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Syarikat Setia Tanjong SDN BHD
Lot 1554, MCLD, Block 3 -
Piasau Industrial Estate
Miri, Sarawak
Malaysia

Stair Nosing
Determination of Slip Resistance

Client Reference: P.O. # 7792

Our Reference: FLO0820-1

Investigating Officer(s): Graham Baggs

Report Prepared By: Graham Baggs

James P Mann
Laboratory Manager

	Draft	Reviewed	Released
Name	GB	TB	GB
Date	20/8/20	20/8/20	20/8/20

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1. INTRODUCTION

A request was received from the client to determine the slip resistance of two samples of grit and epoxy coated metal stair nosings. The samples were identified as:

- Anti Slip Stair Nosing - grit #30 (our reference E876)
- Anti Slip Stair Nosing - grit #60 (our reference E875)

2. TEST PROGRAM

Slip resistance was determined in accordance with Appendix A of AS 4586-2013 "Slip resistance classification of new pedestrian surface materials". Testing was carried out at five randomly selected sites on each sample in a wet condition using a British Pendulum fitted with a Slider 96 (4S)[1] rubber slider. Testing was carried out on the 20h of August 2020.

3. RESULTS

Results are summarised in the table below. Full test data are detailed in Appendix A of this report.

Property	Anti Slip Stair Nosing - Grit #30 Mean (range)	Anti Slip Stair Nosing - Grit #60 Mean (range)
Slip Resistance AS 4586:2013 – Slip Resistance Value (SRV) – Classification	63 (60 – 65) P5	66 (65 – 68) P5

4. DISCUSSION

Both samples of stair nosing attained a P5 classification (SRV >54) achieving SRVs of 63 and 66. According to Table 3B of the Standards Australia handbook HB198-2014[2] the surface finish is suitable for many locations that include the following[3]:

- External walkways including ramps, sloping driveways, footpaths etc., including those steeper than 1 in 14
- Loading docks undercover and commercial kitchens
- Swimming pool ramps and stairs leading to water

Table 3A of the Standards Australia handbook HB198-2014 sets out the requirements of the NCC (National Construction Code of Australia). According to Table 3A, non-skid nosing strips for stair-treads and stairway landings require a minimum P3 classification when dry and a P4 minimum for wet locations. It is therefore considered that the stair tread nosings tested with either a #30 grit or a #60 finish are suitable for use as stair tread nosings.

[1] Slider expiry date: 10 March 2021
[2] Guide to the specification and testing of slip resistance of pedestrian surfaces
[3] 5.2 of HB198 states: "The use of these values should be in the context of design, which also considers abnormal wear, maintenance, abnormal contamination, the presence (or otherwise) of water or other lubricants, the nature of the pedestrian traffic (including age, gait and crowding), the footwear (or lack thereof), slope lighting and handrails."

Appendix A
Test Certificates

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WET SLIP RESISTANCE (AS 4586:2013 APP A)

Test Certificate

TEST METHOD	AS 4586:2013 Appendix A (Wet Pendulum)		
TEST DATE	20-Aug-20		
CLIENT	Floorsafe Australia Pty Ltd		
OUR REFERENCE	FLO0820-1		
SAMPLE	Anti Slip Stair Nosing Grit #30		
SURFACE FINISH	Grit/epoxy		
SAMPLE ORIGIN	Australia		
SAMPLING DATE	1/08/2020	**SAMPLE LOCATION**	Not Known
SHAPE and NOMINAL SIZE	: 50mm x 300mm		
AIR TEMPERATURE	15.9 ^{o} C	**TEST SITE**	SI Laboratory
WEATHER	Not Applicable		
TEST TYPE	Unfixed		
ANGLE OF TEST	Horizontal		
SLIDER TYPE	Slider 96	**SLIDER EXPIRY**	10-Mar-21
SLIDER PREPARATION	Slider passed 3x over 400 grit paper, 10x over 3mic lapping film.		
SURFACE PREPARATION	Washed with potable water and cloth		
SURFACE CONDITION	As supplied		

Test Number	Orientation	BPN Readings	Mean
S23223	E876/1 Random	65, 62, 62, 61, 62	62
S23224	E876/2 Random	65, 63, 65, 65, 65, 65	65
S23225	E876/3 Random	62, 63, 63, 63, 63	63
S23226	E876/4 Random	63, 61, 60, 60, 60	60
S23227	E876/5 Random	64, 65, 64, 64, 64	64

MEAN Wet SLIP RESISTANCE VALUE (SRV): **63** ±2 (u_{95})

SLIP RESISTANCE CLASSIFICATION: **P5**

COMMENTS/VARIATIONS

NOTE: The expanded measurement uncertainty values (u95) quoted in this report are at a confidence level of 95 % with a nominal coverage factor of 2.

TESTED BY: Graham Baggs

APPROVED SIGNATORY:

NAME: Graham J Baggs

ISSUE DATE: 20-Aug-20

ilac-MRA NATA Accreditation No. 15695

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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

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WET SLIP RESISTANCE (AS 4586:2013 APP A)

Test Certificate

TEST METHOD	AS 4586:2013 Appendix A (Wet Pendulum)		
TEST DATE	20-Aug-20		
CLIENT	Floorsafe Australia Pty Ltd		
OUR REFERENCE	FLO0820-1		
SAMPLE	Anti Slip Stair Nosing Grit #60		
SURFACE FINISH	Grit/epoxy		
SAMPLE ORIGIN	Australia		
SAMPLING DATE	1/08/2020	**SAMPLE LOCATION**	Not Known
SHAPE and NOMINAL SIZE	: 50mm x 300mm		
AIR TEMPERATURE	15.8 ^{o} C	**TEST SITE**	SI Laboratory
WEATHER	Not Applicable		
TEST TYPE	Unfixed		
ANGLE OF TEST	Horizontal		
SLIDER TYPE	Slider 96	**SLIDER EXPIRY**	10-Mar-21
SLIDER PREPARATION	Slider passed 3x over 400 grit paper, 10x over 3mic lapping film.		
SURFACE PREPARATION	Washed with potable water and cloth		
SURFACE CONDITION	As supplied		

Test Number	Orientation	BPN Readings	Mean
S23228	E875/1 Random	68, 68, 68, 65, 67	67
S23229	E875/2 Random	69, 69, 68, 68, 68	68
S23230	E875/3 Random	698, 67, 67, 66, 66	66
S23231	E875/4 Random	67, 66, 65, 65, 64	65
S23232	E875/5 Random	69, 67, 66, 65, 67	66

MEAN Wet SLIP RESISTANCE VALUE (SRV): **66** ±2 (u_{95})

SLIP RESISTANCE CLASSIFICATION: **P5**

COMMENTS/VARIATIONS

NOTE: The expanded measurement uncertainty values (u95) quoted in this report are at a confidence level of 95 % with a nominal coverage factor of 2.

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