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Test Report No.:

2406257-001

Date Test Report **11-nov-24**
Acceptance: **2406257**
Arrival date sample **29-ott-24**
Start date test **29-ott-24**
End date test **11-nov-24**
References:

Customer Code 00137

Dear:
LIMONTA SPA
via Cesare Battisti 15
23845 COSTA MASNAGA (LC) Italia

C.a. sig.ra Daniela Marucci

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Sampling Mode: Sampling by Customer

[C] Item: **ESPEN**
[C] Declared Composition: **100% Trevira CS**
[C] End use: **furnishing**
[C] Typology: **fabric**
Return: **no requested**

Test Results

Test	Method	U.M.	Result
15046 PREPARATION OF MATERIALS FOR BURNING BEHAVIOUR TESTS: 5 WASHING CYCLES	UNI 9176:1998 - met A		.
Start date test	05/11/2024		
End date test	07/11/2024		
Instrument: WASHING-MACHINE ELECTROLUX WASCATOR mod. FOM 71 CLS			
PROCEDURE: The sample has been submitted to 5 washing cycles in a solution of water and detergent; after each washing, the sample has been dried in a drying oven at the temperature of 60° C for 2 hours. Washing temperature: 40° C degrees Ratio material/solution: 1:3			
After all washing cycles, the sample has been ironed and submitted to fire test.			
15016 REACTION TO FIRE BY APPLYING A SMALL FLAME: FLAME ON BOTH SURFACES	UNI 8456: 1987 + A1:1996		.
Start date test	07/11/2024		
End date test	11/11/2024		
Instrument: Flammability Chamber - Noselab			
Pretreatment carried out			sample was subjected to 5 washing cycles, as above described
Number of tests specimens			6
Time of application of flame:		s	12
CATEGORY ASSIGNED TO TESTED MATERIAL			FIRST CATEGORY
Deviations from the method			
Because of the fabric lack, the test was carried out on n. 6 specimens instead of n.10 as previewed by the standard method; this deviation could affect the test result and therefore the Test Laboratory declines all responsibility.			
Annex n.			1F
Details of the test results related to each specimen can be seen in the annex of this test report.			

The Results contained in this Report refer only to the sample as received and to the objects tested and do not imply an approval of the tested product by the Laboratory of the Centro Tessile Serico Sostenibile Srl. Unless otherwise specified, the side examined / straight of use is indicated by the Customer: this information can influence the results of the tests and therefore the Test Laboratory declines all responsibility.
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Test Report No.: **2406257-001**

Test	Method	U.M.	Result
15236 REACTION TO FIRE OF MATERIAL CAN BE HIT BY FLAME WITH RADIANT HEATING	UNI 9174:1987 + A1:1996		.
Start date test	08/11/2024		
End date test	11/11/2024		
Instrument:	Radiant Pannel - ATS FAAR		
Pretreatment carried out			sample was subjected to 5 washing cycles, as above described
Specimens position:			to the wall
Preparation of the sample:			simple
Number of tests specimens			4
CATEGORY ASSIGNED TO TESTED MATERIAL			FIRST CATEGORY
Deviations from the method			.
Because of the fabric lack, the test was carried out on n. 4 specimens instead of n. 12 as previewed by the standard method; this deviation could affect the test result and therefore the Test Laboratory declines all responsibility.			
Annex n.			2F
Details of the test results related to each specimen can be seen in the annex of this test report.			
15906 COMBUSTIBLE MATERIALS CLASSIFICATION	UNI 9177:1987		CLASS 1
SAMPLE MEETS THE CLASS 1 REQUIREMENTS			
This classification follows from the results of the tests executed according to UNI 8456 and UNI 9174, as above reported.			

The Laboratory Manager
Fausto Albonico

END OF REPORT

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Annex n. 1F to test report n. 2406257-001

DETAILS OF TEST RESULTS

Test executed according to UNI 8456:1987:

Combustible materials which can be hit by flame on both surface – Reaction to fire by applying a small flame

	Afterflame time		Afterglow time		Extent damaged area		Drip	
specimen direction	time (s)	level	time (s)	level	length (mm)	level	time (s)	level
warp	3	1	0	1	74	1	Parts off	1
warp	2	1	0	1	80	1	Parts off	1
warp	2	1	0	1	63	1	Parts off	1
warp	Fabric lack							
warp								
weft	0	1	0	1	80	1	Parts off	1
weft	0	1	0	1	72	1	Parts off	1
weft	1	1	0	1	74	1	Parts off	1
weft	Fabric lack							
weft								
Total level:		1		1		1		1
Multiplier factor:		2		1		2		1
Total:		2		1		2		1

Combined total Levels for the multiplication factor: 6

CATEGORY ASSIGNED TO THE SAMPLE: FIRST CATEGORY



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Levels of material behavior (ref. UNI 8456:1987)

1- Afterflame time

Level 1: less than or equal to 5 seconds

Level 2: greater than 5 seconds but less than or equal to 60 seconds

Level 3: greater than 60 seconds

2- Afterglow time

Level 1: less than or equal to 10 s

Level 2: greater than 10 seconds but less than or equal to 60 seconds

Level 3: greater than 60 seconds

3- Extension damaged area

Level 1: less than or equal to 150 mm

Level 2: greater than 150 mm but less than or equal to 200 mm

Level 3: greater than 200 mm

4- Drip

Level 1: absent or with any droplets and / or chipping off at the time of contact with the bottom of the combustion chamber

Level 2: drops and / or loose parts are inflamed, but off within 3 seconds

Level 3: drops and / or loose parts inflamed for more than 3 seconds

If a product burns completely in a time less than or equal to 17 s from the beginning of the test (this time includes the 12 s ignition with flame and 5 s post-combustion), its behavior is attributed last category.

When the product burns over 10 min, it is assumed that the damaged area is level 3.

CATEGORIES IN RELATION TO THE AMOUNT OF LEVELS FOR MULTIPLYING FACTOR

CATEGORIES	Combined total Levels for the multiplication factor
I	6-8
II	9-12
III	13-15
IV	16-18

The Laboratory Manager

Feusto Albionico

Annex n. 2F to test report n. 2406257-001

DETAILS OF TEST RESULTS

Test executed according to UNI 9174 (1987) + UNI 9174/A1/96:
Fire reaction of materials under flame action with radiant heat

Type: anisotropic fabric with different faces

specimen direction	Average rate of spread of flame		Post-glow time		Extent of damage		Drip	
	speed (mm/min)	level	time (s)	level	length (mm)	level	time (s)	level
warp *	n.r ⁽¹⁾	1	0	1	300	1	Parts turned off	1
warp **	n.r ⁽¹⁾	1	0	1	250	1	Parts turned off	1
warp *	fabric lack							
warp **								
warp *								
warp **								
weft *	n.r ⁽¹⁾	1	0	1	250	1	Parts turned off	1
weft **	n.r ⁽¹⁾	1	0	1	250	1	Parts turned off	1
weft *	fabric lack							
weft **								
weft *								
weft **								
Total level:		1		1		1		1
Multiplier factor:		2		1		2		1
Total:		2		1		2		1

* = face of fabric ** = back of fabric

(1) fabric melts as soon as it is placed and there is no flame. The times and relative speeds are therefore not measurable.

Combined total Levels for the multiplication factor: 6

CATEGORY ASSIGNED TO THE SAMPLE: FIRST CATEGORY



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LEVELS OF CONDUCT OF THE PRODUCTS (ref. UNI 9174:1987)

Rate of spread of flame

Level 1: speed can not be measured because the flame does not reach the 150 mm (third goal).

Level 2: propagation velocity less than or equal to 30 mm / min.

Level 3: velocity of propagation greater than 30 mm / min.

Damaged area

Level 1: less than 300 mm.

Level 2: between 350 mm and 600 mm.

Level 3: greater than 600 mm.

Post-glow

Level 1: less than or equal to 180 s.

Level 2: greater than 180 seconds but less than or equal to 360 s.

Level 3: greater than 360 s.

Drip

Level 1: absent or with any droplets and / or chipping off at the time of contact with the bottom of the combustion chamber

Level 2: drops and / or loose parts are inflamed, but off within 3 seconds

Level 3: drops and / or loose parts inflamed for more than 3 seconds

Special cases

If the material burns in the presence of flame over 60 min, it is assumed that the damaged area is level 3. The speed of propagation of the flame is calculated between 100 mm and the last goal achieved by the flame itself. The drip and glow are those already detected earlier. In the case in which the speed of propagation of the flame is greater than or equal to 200 mm / min and the damaged area is greater than or equal to 650 mm the material is placed in the last category.

For the materials in the test position to the wall, in the case in which the speed of propagation of the flame is greater than 30 mm / min and the damaged area is less than or equal to 200 mm, is conventionally attaches the level 2 at the speed of propagation of the flame. For textile materials which can be hit by the fire on both faces (in the test position to the wall) in the case in which the speed of propagation of the flame is greater than 30 mm / min and in the case in which the damaged area is less than or equal to 300 mm is attached conventionally to the speed of propagation of the flame level 2.

Note:

The time of post-glow is detected always starting at 300 mm from the edge of the specimen closest to the radiant panel.

The damaged area is detected by measuring the length between the edge of the specimen closest to the radiant panel and the ultimate goal achieved by the flame

CATEGORIES IN RELATION TO THE AMOUNT OF LEVELS FOR MULTIPLYING FACTOR

Specimen "TO THE WALL"

CATEGORIES	Combined total Levels for the multiplication factor
I	6-8
II	9-12
III	13-15
IV	16-18

The Laboratory Manager
Fausto Albano