

Bellaterra: November 21<sup>st</sup>, 2017

File number: **17/15549-2220 ENGLISH VERISON**

Petitioner: **ESPIROFLEX, S.A.**  
Pol. Ind. La Florida  
c/ Vic, s/n  
08130 Santa Perpètua de Mogoda  
(Barcelona)

## TEST REPORT

Date Sample Received 2017-11-09

Date Testing Performed: Start: 2017-11-09  
End: 2017-11-21

### OBJECT OF THE TEST

Determination of the flammability of a sample based on the UNE-EN 60695-11-10:2014." Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods" and ANSI/UL-94:2006 standard: « Test for flammability of plastic materials for parts in devices and appliances. »

### CHARACTERISTICS OF THE SAMPLE

A corrugated pipe of flexible polymeric material with grey colour and approximate dimensions: external diameter: 52 mm and internal diameter: 45 mm was received from the petitioner and with the following indications according to the petitioner:

« Product reference: TRANSAIR.

Pipe Co-extruded rigid PVC/ Flexible PVC

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Sample technical data		
Dimensions:		45x52 mm
Number of layer:		2
Layer nº 1:	Material:	Flexible PVC
	Thickness:	0.8 mm
	Density:	1.18 g/cm <sup>3</sup>
	Colour:	Grey
	Appearance:	Smooth
	Orientation:	No
Layer nº2:	Thickness:	Rigid PVC
	Density:	3.5 mm
	Colour:	1.4 g/cm <sup>3</sup>
	Appearance:	White
	Thickness:	Smooth
	Orientation:	No

Manufacturer: Espiroflex, S.A. Address: C/Vic s/n, Pol. Ind. La Florida – Santa Perpètua de Mogoda 08130 (Barcelona)



Photo num. 1: Piece of sample received

**TEST REQUESTED**

Vertical combustion test according to Method B of the UNE-EN 60695-11-10:2014 standard and according to section 8 of the ANSI / UL94:2006 standard.

**RESULTS**

The specimens were conditioned according to section 9.1 of the European standard and according to section 8.4 of the UL94 standard; according to the following procedure:

- A- Group of samples at (23±2)°C y (50±10) % relative humidity during a minimum of 48 hours.
- B- Group of sample at (70±2)°C during (168±2) hours and cooling in desiccator.

**VERTICAL FLAME TEST**

Environmental conditions: 23.1 °C and 33 % RH

**Conditioning A**

Samples	I	II	III	IV	V
a) Afterflame time after first flame application (t <sub>1</sub> ) (in sec)	4	20	4	2	9
b) Afterflame time after second flame applications (t <sub>2</sub> ) (in sec)	4	28	4	4	7
c) Afterglow time after second flame application (t <sub>3</sub> ) (in sec)	0	0	0	0	0
d) Total Afterflame (t <sub>1</sub> plus t <sub>2</sub> for the 5 specimens) (in sec)	86				
e) Afterflame plus afterglow time for each individual specimen after the second flame application (t <sub>2</sub> + t <sub>3</sub> ) (in sec)	4	28	4	4	7
d) Afterflame or afterglow of any specimen up to the holding clamp	NO	NO	NO	NO	NO
e) Cotton indicator ignited by flaming particles or drops	YES	YES	YES	YES	YES

**Conditioning B**

Samples	I	II	III	IV	V
a) Afterflame time after first flame application ( $t_1$ ) (in sec)	6	2	4	2	6
b) Afterflame time after second flame applications ( $t_2$ ) (in sec)	3	12	12	16	6
c) Afterglow time after second flame application ( $t_3$ ) (in sec)	0	0	0	0	0
d) Total Afterflame ( $t_1$ plus $t_2$ for the 5 specimens) (in sec)	69				
e) Afterflame plus afterglow time for each individual specimen after the second flame application ( $t_2 + t_3$ ) (in sec)	3	12	12	16	6
d) Afterflame or afterglow of any specimen up to the holding clamp	NO	NO	NO	NO	NO
e) Cotton indicator ignited by flaming particles or drops	YES	YES	YES	YES	YES

**CLASSIFICATION CRITERIA**

Criteria conditions	V-0	V-1	V-2
Afterflame time for each individual specimen $t_1$ or $t_2$	≤10s	≤30s	≤30s
Total afterflame time for any condition set ( $t_1$ plus $t_2$ for the 5 specimens)	≤50s	≤250s	≤250s
Afterflame plus afterglow time for each individual specimen after the second flame application ( $t_2+t_3$ )	≤30s	≤60s	≤60s
Afterflame or afterglow of any specimen up to the holding clamp	No	No	No
Cotton indicator ignited by flaming particles or drops	No	No	Yes

**Classification of the submitted sample:**

**94 V-2**

Responsible of Reaction to Fire

LGAI Technological Center S.A. (APPLUS)

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The results refer exclusively to the samples tested at the time and under the conditions indicated.

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The present document is a translation of the 17/15549-2220. In case of dispute, the valid document is the original Spanish version.

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