO classification

Comments:  
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 TILE DESC: DOL 2100 Matte, Pressure sensitive adhesive coated Decal  
 1000x500mm

Date and Place 7 May 2010, Highett, Vic

Name, Title and Digital Signature:



**DAVID WEEKS**  
**Technical Officer**  
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 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.