TEST REPORT

2021CN0773

DATE OF RECEPTION
23/08/2021

DATE TESTS
Starting: 24/08/2021
Ending: 04/10/2021

APPLICANT

KUNSHAN SUNSHINETEX NEW MATERIAL CO. LTD.
No. 417 Sanxiang Road
CN-215300 Kunshan
JIANGSU

IDENTIFICATION AND DESCRIPTION OF SAMPLES

REFERENCES
FABRIC REF.- POBFC3DY

According to information supplied by the customer:

Fabric reference: POBFC3DY
Composition and percentaje: 98% Polyester and 2% Carbon
Color: Nav y/ Fluo Yellow / Fluo Orange

TESTS CARRIED OUT

- PHOTOGRAPHY.
- PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING.
- DETERMINATION OF DIMENSIONAL CHANGE IN DOMESTIC WASHING AND DRYING.
- DETERMINATION OF BREAKING STRENGTH AND ELONGATION.
- LIMITED FLAME SPREAD.

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*Tests marked with * are not included within the scope of the ENAC accreditation*

Asociación de Investigación de la Industria Textil – C.I.F.: G03182870

ENSAYOS Nº12 / LE025 Nº12 / LE427

RESULTS

PHOTOGRAPHY



Reference

FABRIC Ref.- POBFC3DY

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RESULTS

PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING

Standard
ISO 6330:2012

Standard deviation

Reference
Sample1 FABRIC Ref.- POBFC3DY

Units 1
Equipment Wascator 13471E05
Dryer machine JAMES HEAL 13473E05

Washing procedure 4N **Washing cycles** 5

Drying procedure
F (tumble dryer)

Washing powder
ECE detergent 98 + sodium perborate + TAED

Units	Dry mass of the samples	Counterweight mass	Equipment
1	0,94 Kg	1,00 Kg of Polyester	Wascator 13471E05

Start and finish date
30/08/2021 - 31/08/2021

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RESULTS

PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING

Standard
ISO 6330:2012

Standard deviation

Reference
Sample1 FABRIC Ref.- POBFC3DY

Units 1
Equipment Wascator 13471E05
Dryer machine JAMES HEAL 13473E05

Washing procedure 4N **Washing cycles** 5

Drying procedure
F (tumble dryer)

Washing powder
ECE detergent 98 + sodium perborate + TAED

Units	Dry mass of the samples	Counterweight mass	Equipment
1	0,41 Kg	1,59 Kg of Polyester	Wascator 13471E05

Start and finish date
30/08/2021 - 31/08/2021

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RESULTS

PRE-TREATMENT FOR DOMESTIC WASHING AND DRYING PROCEDURES FOR TEXTILE TESTING

Standard
ISO 6330:2012

Standard deviation

Reference
Sample1 FABRIC Ref.- POBFC3DY

Units 1
Equipment Wascator 13470E05
Dryer machine JAMES HEAL 13472E05

Washing procedure 4N **Washing cycles** 5

Drying procedure
F (tumble dryer)

Washing powder
ECE detergent 98 + sodium perborate + TAED

Units	Dry mass of the samples	Counterweight mass	Equipment
1	0,46 Kg	1,54 Kg of Polyester	Wascator 13470E05

Start and finish date
27/08/2021 - 30/08/2021

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RESULTS

DETERMINATION OF DIMENSIONAL CHANGE IN DOMESTIC WASHING AND DRYING

Standard
EN ISO 5077:2008

Standard deviation

Preparation, marking and measuring of fabric specimens according to EN ISO 3759:2011
Starting test date 26/08/2021 **Ending test date** 06/09/2021

Washing procedure
4N (T^a = 40 ± 3ºC; Total dry load test samples and the counterweight 2 ± 0.1 Kg) according to ISO 6330:2012

Used apparatus
Wascator type A-Horizontal drum, front loading (13471E05)

Detergent
98 ECE reference detergent without optical brightener.

Counterweight
Type III - 100% polyester

Number of washing cycles
5

Dryer type
A3

Procedure F – Tumble dry(13473E05)

Uncertainty of test (% of the measured value)
± 0.5 %

Tested material
Fluorescent orange woven laminated fabric

Reference	Specimen	Direction	Dimensional change (%)
FABRIC Ref.- POBFC3DY	1	Warp	-0,5
		Weft	0,0

REMARK
Negative dimensional change indicates shrinkage
Positive dimensional change indicates lengthening

REQUISITE
In accordance with the Standard EN ISO 14116:2015, the dimensional change shall not exceed ± 3%, both in width warp and in length weft.

PASS

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RESULTS

LIMITED FLAME SPREAD

Standard
EN ISO 15025:2016 (Method A)

Apparatus
Equipment for determination of limited flame spread 13008IE12

Original and after pre-treatment test date
28/09/2021 - 28/09/2021

Conditioned
24h in indoor ambient conditions at (20 ± 2) ºC and (65 ± 5) % RH

Original and after pre-treatment ambient conditions test
19,8ºC and 57,8% RH - 20,1ºC and 56,4% RH

Gas used
Propane gas

Deviation from the standard

Face exposed to the flame
Surface: Outer

Tested material
Orange laminate fabric with white laminated fabric inner face.

Reference
FABRIC Ref.- POBFC3DY

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RESULTS

Pre-Treatment As received

Specimen	1	2	3	4	5	6
Direction		Warp			Weft	
Flaming to top or either side edge	No	No	No	No	No	No
After flame time (s)	0	0	0	0	0	0
Afterglow time (s)	0	0	0	0	0	0
Loose waste	No	No	No	No	No	No
Inflammation of the filter paper detached from waste	No	No	No	No	No	No
Hole formation	Yes	Yes	Yes	Yes	Yes	Yes

Pre-Treatment 5 washing cycles at 40ºC, according to standard EN ISO 6330:2012, method 4N and type F drying (tumble dry)

Specimen	1	2	3	4	5	6
Direction		Warp			Weft	
Flaming to top or either side edge	No	No	No	No	No	No
Post- After flame (s)	0	0	0	0	0	0
Afterglow time (s)	0	0	0	0	0	0
Loose waste	No	No	No	No	No	No
Inflammation of the filter paper detached from waste	No	No	No	No	No	No
Hole formation	Yes	Yes	Yes	Yes	Yes	Yes

Remark

The uncertainty of the assay of limited flame spread is ±2% of the value measured, for a coverage factor of K=2 (95%).

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RESULTS

PERFORMANCE LEVEL ACCORDING TO EN ISO 14116:2015	Index 1

Requirements to be met Index 1 according to EN ISO 14116:2015, point 7.1

a) The hole or the lower part of the flame mustn't reach the highest or vertical bottom of the specimen
b) No specimen shall give flaming or molten debris.
c) The afterglow time is ≤ 2 s

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RESULTS

DETERMINATION OF BREAKING STRENGTH AND ELONGATION

Standard
EN ISO 13934-1:2013

Apparatus
INSTRON Dynamometer

Conditioning date	02/09/2021	**Test date**	04/10/2021

Atmosphere for conditioning testing

Temperature	(20±2) ºC	**Relative humidity**	(65±4) %

Gauge length

Lengthwise	200 mm.	**Crosswise**	200 mm.

Test velocity

Lengthwise	100 mm/min	**Crosswise**	100 mm/min

Pretension

Lengthwise	0,5 N	**Crosswise**	0,5 N

Nº of specimens

Tested	5 for each direction	**Rejected**	0
State of the specimens	Conditioned		

Previous treatment
5 washing cycles at 40ºC, according to standard EN ISO 6330:2012, method 4N and type F drying (tumble dry)

Reference
FABRIC Ref.- POBFC3DY

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RESULTS

Direction	Maximum average load (N)	C.V. (%)	Average elongation (%)	C.V. (%)
Lengthwise	1144 1240 1235 1207 1128 1286	6.0	26 27 25 26 24 28	6.0
Crosswise	980 921 991 982 966 1050	5.0	28 26 29 28 29 28	4.0

Remark

The relative expanded uncertainty of Tensile strength resistance is ±5% assay value of the measured, for a probability of coverage of 95%.

The test procedure described in the two versions of the Standard (EN ISO 13934-1:1999 and EN ISO 13934-1:2013) is the same.

REQUISITE ACCORDING TO STANDARD EN ISO 14116:2015

The woven outer material must resist a breaking load in both directions ≥ 150 N.

PASS

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Lucia Martinez
Head of PPE and Ballistics department

Digitally signed by ISABEL LLOPIS LUMBRERAS - NIF:21678551Q
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Reason: Autorizado
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