Test on a interlocking PVC tile in accordance with AS ISO 9239.1 - 2003

Fire Testing Report

Author: Shaw Tran
Report Number: FNR 12474
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Date: 5 November 2019
Version: A

Client: Gerflor Australasia Pty Ltd

Commercial-in-confidence

NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025 - Testing.

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Test Report Details

Document: Fire Testing Report

Test Standard: AS ISO 9239.1 - 2003

Client: Gerflor Australasia Pty Ltd

Proposal number: NR8239

Test Report Status and Revision History

VERSION	STATUS	DATE	DISTRIBUTION	COMMENT	ISSUE NO.
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A	Final for issue	5 November 2019	Gerflor Australasia Pty Ltd		FNR 12474

Test Report Authorisation

AUTHOR	REVIEWED BY	AUTHORISED BY
Shaw Tran	Stephen Smith	Brett Roddy
5 November 2019	5 November 2019	5 November 2019

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1 Summary

Sponsored Investigation Report Number FNR 12474

Test on a interlocking PVC tile in accordance with AS ISO 9239.1 - 2003

2 Test Details

2.1 Sample Identification

Saga2 Connect

2.2 Sponsor

Gerflor Australasia Pty Ltd
17 Cato Street
HAWTHORN EAST VIC 3123
AUSTRALIA

2.3 Manufacturer

Gerflor Provence SNC
Route De Taulignan
GRILLON 84600
FRANCE

2.4 Job Number

NR8239

2.5 Test Date

10 October 2019

2.6 Description of Sample

The sponsor described the tested specimen as a Polyvinyl Chloride (PVC) tile comprised of the following layers calendared together:

Layer 1:	0.7-mm thick transparent wear layer;
Layer 2:	< 0.1-mm thick design film;
Layer 3:	2-mm thick PVC core;
Layer 4:	2.3-mm thick PVC and fibreglass reinforced underlay.

Nominal total thickness:	5.1 mm
Nominal total mass:	8235 g/m^2
Colour:	grey

2.7 Documentation

The following documents were supplied by the sponsor as a full and complete description of the sample:

- Test Agreement and form FTAF33 dated 27 August 2019.

3 Method

3.1 Conditioning of Specimens

Prior to the test, the specimens were conditioned to constant mass at a temperature of 23 ± 2°C and a relative humidity of 50 ± 10%.

3.2 Test Method

Three specimens were tested in accordance with AS ISO 9239; Australian Standard, Reaction to fire tests for floorings, Part 1: Determination of the burning behaviour using a radiant heat ignition source, 2003.

The test specimen is placed in a horizontal position beneath a radiant panel angled at 30° to provide a heat curve along the test specimen. After 2 minute preheat stage, a pilot burner, consisting of a 250-mm line burner, is used to ignite the test specimen. The pilot burner is applied to the test specimen for a period of 10 minutes.

The time the flame front passes each 50-mm marking along the specimen is noted, and the most distant point reached at any time during the test is measured to the nearest 10-mm.

3.3 Duration of Test

The test is terminated after either 30 minutes of test time has passed or, for Building Code of Australia compliance with Specification C1.10, when the flames on the specimen self-extinguish.

4 Results and Observations

4.1 Observations

4.1.1 SPECIMEN 1

The specimen ignited upon application of the pilot flame. Melting and charring of the specimen was observed in areas of ignition.

4.1.2 SPECIMEN 2

The specimen ignited upon application of the pilot flame. Melting and charring of the specimen was observed in areas of ignition.

4.1.3 SPECIMEN 3

The specimen ignited upon application of the pilot flame. Melting and charring of the specimen was observed in areas of ignition.

4.2 Results of Tests

Mean distance of flame travel: 280 mm

Average Critical Radiant Flux: 7.8 kW/m^2

Average integrated smoke value: 389 % x min

Complete results are summarised in Table 1, Table 2, and Table 3.

These 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.

Table 1 Flame front travel times (seconds)

DISTANCE (mm)	SAMPLE 1 (s)	SAMPLE 2 (s)	SAMPLE 3 (s)
50	151	165	156
100	189	191	197
150	295	340	314
200	508	510	497
250	697	n/a	774
300	975	n/a	1060
350	n/a	n/a	n/a
400	n/a	n/a	n/a
450	n/a	n/a	n/a
500	n/a	n/a	n/a
550	n/a	n/a	n/a
600	n/a	n/a	n/a
650	n/a	n/a	n/a
700	n/a	n/a	n/a
750	n/a	n/a	n/a
800	n/a	n/a	n/a
850	n/a	n/a	n/a
900	n/a	n/a	n/a

Table 2 HFX values

	10 MINUTES		20 MINUTES		30 MINUTES	
	DISTANCE (mm)	RADIANT FLUX (kW/m²)	DISTANCE (mm)	RADIANT FLUX (kW/m²)	DISTANCE (mm)	RADIANT FLUX (kW/m²)
Sample 1	230	9.0	n/a	n/a	n/a	n/a
Sample 2	210	9.4	n/a	n/a	n/a	n/a
Sample 3	220	9.2	320	7.0	n/a	n/a
Average	220	9	320	7	n/a	n/a
S.D.	10.0	0.2	n/a	n/a	n/a	n/a

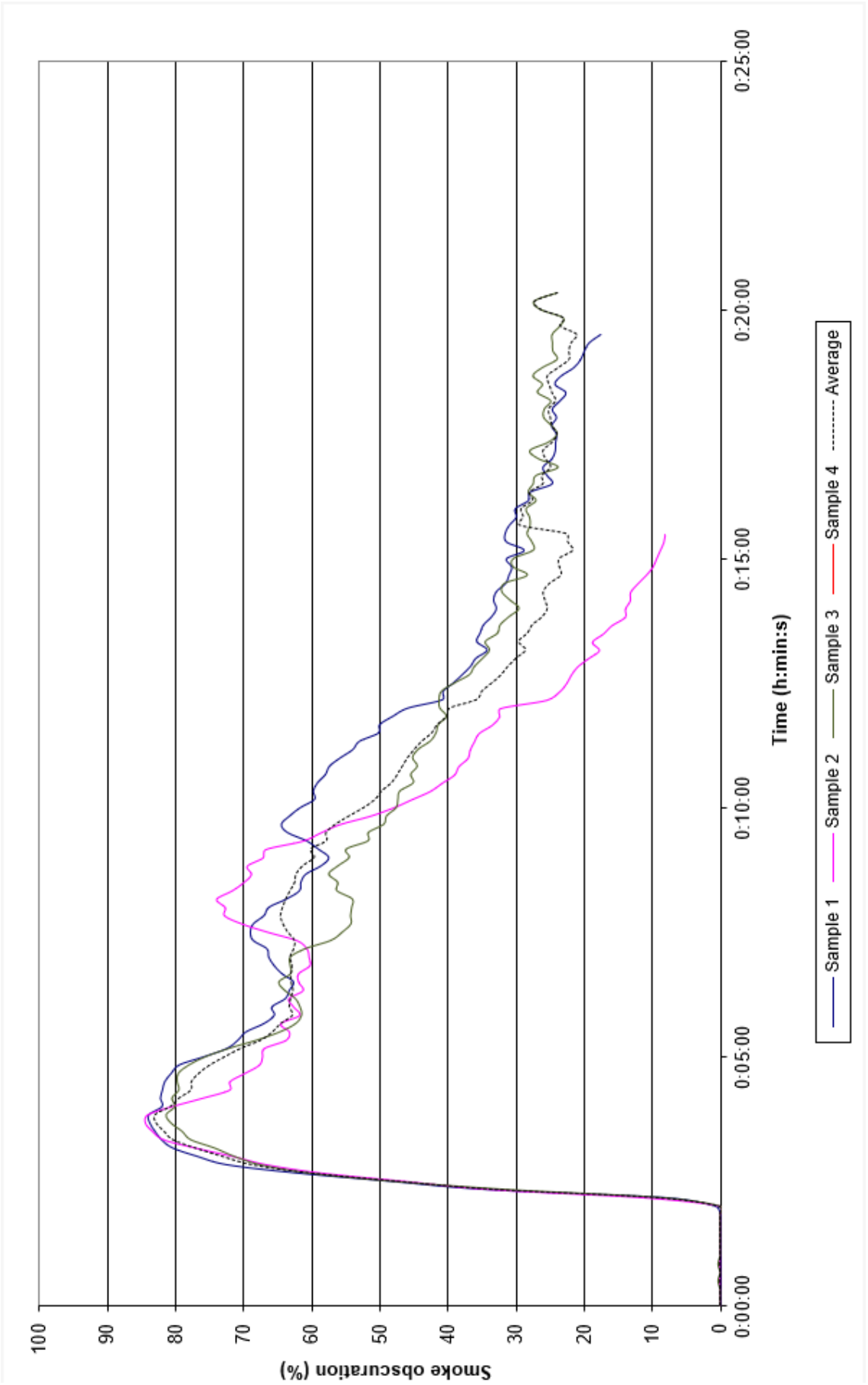
Table 3 Critical Heat Flux/HF-30 values

	TEST DURATION (s)	TEST SAMPLE DIRECTION	MAXIMUM FLAME SPREAD DISTANCE (mm)	CRF (kW/m²)	HF-30 (kW/m²)	SMOKE OBSCURA-TION INTEGRAL (%.min)	MAX. LIGHT ATTENUA-TION (%)
Sample 1	1168	n/a	320	7.0	n/a	432	83.9
Sample 2	928	n/a	210	9.4	n/a	325	84.4
Sample 3	1220	n/a	320	7.0	n/a	412	81.3
Average	1105		280	7.8		389	83.2
S. D.	155.76		63.51	1.72		57	1.7

Notes:

1. As specified in section 8.1 of AS ISO 9239.1:2003, the CRF value is read to the nearest 0.2 kW/m².

Figure 1 Light attenuation vs. Time



5 Test Certificate

Figure 2 Certificate of Test FNR12474C

Certificate of Test

Quote No.: NR8239 **No. FNR12474C**

This is to certify that the specimen described below was tested by CSIRO Infrastructure Technologies in accordance with Australian Standard ISO 9239, Reaction to fire tests for floorings, Part 1: Determination of the burning behaviour using a radiant heat source, 2003, on behalf of:

Gerflor Australasia Pty Ltd
17 Cato Street
HAWTHORN EAST VIC 3123
AUSTRALIA

A full description of the test specimen and the complete test results are detailed in the Division's sponsored investigation report numbered FNR 12474.

SAMPLE IDENTIFICATION: Saga2 Connect

DESCRIPTION OF SAMPLE: The sponsor described the tested specimen as a Polyvinyl Chloride (PVC) tile comprised of the following layers calendared together:

Layer 1: 0.7-mm thick transparent wear layer;
Layer 2: < 0.1-mm thick design film;
Layer 3: 2-mm thick PVC core;
Layer 4: 2.3-mm thick PVC and fibreglass reinforced underlay.

Nominal total thickness: 5.1 mm
Nominal total mass: 8235 g/m^2
Colour: grey

TEST PROCEDURE: Samples were tested in accordance AS ISO 9239; Australian Standard, Reaction to fire tests for floorings, Part 1: Determination of the burning behaviour using a radiant heat ignition source, 2003. Three (3) samples were tested in accordance with AS 9239.1-2003.

SAMPLE CLASSIFICATION:

Mean distance of flame travel:	280 mm
Average Critical Radiant Flux:	7.8 kW/m^2
Average integrated smoke value:	389 % x min

These 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.

Testing Officer: Shaw Tran Date of Test: 10 October 2019

Issued on the 5 November 2019 without alterations or additions.

Brett Roddy
Group Leader, Fire Testing and Assessments

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-End of Report-

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