



Solar Screen International S.A.
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Through our consultant Jo Wynendaele

Your notice of
 11-06-2020

Your reference

Date
 15-09-2020

Analysis Report 20.03686.02

Translation of analysis report 20.03686.01, made on 15-09-2020

Required tests :

ISO 105-X12 (2016)
ISO 9073-6 (2000)
ISO 9073-6 (2000)
ISO 9073-6 (2000)
EN 12956 (1999)+A1(2001)
EN 12956 (1999)+A1(2001)
EN 12956 (1999)+A1(2001)
EN 12956 (1999)+A1(2001)
Centexbel

Centexbel
ISO 105-E01 (2013)
ISO 18168 (2015)
Platform method
EN 14697 - An. B (2005)

Determination of the colour fastness to rubbing
Determination of liquid absorbency capacity
Determination of liquid wicking rate
Determination of liquid absorbency time
determination of the assesment for spongeability
determination of the assesment for washability
determination of the assesment for extra washability
determination of the assesment for scrubability
determination of dimensional stability under various climatic conditions
Determination of the contact angle - droplet test
Determination of the colour fastness to water
Determination of the colour fastness to shampooing
Lab-scale coating and finishing
Determination of the absorption time

Sample id	Information given by the client	Date of receipt
T2012893	U50	11-06-2020

Kristina De Temmerman
 Order responsible

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 The results of the analysis cover the received samples. Centexbel is not responsible for the representativeness of the samples.
 In assessing compliance with the specifications, we did not take into account the uncertainty on the test results.

Reference: A2003686

Comments

To determine if the product group 'Cover Styl': PVC self-adhesive interior foil' could be used in areas where resistance to water is required we performed several tests and could conclude the following for each tested characteristic:

color fastness to rubbing dry/wet according ISO 105-X12

- No change in color after dry and wet conditions

color fastness to water according ISO 105-E01

- No change in color

color fastness to shampoo according ISO 18168

- No change in color

determination of water absorption time according ISO 9073-6

- By immersion the product under water for 60s an uptake of 11.5% is determined

determination of liquid wicking rate according ISO 9073-6

- There is no uptake of water if the product is mounted vertical in water

determination of water absorption time according EN 14697

- Sample is still not immersed after 15 minutes

determination of contact angle droplet test

- After 60s a contact angle of 84° is still obtained, meaning that almost no water absorption occurs

determination of dimensional stability under various climatic conditions according ISO 1419-C

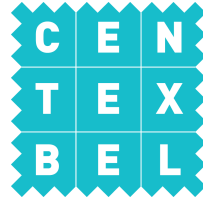
- No shrinkage or elongation after 24h at 20°C and 65% room humidity
- No shrinkage or elongation after 24h at 50°C and 65% room humidity

determination of spongeability and washability according EN 12956

- The product is noted as 'extra washable' and the following symbol may be used



Also, a condensation test was performed to test the vapour resistance by exposing the sample to condensing water vapour for 3 hours. We noticed that after the test the sample is still attached to the glass plate without notifying any defects.



Based on the outcome of above-mentioned tests we believe that product group 'Cover Styl': PVC self-adhesive interior foil' could be used in areas where resistance to water is required.



Reference: T2012893 - U50

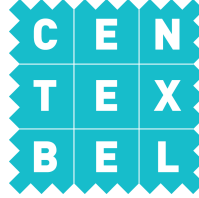
Determination of the colour fastness to rubbing

Date of ending the test 13-07-2020
 Standard used ISO 105-X12 (2016)
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Apparatus Crockmeter
 Applied finger Ø 16 mm
 Pressure on test specimen 9 N
 Number of cycles 10

Assessment of staining according to the grey scales (ISO 105 A03)

Numerical rating

	Length direction	Width direction
Dry	4-5	4-5
Wet	4-5	4-5



Reference: T2012893 - U50

Determination of liquid absorbency capacity

Date of ending the test 10-07-2020
 Standard used ISO 9073-6 (2000)
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Number of test specimens 5
 Dimension of the specimens 100 mm x 100 mm
 Used liquid Water demineralize
 Influence time 60 s
 Drainage time 120 s

	Mass (g) - before	Mass (g) - after	Waterabsorption %
#1	3.8960	4.3050	10.5
#2	3.8720	4.3660	13.0
#3	3.9520	4.3720	10.5
#4	3.8620	4.3220	12.0
#5	3.8780	4.3340	12.0
Average	3.892 g	4.340 g	11.5 %

Reference: T2012893 - U50

Determination of liquid wicking rate

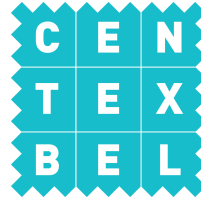
Date of ending the test 13-07-2020
Standard used ISO 9073-6 (2000)
Deviation from the standard -
Conditioning 20°C, relative humidity 65%
Number of test specimens 5 (Length direction)
5 (Width direction)
Dimension of the specimens 30 mm x 250 mm
Used liquid Water demineralize
Addition of solvent -

Length direction

	Rising height (mm)			
	After 10 s	After 30 s	After 60 s	After 300 s
#1	0	0	0	0
#2	0	0	0	0
#3	0	0	0	0
#4	0	0	0	0
#5	0	0	0	0
Average	0 mm	0 mm	0 mm	0 mm

Width direction

	Rising height (mm)			
	After 10 s	After 30 s	After 60 s	After 300 s
#1	0	0	0	0
#2	0	0	0	0
#3	0	0	0	0
#4	0	0	0	0
#5	0	0	0	0
Average	0 mm	0 mm	0 mm	0 mm



Reference: T2012893 - U50

Determination of liquid absorpency time

Date of ending the test 10-07-2020
 Standard used ISO 9073-6 (2000)
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Number of test specimens 5
 Used liquid Water demineralize
 Dimension of the specimens 76 mm x 168 mm

Test specimen	Absorption time
#1	3
#2	3
#3	3
#4	3
#5	3
Average	3 "

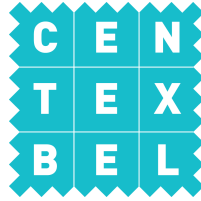


Reference: T2012893 - U50

Determination of the assesment for spongeability

Date of ending the test 30-07-2020
Standard used EN 12956 (1999)+A1(2001)
Product standard EN 233 (2016)
Method 6.5 -a. spongeability
Deviation from the standard -
Conditioning 20°C, relative humidity 65%
Rate 30 cycli/min
Number of cycles 20
Pressure 100 g
Used liquid 30 ml demineralised water

Test specimen	Assessment
1	no visible changes
2	no visible changes
3	no visible changes



Reference: T2012893 - U50

Determination of the assesment for washability

Date of ending the test 30-07-2020
 Standard used EN 12956 (1999)+A1(2001)
 Product standard EN 233 (2016)
 Method 6.5 -b. washability
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Rate 120 cycli/min
 Number of cycles 30
 Pressure 550 g
 Used liquid 30 ml solution of soap

Test specimen	Assesment	
	Dry	Wet
1	no visible changes	no visible changes
2	no visible changes	no visible changes
3	no visible changes	no visible changes



Reference: T2012893 - U50

Determination of the assesment for extra washability

Date of ending the test 05-08-2020
 Standard used EN 12956 (1999)+A1(2001)
 Product standard EN 233 (2016)
 Method 6.5 -c. extra washability
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Rate 120 cycli/min
 Number of cycles 100
 Pressure 550 g
 Used liquid 30 ml solution of soap

Test specimen	Assesment	
	Dry	Wet
1	no visible changes	no visible changes
2	no visible changes	no visible changes
3	no visible changes	no visible changes



Reference: T2012893 - U50

Determination of the assesment for scrubability

Date of ending the test 05-08-2020
 Standard used EN 12956 (1999)+A1(2001)
 Product standard EN 233 (2016)
 Method 6.5 -d. scrubability
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Rate 30 cycli/min
 Number of cycles 30
 Pressure 600 g
 Used liquid 20 ml solution of soap + 5g abrasif pasta

Test specimen	Assesment	
	Dry	Wet
1	visible changes	visible changes
2	visible changes	visible changes
3	visible changes	visible changes

Reference: T2012893 - U50

Determination of dimensional stability under various climatic conditions

Date of ending the test	12-08-2020
Method used	Centexbel
Apparatus	Weiss Climatecabinet
Preparation, marking and measurement	ISO 3759 (2011)
Number of measurements on each sample	3
Number of test specimens	3
Measurement precision	0.25%
Conditions climat	24 hours 20°C and 65% rel. humidity 24 hours 50°C and 65% rel. humidity 24 hours 20°C and 65% rel. humidity
- Means shrinkage	
+ Means extension	

24 h à 20°C - 65% d'hum. relative

	Length direction	Width direction
1-1	+0.00	+0.00
1-2	+0.00	+0.00
1-3	+0.00	+0.00
2-1	+0.00	+0.00
2-2	+0.00	+0.00
2-3	+0.00	+0.00
3-1	+0.00	+0.00
3-2	+0.00	+0.00
3-3	+0.00	+0.00
Average	+0.0 %	+0.0 %

24 h à 50°C - 65% d'hum. relative

	Length direction	Width direction
1-1	+0.00	+0.00
1-2	-0.25	+0.00
1-3	-0.25	-0.25
2-1	+0.00	+0.00
2-2	-0.25	+0.00
2-3	-0.25	-0.25
3-1	-0.25	+0.00
3-2	-0.25	-0.25
3-3	-0.25	-0.25
Average	+0.0 %	+0.0 %

24h à 20°C - 65% d'hum. relative

	Length direction	Width direction
1-1	+0.00	+0.00
1-2	-0.25	+0.00
1-3	-0.25	-0.25
2-1	+0.00	+0.00
2-2	-0.25	+0.00
2-3	-0.25	-0.25
3-1	-0.25	+0.00
3-2	-0.25	-0.25
3-3	-0.25	-0.25
Average	+0.0 %	+0.0 %

Reference: T2012893 - U50

Determination of the contact angle - droplet test

Date of ending the test 14-07-2020
 Method used Centexbel
 Apparatus ILMS - GBX
 Test liquid Water
 Duration of the measurement 60 s
 Temperature (°C) 23
 Number of measurements 2

T2012893		
Time (s)	1st measurement	2nd measurement
0	87.7	84.8
30	84.4	84.6
60	84	84.3

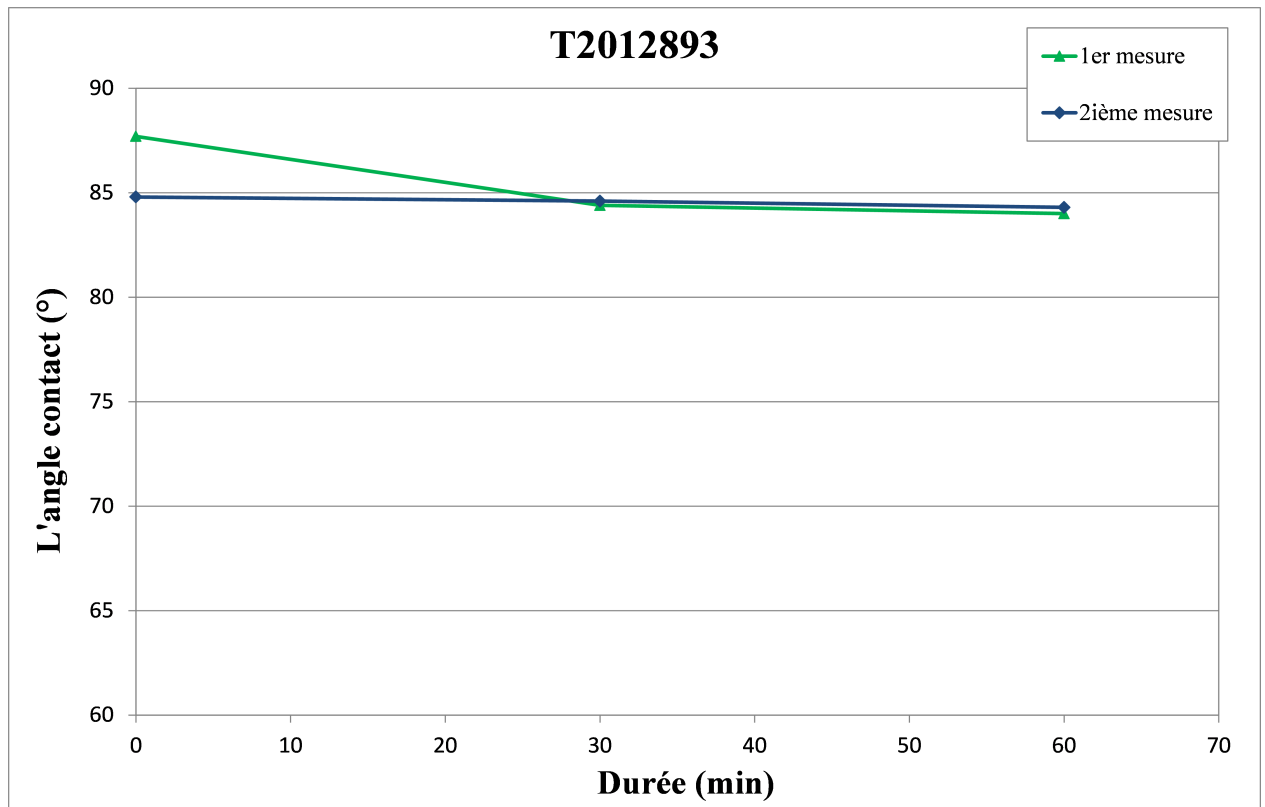


Figure 1: Contact angle as function of time

Reference: T2012893 - U50

Determination of the colour fastness to water

Date of ending the test 29-06-2020
Standard used ISO 105-E01 (2013)

Deviation from the standard
Apparatus Perspirometer

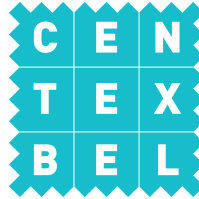
Results

Multifibre Type DW

Numerical rating	
Change in colour	5
Staining on diacetate	5
Staining on cotton	5
Staining on polyamide	5
Staining on polyester	5
Staining on acrylic	5
Staining on wool	5

Grading against grey scale for change in colour and/or staining:

Use of a 9 point scale from 5 to 1; where 5 is excellent and 1 is poor. Intermediate values like 2-3 are possible.



Reference: T2012893 - U50

Determination of the colour fastness to shampooing

Date of ending the test 29-06-2020
 Standard used ISO 18168 (2015)

Deviation from the standard -

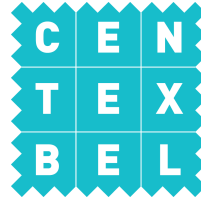
Results

Multifibre Type DW

Numerical rating	
Change in colour	5
Staining on diacetate	5
Staining on cotton	5
Staining on polyamide	5
Staining on polyester	5
Staining on acrylic	5
Staining on wool	5

Grading against grey scale for change in colour and/or staining:

Use of a 9 point scale from 5 to 1; where 5 is excellent and 1 is poor. Intermediate values like 2-3 are possible.



Reference: T2012893 - U50

Lab-scale coating and finishing

Date of ending the test 03-07-2020
Standard used Platform method

The report of the trials is given as attachment to this report.

Annex 1 Solar Screen International_A2003686.XLSX



Reference: T2012893 - U50

Determination of the absorption time

Date of ending the test 13-07-2020
 Standard used EN 14697 - An. B (2005)
 Product standard EN 14697 (2005)
 Deviation from the standard -
 Conditioning 20°C, relative humidity 65%
 Number of test specimens 5
 Dimension of the specimens 100 mm x 100 mm
 Water temperature 20 °C

Number of test specimens	Time to full immersion (")
#1	> 900
#2	> 900
#3	> 900
#4	> 900
#5	> 900
Average	> 900