0 Document Control

0.1 Document Identification

Project	---
Document Name	Test Report Nr LFF.2018.086
Document File Name	---

0.2 Version Control

Version	Edition	Revision	Date	Description	Approved by
1	1	0	2018-06-06	Original version	JMG

0.3 Author(s)

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0.6 Distribution list

Name	Initials	Entity
Laboratório de Fumo e Fogo	LFF	INEGI
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0 – Identification

Client: Ultraflex Systems Inc.

Address: Rua da Baiona, 22
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Request: Tests according to standard NP EN 13501-1: 2007+A1: 2013

Request Reference: PE30180613

Compound Reference: S181

Reception Date: 2018-05-30

Test Date: 2018-06-04

1 - Scope

The reported tests concern the determination of the fire reaction of a coated knitted fabric, made by Ultraflex with reference ReSource Backlit S181

2 - Methodology

Test	Test procedure
Single flame source test	EN ISO 11925-2:2010
Single Burning Item test	EN 13823:2010 A1 November 2014

The classification method was applied according to the standard NP EN 13501-1:2007+A1 issued in 2013.

3 - Specimens

3.1 – Dimension and conditioning

Prior to testing, the specimens were conditioned for a minimum period of 117 hours at 23 ± 2 °C and 50 ± 5 % relative humidity

The specimens were prepared by the client, having the following dimensions:

Reference	Lenght (mm)	Width (mm)	Thickness (mm)	Mass (g)
LFF.2018.086.01	1498	495	0.2	128.0
LFF.2018.086.02	1497	505	0.2	133.5
LFF.2018.086.03	1500	504	0.2	133.0
LFF.2018.086.06	1502	1001	0.2	264.3
LFF.2018.086.07	1499	1004	0.2	264.5
LFF.2018.086.08	1500	1005	0.2	264.5
LFF.2018.086.11	251	90	0.2	4.0
LFF.2018.086.12	251	91	0.2	4.0
LFF.2018.086.13	254	91	0.2	4.1
LFF.2018.086.14	254	94	0.2	4.1
LFF.2018.086.15	252	92	0.2	4.1
LFF.2018.086.16	251	91	0.2	4.1
LFF.2018.086.17	252	92	0.2	4.1
LFF.2018.086.18	251	92	0.2	4.0
LFF.2018.086.21	252	91	0.2	4.0
LFF.2018.086.22	252	92	0.2	4.1
LFF.2018.086.23	252	93	0.2	4.1
LFF.2018.086.24	251	92	0.2	4.1

3.2 – Mounting of specimen

Specimens were tested free standing (paragraph 5.2.2.a. of EN 13823).

4 - Results

4.1 – Single flame source test (EN ISO 11925-2)

Position of flame application	Edge

Specimens	LFF.2018. 086.11	LFF.2018. 086.13	LFF.2018. 086.14	LFF.2018. 086.16	LFF.2018. 086.21	LFF.2018. 086.22
Flame application time(s)	30	30	30	30	30	30
Ignition (s)	2	1	1	1	2	1
F_s (mm)	Not reached	Not reached	Not reached	Not reached	Not reached	Not reached
Droplets/ Particles	No	No	No	No	No	No
Ignition of the filter paper	No	No	No	No	No	No

F_s: Vertical Flame Spread

Position of flame application	Surface

Specimens	LFF.2018.0 86.12	LFF.2018.086 .15	LFF.2018.086 .17	LFF.2018.086 .18	LFF.2018.086 .23	LFF.2018.086 .24
Flame application time (s)	30	30	30	30	30	30
Ignition (s)	2	2	2	3	2	2
F_s (mm)	Not reached	Not reached	Not reached	Not reached	Not reached	Not reached
Droplets/ Particles	No	No	No	No	No	No
Ignition of the filter paper	No	No	No	No	No	No

F_s: Vertical Flame Spread

4.2 – Single burning item test (EN 13823)

Specimens	LFF.2018.086.01 e LFF.2018.086.06	LFF.2018.086.02 e LFF.2018.086.07	LFF.2018.086.03 e LFF.2018.086.08	AVERAGE
FIGRA $_{0,4\,MJ}$ (W/s)	TNR	TNR	TNR	**TNR**
THR $_{600\,s}$ (MJ)	0.4	0.4	0.2	**0.3**
LFS (m)	No	No	No	**No**
FIRE BEHAVIOUR	A2/B	A2/B	A2/B	**B**
SMOGRA (m^2/s^2) (*)	TNR	TNR	TNR	**TNR**
TSP $_{600s}$ (m^2) (*)	21.2	26.1	23.3	**25.5**
SMOKE PRODUCTION	s1	s1	s1	**s1**
FLAMINNG DROPLETS/PARTICLES	No	No	No	**No**
FLAMING DROPLETS	d0	d0	d0	**d0**

FIGRA: Fire growth rate THR: Total heat release LFS: Lateral flame spread (*): With smoke correction
SMOGRA: Smoke growth rate TSP: Total smoke production TNR: Threshold not reached

The 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.

5 – Conclusion

Considering all the above tests results, the conclusion is that the material classification according to EN 13501-1 standard is the following:

Fire behaviour		Smoke Production			Flaming droplets	
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Porto, June 6, 2018

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LFF - Laboratório de Fumo e Fogo

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