GHENT UNIVERSITY

CENTRE FOR TEXTILE SCIENCE AND ENGINEERING

DEPARTMENT OF MATERIALS, TEXTILES AND CHEMICAL ENGINEERING

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Contact	**e-mail**	**date**
Didier Van Daele	didier.vandaele@ugent.be	23/07/2018

TEST REPORT 18-0750-02

Translation of test report 18-0750-01 dated 13/07/2018

Samples received :

Name	***Date of receipt***
Flat needlepunched carpet with 100% polypropylene wear layer with impregnation based on latex SBR Commercial reference: **Expostyle,** colour: green Production date : 19/06/2018 OF1810720 mother bobbin: 180144368 daughter bobbin: 180144637	22/06/2018

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 on a fibre cement board (loose laid) 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 samples:	23 ± 2 °C and 50 ± 5 % R.H.

BELAC ISO/IEC17025 055-test

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 samples:	23 ± 2 °C and 50 ± 5 % R.H.

The tests were finished in week 28/2018

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	>60	-	no
2	16	-	no
3	>60	-	no

Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	>60	-	no
2	54	-	no
3	>60	-	no

Fire behaviour

Specimen number	1 Length	2 Width	3 Length	4 Length	Average Specimens 1,3,4
Flame spread after 10 min (mm)	0	0	0	0	
Flame spread after 20 min (mm)	0	0	0	0	
Flame spread after 30 min (mm)	0	0	0	0	
Flame spread at extinction (mm)	0	0	0	0	
Flame time	12min 0s	12min 0s	12min 0s	12min 0s	
Critical heat flux CHF at extinction (kW/m²)	11.1	11.1	11.1	11.1	≥11
Total smoke production at end of test (%.min)	13	8	8	8	9

Didier Van Daele
Head of Floor covering and Fire Tests

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

ENCLOSURE TO REPORT 18-0750-02

Classification according to EN 13501 –1 (2007 + A1: 2009)*

Classification	EN ISO 11925-2 (ignition time = 15 s)	EN ISO 9239-1 (test period = 30 min)	CLASS
B_{fl}	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 according to EN 13501-1 (2007 + A1:2009)*

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

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Contact	**e-mail**	**date**
Didier Van Daele	didier.vandaele@ugent.be	13/07/2018

TEST REPORT 18-0749-02

Translation of test report 18-0749-01 dated 13/07/2018

Samples received :

Name	***Date of receipt***
Ribbed needlepunched carpet with 100% polypropylene wear layer with impregnation based on latex SBR Commercial reference: **Expoline TAI,** colour: green Production date : 20/06/2018 OF1811729 mother bobbin: 180136196 daughter bobbin: 180146240	22/06/2018

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 on a fibre cement board (loose laid) 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 samples:	23 ± 2 °C and 50 ± 5 % R.H.

BELAC ISO/IEC17025 055-test

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 samples:	23 ± 2 °C and 50 ± 5 % R.H.

The tests were finished in week 28/2018.

OBTAINED RESULTS

Small flame test

Ignition time : 15 s

Lengthwise

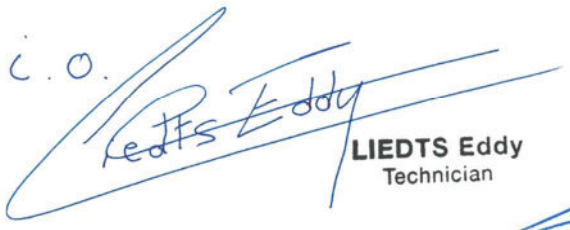
Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	23	-	no

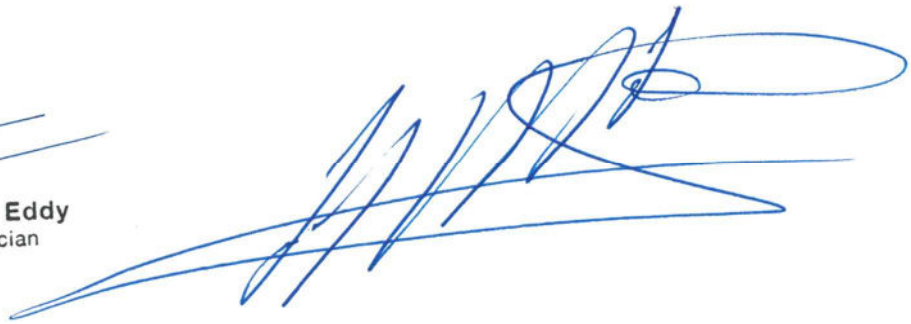
Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	>60	-	no
2	>60	-	no
3	30	-	no

Fire behaviour

Specimen number	1 Length	2 Width	3 Length	4 Length	Average Specimens 1,3,4
Flame spread after 10 min (mm)	50	0	0	0	
Flame spread after 20 min (mm)	50	0	0	0	
Flame spread after 30 min (mm)	50	0	0	0	
Flame spread at extinction (mm)	50	0	0	0	
Flame time	12min 0s	12min 0s	12min 0s	12min 0s	
Critical heat flux CHF at extinction (kW/m²)	11.0	11.1	11.1	11.1	≥11
Total smoke production at end of test (%.min)	22	14	12	7	13





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Head of Floor covering and Fire Tests

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

ENCLOSURE TO REPORT 18-0749-02

Classification according to EN 13501 –1 (2007 + A1: 2009)*

Classification	EN ISO 11925-2 (ignition time = 15 s)	EN ISO 9239-1 (test period = 30 min)	CLASS
B_{fl}	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 according to EN 13501-1 (2007 + A1:2009)*

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