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## TECHNICAL REPORT

DURAMAT LTD Unit 6, Causeway End Manningtree CO11 2LH United Kingdom	SATRA reference:	FLO4272K1M6	
		2340	1
	Report ID/Issue number:	33560/1	
	Your reference:		
	Date samples received:	04/09/2023	
	Date(s) work carried out:	04/09/2023 to 13/10/2023	
Date of report:	08/11/2023		

### Testing Requirements

Testing of one product described by the customer as "Rubber Floor Tile" to EN ISO 9239-1:2010 (L/NCS).

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For SATRA's statements regarding the confidentiality, publication and dissemination of this report, decision rules and UKAS accreditation please see the final page of this technical report.

Report Signed by:

Reece Johnson

  
Report Signatory

**TESTING OF ONE PRODUCT, DESCRIBED BY THE CUSTOMER AS  
'RUBBER FLOOR TILE' TO EN ISO 9239-1:2010 (L/NCS)**

As requested by Duramat Ltd, SATRA have assessed the floor covering submitted to determine the burning behaviour using a radiant heat source, as detailed below.

**SUMMARY**

With regard to the property assessed, the sample submitted under the reference 'Rubber Floor Tile' has demonstrated a mean heat flux at 30 mins of 2.8 kW/m<sup>2</sup>, with a mean smoke development of 1731.14 %.min, when the test was repeated in triplicate (non-directional) <sup>(4)</sup>. The specimens were extinguished manually by the operator at 30 minutes, and therefore no CHF value is reported.

**SAMPLE SUBMITTED**

Sample reference: 'Rubber Floor Tile' <sup>(1)</sup>

Appearance:



Date received: 04 September 2023 <sup>(2)</sup>

Date conditioning commenced: 05 October 2023 <sup>(3)</sup>

Testing conducted: 13 October 2023

Testing conducted by: Dusan Pekarovic

**TESTS CARRIED OUT**

- EN ISO 9239-1:2010. Reaction to fire tests for floorings. Determination of the burning behaviour using a radiant heat source. (L/NCS)<sup>(2)</sup>

**Notes:**

- (1) Information supplied by the customer. Not verified by SATRA.
- (2) The specimens were provided to SATRA by the customer. SATRA were not involved in the selection or sampling procedure.
- (3) Prior to testing, the specimens were conditioned at (23 ± 2) °C, (50 ± 5) % RH, until constant mass was achieved, or for a fixed period of time as defined in EN 13238:2010.
- (4) The specimens did not have a clear direction of manufacture, testing was conducted without considering the directionality of the product.

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## FULL DESCRIPTION OF TEST SPECIMENS <sup>(1)</sup>

The description of the specimen given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

General description of flooring system		RUBBER FLOORING TILE	
Product reference of flooring system		RUBBER FLOOR TILE	
Colour reference		BLACK	
Name of Manufacturer		BIG MATS LTD	
Overall weight per unit area		4.5KG	
Overall Thickness		17MM	
Product Configuration			
Floor covering	Layer 1	Product Reference	RUBBER FLOOR TILE
		Generic Type	INTERLOCKING MAT
		Name of Manufacturer	BIG MATS LTD
		% Composition	100% RECYCLED RUBBER
		Weight per unit area	4.5KG
		Thickness	17MM
		Trade name of flame retardant	N/A
		Generic form of flame retardant	N/A
		Amount of flame retardant	N/A
Brief Description of the manufacturing process		Note 1	

## LABORATORY SUPPLIED SUBSTRATE;

Adhesive	Product Reference	N/A
	Generic Type	N/A
	Name of Manufacturer	N/A
	Density (20°C)	N/A
	Colour	N/A
Substrate	Product reference	'Cembrit HD'
	Generic type	Fibre cement board
	Name of supplier	Clarkes of Walsham Ltd
	Thickness	(8 ± 2) mm
	Density	(1800 ± 200) kg/m <sup>3</sup>

Note 1: The sponsor of the test has failed to provide the information

Note 2: The sponsor has provided the required information but at the request of the sponsor it has been omitted from the final report.

Note 3: The sponsor was unwilling to provide the required information.

## RESULTS

Sample reference	Test method	Property	Mean results
<b>'Rubber Floor Tile'</b>	<b>EN ISO 9239-1: 2010</b>	Maximum flame front distance	<b>547 mm</b>
		Heat flux at 30 minutes (HF-30)	<b>2.8 kW/m<sup>2</sup></b>
		Smoke development (% light obscuration over the test time)	<b>1731.14 %.min</b>
		Maximum light attenuation	<b>90.44 %</b>

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

*The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product which is supplied or used is fully represented by the specimens which were tested. Test results using a standard substrate complying with EN 13238:2010 Clause 5.2.2 or Clause 5.2.3 are applicable if the density of the end use substrate is at least 75% of the nominal density of the standard substrate.*

*The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.*



**TEST DETAILS****Purpose of test**

To determine the performance of specimens of a product when they are subjected to the conditions of the test procedure defined in the document EN ISO 9239-1:2010. This report should be read in conjunction with that standard.

**Scope of test**

EN ISO 9239-1:2010 describes a European test procedure for assessing the burning behaviour, spread of flame and smoke development of horizontally mounted floorcovering systems exposed to a radiant heat gradient in a test chamber, when ignited with a pilot flame.

The measurements provide a basis for estimating one aspect of the fire exposure behaviour of floor covering systems. The imposed radiant heat simulates the thermal radiation levels likely to impinge on the floors of a building whose upper surfaces are heated by flames or hot gases or both, from a fire in an adjacent room or compartment.

This method is applicable to all types of floor coverings such as textile carpet, cork, wood, rubber and plastic coverings as well as coatings. Results obtained by this method reflect the performance of the total floor covering system as tested. Modifications of the backing, bonding to a substrate, underlay, or other changes to the system may affect the test results. The test is intended for regulatory purposes, specification acceptance, design purposes, classification, or development and research.

**Number of specimens tested**

Three specimens were tested as the product was considered to be non-directional <sup>(4)</sup>. The average results were calculated from the three tests.

**Exposed Face**

The decorative face of the specimen was exposed to the radiant heat of the test when the specimens were mounted in the test position.

**Adhesive**

The specimen was tested loose-laid (L) over the substrate.

**Substrate**

Non-combustible substrate (NCS) - End use substrates of classes A1 and A2-s1,d0, are represented by fibre cement board (in accordance with ISO 390)

**TABLE 1 – FULL TEST RESULTS - INDIVIDUAL SPECIMEN RESULTS FOR SPECIMEN REFERENCED 'RUBBER FLOOR TILE'**

Specimen Number	1	2	3
Direction of test	Non-directional <sup>(4)</sup>		
Distance (cm)	Time to travel indicated distance (s)		
5	217	218	240
10	262	286	317
15	312	345	365
20	357	402	399
25	402	452	450
30	497	522	532
35	614	626	669
40	803	804	845
45	1102	1059	1130
50	1521	1437	1540
55	-	-	-
60	-	-	-
65	-	-	-
70	-	-	-
75	-	-	-
80	-	-	-
85	-	-	-
90	-	-	-
95	-	-	-
100	-	-	-
<b>Max. flame front distance (cm)</b>	55.0	55.0	54.0
<b>Critical radiant flux (kW/m<sup>2</sup>)</b>	N/A	N/A	N/A
<b>Smoke development (%.min)</b>	1861.60	1718.29	1613.52
<b>Max. light attenuation (%)</b>	90.01	91.09	90.23
<b>Flame front distance after 10 min. (cm)</b>	35.0	35.0	34.0
<b>Flame front distance after 20 min. (cm)</b>	47.0	48.0	47.0
<b>Flame front distance after 30 min. (cm)</b>	55.0	55.0	54.0
<b>Heat flux after 10 min. HF<sub>10</sub> (kW/m<sup>2</sup>)</b>	6.2	6.2	6.4
<b>Heat flux after 20 min. HF<sub>20</sub> (kW/m<sup>2</sup>)</b>	4.0	3.8	4.0
<b>Heat flux after 30 min. HF<sub>30</sub> (kW/m<sup>2</sup>)</b>	<b>2.8</b>	<b>2.8</b>	<b>3.0</b>



# Technical Report



## OBSERVATIONS

The following observations of the burning characteristics of the specimens during the testing exposure were made:

- Charring and blistering observed until end of test.
- Specimens extinguished manually after end of test.

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## Conditions of Use

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### Confidentiality and Dissemination

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SATRA test reports may be forwarded to other parties provided that they are not changed in any way and are not marked as confidential. Test reports must not be published, for example by including it in advertisements, without the prior, written permission of SATRA.

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### Liability

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Results given in this report refer only to the samples submitted for analysis and tested by SATRA. Comments are for guidance only.

A satisfactory test report in no way implies that the product tested is approved by SATRA and no warranty is given as to the performance of the product tested. SATRA shall not be liable for any subsequent loss or damage incurred by the client as a result of information supplied in the report.

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### Accreditation

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Where the UKAS logo is included on the test report then tests marked ≠ fall outside the UKAS Accreditation Schedule for SATRA. Where no UKAS logo is included on the test report then none of the tests reported are covered by SATRA's UKAS Accreditation.

Tests marked ¥ are performed under SATRA's Flexible UKAS Schedule.

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### Uncertainty of Measurement and Decision Rules

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Where values for uncertainty of measurement are included within the report then the uncertainty of the corresponding results are based on a standard uncertainty multiplied by a coverage factor  $k=2$ , which provides a coverage probability of approximately 95%.

When reporting results against a conformance statement (Pass/Fail or the allocation of a class or level) then uncertainty of measurement is taken into account based on a non-binary acceptance which itself is based on the guard band being equal to the expanded uncertainty.

Where the result corrected for uncertainty falls within the tolerance of the conformance statement then the risk of the conformance statement being a false accept or false reject is up to 2.5% and SATRA will in this instance quote a Pass/Fail, class, or level.

Where the result corrected for uncertainty falls outside of the tolerance of the conformance statement then the risk of the conformance statement being a false accept or false reject is up to 50%. In this instance SATRA will not provide a Pass/Fail statement or a class or level but will include information in the notes in relation to the result obtained.

Where a report contains SATRA guidelines values then uncertainty of measurement values have been taken into account when determining the guideline values and as such are not considered when determining pass/ fail criteria.

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