

## CENTRE FOR TEXTILE SCIENCE AND ENGINEERING

DEPARTMENT OF MATERIALS, TEXTILES AND CHEMICAL ENGINEERING

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Contact e-mail date Didier Van Daele FloorAndFire@ugent.be 17/09/2019

## **TEST REPORT 19-0868-03**

Translation of test report 19-0868-02 from 17/09/2019

#### Samples received :

Date of receipt
21/08/2019

#### 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  $23 \pm 2$  °C and  $50 \pm 5$  % 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)** to 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  $23 \pm 2$  °C and  $50 \pm 5$  % R.H.

samples:

The tests were finished in week 36/2019

#### **OBTAINED RESULTS**

#### Small flame test

Ignition time: 15 s

Lengthwise

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Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	55 s	-	no
2	> 60 s	-	no
3	> 60 s	-	no

#### Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	> 60 s	-	no
2	> 60 s	-	no
3	> 60 s	-	no

#### Fire behaviour

Specimen number	1 Length	2 Width	3 Width	4 Width	Average Specimens 2,3,4
Flame spread after 10 min (mm)	0	160	180	0	
Flame spread after 20 min (mm)	0	160	180	0	
Flame spread after 30 min (mm)	0	160	180	0	
Flame spread at extinction (mm)	0	160	180	0	
Flame time	12min 0s	12min 57s	12min 33s	12min 0s	
Critical heat flux CHF at extinction (kW/m²)	11.3	9.8	9.5	11.3	/ ≥11
Total smoke production at end of test (%.min)	22	28	123 1	J11/8	20

Stijn Rambour For Didier Van Daele

Head of Floor covering and Fire Tests

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

Director

# **ENCLOSURE TO REPORT 19-0868-03**

## 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 <sub>fl</sub>	Fs ≤ 150 mm in 20 s	Critical flux ≥ 8.0 kW/m²	x
C fl	Fs ≤ 150 mm in 20 s	Critical flux ≥ 4.5 kW/m²	
D fl	Fs ≤ 150 mm in 20 s	Critical flux ≥ 3.0 kW/m²	
E fl	Fs ≤ 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	