



Contact

Didier Van Daele

e-mail

FloorAndFire@ugent.be

date

06/08/2020

TEST REPORT 20-0703-01

Samples received

<u>Name</u>	<u>Date of receipt</u>
PVC Flooring 1.5mm	17/07/2020

Aim of the test

Determination of the fire behaviour

Test conditions

Small flame test

Standard:

ISO 11925-2 (2010 + AC 2011)*

Method:

The use surface of a vertically put specimen placed (loose laid) on a fibre cement board (according to EN 13238) is ignited by a propane gas flame. Under condition of a surface flame attack with 15 s exposure time, there shall be no flame spread in excess of 150 mm vertically from the point of the test flame within 20 s from the time application.

If the boundary line is not reached within 20 s, the sample meets the requirements for the class E_{fl}.

Number of tests:

3 lengthwise and 3 crosswise

Conditioning

23 ± 2 °C and 50 ± 5 % R.H.

samples:

Fire Behaviour

Standard:

EN ISO 9239-1 (2010)*

Method:

Before the test the samples are **not cleaned**.

A floorcovering is put on (**loose laid**) a fibre cement board (according to EN 13238). During the test, the specimen is irradiated by a gas radiator at an angle of 30°. A small flame is used to ignite the specimen. The specimen is ignited during 10 minutes. In case of inflammable specimens, the test lasts until the flame is extinguished, but 30 minutes at the most. The criterion is the burned length, from which the critical radiant flux is deduced using a calibration curve.

Number of tests: 4

Conditioning

23 ± 2 °C and 50 ± 5 % R.H.

samples:

The tests were finished in week 32/2020.

OBTAINED RESULTS

Small flame test

Ignition time : 15 s

Lengthwise

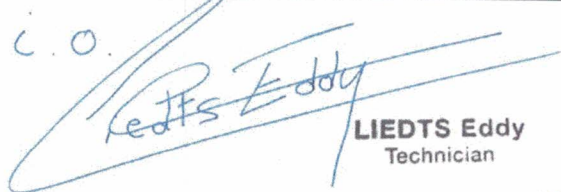
Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	18	-	no
3	15	-	no

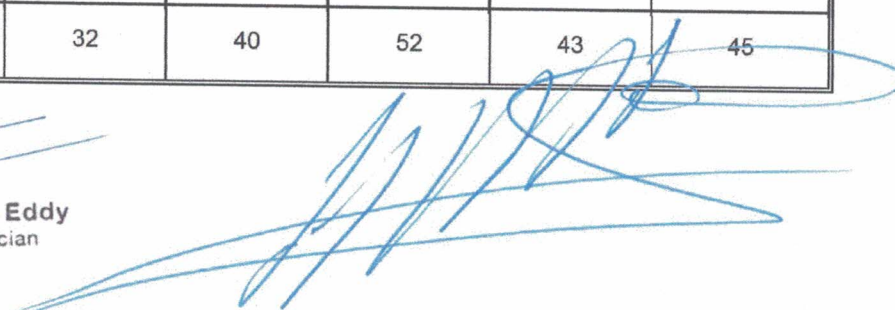
Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	16	-	no

Fire behaviour

Specimen number	1 Length	2 Width	3 Width	4 Width	Average Specimens 2,3,4
Flame spread after 10 min (mm)	80	85	65	95	
Flame spread after 20 min (mm)	80	85	65	95	
Flame spread after 30 min (mm)	80	85	65	95	
Flame spread at extinction (mm)	80	85	65	95	
Flame time	12min 0s	12min 11s	12min 0s	12min 12s	
Critical heat flux CHF at extinction (kW/m ²)	11.0	11.0	11.0	11.0	11.0
Total smoke production at end of test (%.min)	32	40	52	43	45

C.O.

LIEDTS Eddy
Technician



Didier Van Daele
Head of Floor covering and Fire Tests

Prof. Dr. Paul KIEKENS, dr. h. c.
Director

ENCLOSURE TO REPORT 20-0703-01

Classification according to EN 13501-1

Warning: this statement cannot be used for CE labelling purposes

Classification	EN ISO 11925-2 (ignition time = 15 s)	EN ISO 9239-1 (test period = 30 min)	CLASS
B _{fl}	F _s ≤ 150 mm in 20 s	Critical flux ≥ 8.0 kW/m ²	X
C _{fl}	F _s ≤ 150 mm in 20 s	Critical flux ≥ 4.5 kW/m ²	
D _{fl}	F _s ≤ 150 mm in 20 s	Critical flux ≥ 3.0 kW/m ²	
E _{fl}	F _s ≤ 150 mm in 20 s	No demand	
F _{fl}	No demand	No demand	

Additional classification smoke development

		CLASS
Smoke development ≤ 750%.min	s1	X
Smoke development > 750%.min	s2	



Contact
Didier Van Daele

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date
06/08/2020

TEST REPORT 20-0703-03

Samples received

Name	Date of receipt
PVC Flooring 12mm	17/07/2020

Aim of the test

Determination of the fire behaviour

Test conditions

Small flame test

Standard: **ISO 11925-2 (2010 + AC 2011)***

Method: The use surface of a vertically put specimen placed (loose laid) on a fibre cement board (according to EN 13238) is ignited by a propane gas flame. Under condition of a surface flame attack with 15 s exposure time, there shall be no flame spread in excess of 150 mm vertically from the point of the test flame within 20 s from the time application.

If the boundary line is not reached within 20 s, the sample meets the requirements for the class E_{fl}.

Number of tests: 3 lengthwise and 3 crosswise

Conditioning: 23 ± 2 °C and 50 ± 5 % R.H.

samples:

Fire Behaviour

Standard:

EN ISO 9239-1 (2010)*

Method:

Before the test the samples are **not cleaned**.

A floorcovering is put on (**loose laid**) a fibre cement board (according to EN 13238). During the test, the specimen is irradiated by a gas radiator at an angle of 30°. A small flame is used to ignite the specimen. The specimen is ignited during 10 minutes. In case of inflammable specimens, the test lasts until the flame is extinguished, but 30 minutes at the most. The criterion is the burned length, from which the critical radiant flux is deduced using a calibration curve.

Number of tests:

4

Conditioning

23 ± 2 °C and 50 ± 5 % R.H.

samples:

The tests were finished in week 32/2020.

OBTAINED RESULTS

Small flame test

Ignition time : 15 s

Lengthwise

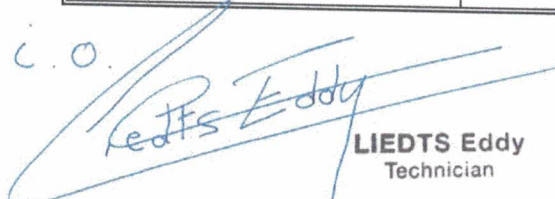
Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	15	-	no

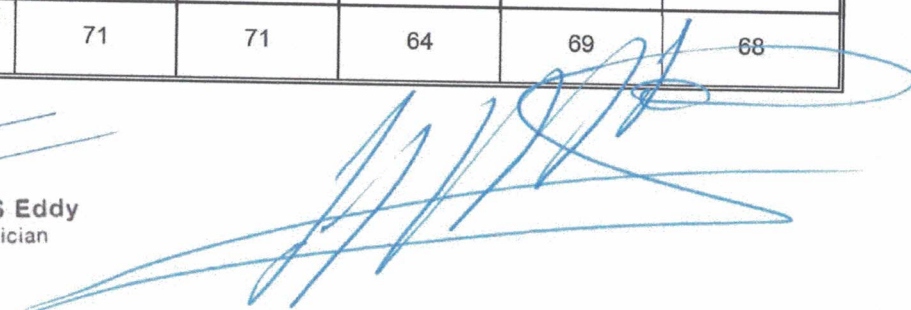
Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	15	-	no

Fire behaviour

Specimen number	1 Length	2 Width	3 Width	4 Width	Average Specimens 2,3,4
Flame spread after 10 min (mm)	105	120	130	125	
Flame spread after 20 min (mm)	105	120	130	125	
Flame spread after 30 min (mm)	105	120	130	125	
Flame spread at extinction (mm)	105	120	130	125	
Flame time	12min 29s	12min 15s	12min 19s	12min 13s	
Critical heat flux CHF at extinction (kW/m ²)	11.0	10.4	10.4	10.5	10.4
Total smoke production at end of test (%.min)	71	71	64	69	68

C.O.

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Technician



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Classification	EN ISO 11925-2 (ignition time = 15 s)	EN ISO 9239-1 (test period = 30 min)	CLASS
B _{fl}	F _s ≤ 150 mm in 20 s	Critical flux ≥ 8.0 kW/m ²	X
C _{fl}	F _s ≤ 150 mm in 20 s	Critical flux ≥ 4.5 kW/m ²	
D _{fl}	F _s ≤ 150 mm in 20 s	Critical flux ≥ 3.0 kW/m ²	
E _{fl}	F _s ≤ 150 mm in 20 s	No demand	
F _{fl}	No demand	No demand	

Additional classification smoke development

		CLASS
Smoke development ≤ 750%.min	s1	X
Smoke development > 750%.min	s2	

Classification Report

CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-1:2018

Sponsor	
Manufacturer:	
Prepared by	Ghent University - Centre for Textile Science and Engineering Technologiepark 70A, 9052 Zwijnaarde, Belgium
Notified Body N°	1611
Product Name	PVC Flooring (as given by the sponsor)
Report N° / Issue N°	CR 20-0703-01
Date of issue	6/08/2020

1. Introduction

This classification report defines the classification assigned to PVC Flooring, in accordance with the procedures given in EN 13501-1:2018

2. Details of classified product

2.1 General

The product PVC Flooring is defined as being suitable for floor covering applications.

2.2 Product description

The product, PVC Flooring is described below and in the test report(s) listed in Clause 3.1.

Product description	PVC resin, Calcium Carbonates, Stabilizers, Plasticizers
Composition of use-surface	UV coating
Composition of backing layer	Pvc bottom layer
Flame retardant treatment	No

3. Reports and Results in support of Classification

3.1 Test reports

Name of test laboratory	Name of sponsor	Test report number	Test method
Ghent University - Centre for Textile Science and Engineering		20-0703-01 20-0703-03	EN ISO 9239-1
Ghent University - Centre for Textile Science and Engineering		20-0703-01 20-0703-03	EN ISO 11925-2

3.2 Test results

Test method	Parameter	No. of tests	Results	
			Average	Compliance
EN ISO 9239-1	Critical flux (kW/m ²)	4	11.0	B fl
	Smoke (%.min)		45	s1
EN ISO 11925-2	Fs	6	PASS	PASS
EN ISO 9239-1	Critical flux (kW/m ²)	4	10.4	B fl
	Smoke (%.min)		68	s1
EN ISO 11925-2	Fs	6	PASS	PASS

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018

4.2 Classification

The product, PVC Flooring, in relation to its reaction to fire behavior is classified: **B fl**

The additional classification in relation to smoke production is: **s1**

Therefore, taking into account the limitations given in §5:

Reaction to fire classification: B fl - s1

4.3 Field of application

This classification is valid for the following product parameters:

	Min.	Max.
Range of total mass (kg/m ²)	2.85	23
Range of total thickness (mm)	1.5	12

This classification is valid for the following end use applications:

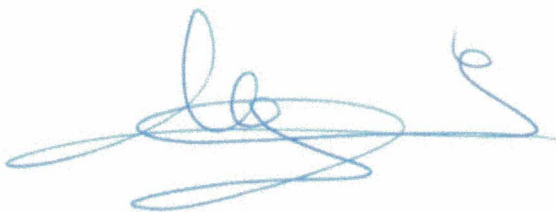
Deposition method	-
Substrates	Not specified
Joints	-
Other aspects of end use conditions	Used as interior flooring for home, hotel, school, office, hospital, shops etc.

5. Limitations

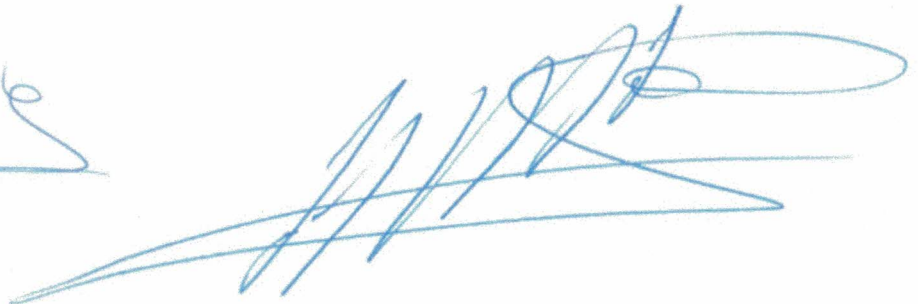
This classification document does not represent type approval or certification of the product.

The test laboratory has played no part in sampling the product of the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested.

The manufacturer has made a declaration, which is held on file. This confirms that the products design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate.



Johanna Louwagie
Head of certification



Prof. Dr. Paul KIEKENS, dr. h. c.
Director