

TEST REPORT
IN-00603/202021-1

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Date of issue: May 07th, 2021

TEST REPORT

Report number: IN-00603/2021-1

Total pages: 14

SAMPLE RECEIVED

Information provided by the applicant:

Description: BLACK-OUT FR
Reference: CORVO
Composition: 100% polyester FR + 3 pass acrylic coating
Thickness: 0,5 mm; Weight: 250 g/m²
Color: Dark Grey



Internal description and identification:

Description: Fabric
Reference: M-00603/2021

Date of entry: March 26th, 2021

REQUESTED TESTS

- TEXTILES AND TEXTILE PRODUCTS. BURNING BEHAVIOUR. CURTAINS AND DRAPES. DETAILED PROCEDURE TO DETERMINE THE IGNIABILITY OF VERTICALLY ORIENTED SPECIMENS (SMALL FLAME)
EN 1101:1995/A1:2005
- TEXTILES AND TEXTILE PRODUCTS. BURNING BEHAVIOUR. CURTAINS AND DRAPES. MEASUREMENT OF FLAME SPREAD OF VERTICALLY ORIENTED SPECIMENS WITH LARGE IGNITION SOURCE
EN 13772:2011
- TEXTILES AND TEXTILE PRODUCTS. FIRE BEHAVIOUR. CURTAINS AND DRAPERIES. CLASSIFICATION SCHEME
EN 13773:2003



**TEXTILES AND TEXTILE PRODUCTS. BURNING BEHAVIOUR.
 CURTAINS AND DRAPES. DETAILED PROCEDURE TO
 DETERMINE THE IGNIABILITY OF VERTICALLY ORIENTED
 SPECIMENS (SMALL FLAME)**

Standard:	EN 1101:1995/A1:2005
According to:	N.A.
Date of completion:	April 14 th – 27 th , 2021

Test equipment:	
Vertical flammability test equipment, JBA, no. EQ299	
Chronometer, VENTIX, no. EQ1389	
Anemometer, TESTO, no. PA075	
Washing machine, WASCATOR FOM 71 MP-Lab, no. EQ516	
Balance, SARTORIUS, no. EQ116	

Test conditions:	
Conditioning of specimens: ≥ 24 hours / $(20 \pm 2)^{\circ}\text{C}$ / $(65 \pm 5)\%$ r.h.	
Test atmosphere: 23°C / 41% r.h.	
Internal identification of specimens: M-00603/21	
Type of test: After domestic washing, in accordance with the applicant	
Pre-treatment of the specimens: <ul style="list-style-type: none"> • DOMESTIC WASHING, according to EN ISO 6330:2012, washing procedure 3N <ul style="list-style-type: none"> ○ Temperature: 30°C ○ Washing powder: Without phosphates ECE-98 ○ Total mass of the specimens: 987,0 g ○ Type of load: Panels composed of four thicknesses of 100% textured polyester knitted fabric, with a mass per unit area of (310 ± 20) g/m², and dimensions of (20 ± 4) cm x (20 ± 4) cm ○ Total counterweight mass: 1072,3 g ○ Total load: $(2 \pm 0,1)$ kg ○ Drying: Procedure A – Air drying (each cycle) ○ Cycles: 1 (1 wash cycle = wash + dry) 	
Sampling (according to EN ISO 6940:2004): <ul style="list-style-type: none"> • Number of specimens: 24 (12 lengthwise, 12 widthwise) • Dimensions of the specimens: $200\text{ mm} \pm 2\text{ mm} \times 80\text{ mm} \pm 2\text{ mm}$ 	
Anisotropic material: Yes <ul style="list-style-type: none"> • Side A (outer side): 100 % polyester FR (according to the information provided by the applicant) • Side B (inner side): 3 pass acrylic coating (according to the information provided by the applicant) 	
Flame height: $40\text{ mm} \pm 2\text{ mm}$	
Test equipment settings (according to EN ISO 6940:2004): Procedure B – Ignition from the bottom edge (burner tilted 30°)	
Air speed: 0,1 m/s	

Tested area: Bottom edge
Type of gas: Propane, commercial grade

Results:

Preliminary test according to EN 1101:1995/A1:2005, section 7			
Lengthwise / Warp		Widthwise / weft	
Flame application time (s)	Results	Flame application time (s)	Results
1	O	1	O
2	O	2	O
3	O	3	O
4	O	4	O
5	O	5	O
10	O	10	O
15	O	15	O
20	O	20	O

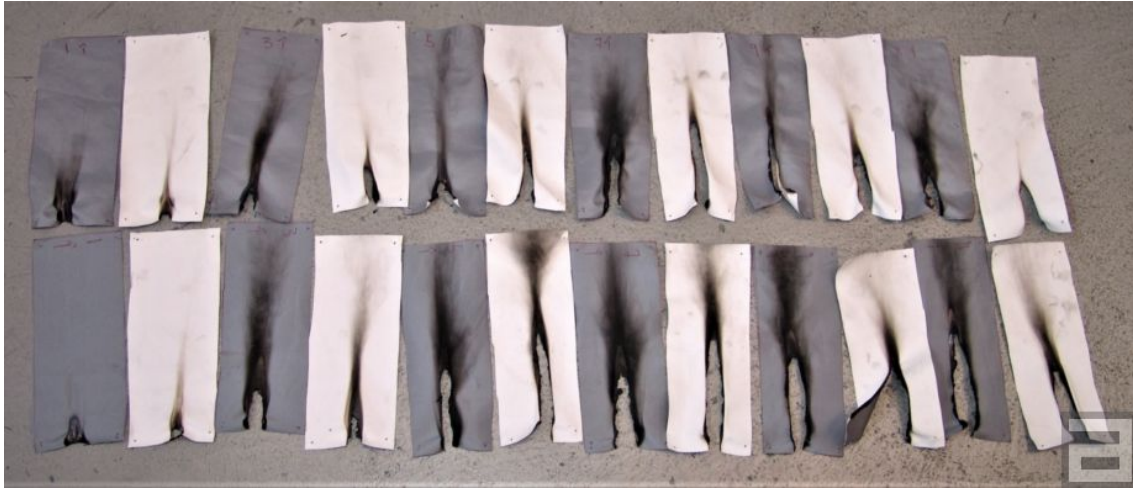
X: Ignition / O: Non-ignition

Test according to EN ISO 6940:2004, section 11				
Specimen no.	Lengthwise / Warp		Widthwise / weft	
	Flame application time (s)	Results	Flame application time (s)	Results
#1	20	O	20	O
#2	20	O	20	O
#3	20	O	20	O
#4	20	O	20	O
Comments	---			

X: Ignition / O: No ignition

	Lengthwise / Warp	Widthwise / Weft
Mean ignition time (s)	20	20
Minimum ignition time (s)	>20	
Ignition of the specimen in 20 s	No	

Picture after testing:





**TEXTILES AND TEXTILE PRODUCTS. BURNING BEHAVIOUR.
 CURTAINS AND DRAPES. MEASUREMENT OF FLAME
 SPREAD OF VERTICALLY ORIENTED SPECIMENS WITH
 LARGE IGNITION SOURCE**

Standard:	EN 13772:2011
According to:	N.A.
Date of completion:	April 22 nd - 27 th , 2021

Test equipment:
Vertical flammability test equipment, JBA, no. EQ299
Cronómetro, VENTIX, nº EQ1389
Anemometer, TESTO, no. PA075
Milimeter ruler, no. EQ285
Washing machine, WASCATOR FOM 71 MP-Lab, no. EQ2080
Balance, SARTORIUS, no. EQ116

Test conditions:
Conditioning of specimens: ≥ 24 hours / $(20 \pm 2)^{\circ}\text{C}$ / $(65 \pm 5)\%$ r.h.
Testing atmosphere: 23°C / 45 % r.h.
Internal identification of specimens: M-00603/21
Type of test: In-as received conditions and after domestic washing
Pre-treatment of the specimens: <ul style="list-style-type: none"> • DOMESTIC WASHING, according to EN ISO 6330:2012, washing procedure 3N <ul style="list-style-type: none"> ○ Temperature: 30°C ○ Washing powder: Without phosphates ECE-98 ○ Total mass of the specimens: 604,7 g ○ Type of load: Panels composed of four thicknesses of 100% textured polyester knitted fabric, with a mass per unit area of (310 ± 20) g/m², and dimensions of (20 ± 4) cm x (20 ± 4) cm ○ Total counterweight mass: 1383,8 g ○ Total load: $(2 \pm 0,1)$ kg ○ Drying: Procedure A – Air drying (each cycle) ○ Cycles: 12 (1 wash cycle = wash + dry)
Sampling (according to EN 13772:2011): <ul style="list-style-type: none"> • Number of specimens: 8 per type of test (4 lengthwise, 4 widthwise) • Dimensions of the specimens: $560 \text{ mm} \pm 2 \text{ mm} \times 170 \text{ mm} \pm 2 \text{ mm}$
Anisotropic material: Yes <ul style="list-style-type: none"> • Side A (outside): 100% polyester FR (according to the information provided by the applicant) • Side B (inside): 3 pass acrylic coating (according to the information provided by the applicant)
Reference material used: <ul style="list-style-type: none"> • Standard cotton fabric (MR006) • Standard cotton marker thread (MR007) • Standard paper filter (MR008)

Temperature increase ratio between 40°C and 100°C: (3,0 ± 1)°C/s
Flame height: 40 mm ± 2 mm
Test equipment settings (according to EN ISO 6940:2004): Procedure B – Ignition from the bottom edge (burner tilted 30°)
Air speed: 0,1 m/s
Tested area: Bottom edge
Type of gas: Propane, commercial grade

Results:

In as-received conditions

Specimen no.	Lengthwise / Warp				Widthwise / Weft			
	#1	#2	#3	#4	#1	#2	#3	#4
Tested side	A	B	A	B	A	B	A	B
Time elapsed from flame application to break 1 st marking thread	0	0	0	0	0	0	0	0
Time elapsed from flame application to break 3 rd marking thread	0	0	0	0	0	0	0	0
1 st marking thread breaking	No	No	No	No	No	No	No	No
2 nd marking thread breaking	No	No	No	No	No	No	No	No
3 rd marking thread breaking	No	No	No	No	No	No	No	No
Specimen burns and extinguishes before the 1 st marking thread	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Length of the damaged area (mm)	168	172	165	175	166	130	130	164
Inflamed dripping or residues burn the filter paper	No	No	No	No	No	No	No	No

After washing cycles

Specimen no.	Lengthwise / Warp				Widthwise / Weft			
	#1	#2	#3	#4	#1	#2	#3	#4
Tested side	A	B	A	B	A	B	A	B
Time elapsed from flame application to break 1 st marking thread	0	0	0	0	0	0	0	0
Time elapsed from flame application to break 3 rd marking thread	0	0	0	0	0	0	0	0
1 st marking thread breaking	No	No	No	No	No	No	No	No
2 nd marking thread breaking	No	No	No	No	No	No	No	No
3 rd marking thread breaking	No	No	No	No	No	No	No	No
Specimen burns and extinguishes before the 1 st marking thread	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Length of the damaged area (mm)	149	138	165	152	135	166	158	164
Inflamed dripping or residues burn the filter paper	No	No	No	No	No	No	No	No

Pictures after testing:



As-received conditions. Direction: Lengthwise / Warp.



As-received conditions. Direction: Widthwise / Weft



After washing cycles. Direction: Lengthwise / Warp.



After washing cycles. Direction: Widthwise / Weft



**TEXTILES AND TEXTILE PRODUCTS. FIRE BEHAVIOUR.
 CURTAINS AND DRAPERIES. CLASSIFICATION SCHEME**

Test standard:	EN 13773:2003
According to:	N.A.
Date of completion:	April 13 th – 28 th , 2021



Classification criteria, according to EN 13773:2003, section 5, table 1

Class	Flammability	Flame spread
1	Non-ignition according to standard EN 1101:1995/A1:2005	First marking thread unaffected, without traces off flame action, according to the standard EN 13772:2011
2	Non-ignition according to standard EN 1101:1995/A1:2005	Third marking thread unaffected, without traces off flame action, according to the standard EN 13772:2011
3	Non-ignition according to standard EN 1101:1995/A1:2005	Third marking thread affected, and/or traces of flame action, according to standard EN 13772:2011
4	Ignition according to standard EN 1101:1995/A1:2005	Unaffected third marking thread without traces of flame action, according to standard EN 1102:2016
5	Ignition according to standard EN 1101:1995/A1:2005	Affected third marking thread and/or traces of flame action, according to standard EN 1102:2016

CLASSIFICATION

CLASS 1

SIGNATURE OF AUTHORISED PERSONNEL

	
Advanced Technology Services Technical Manager - Materials Area	Advanced Technology Services Head of Department
Albert Briz	Jordi Jamilena

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