Reference: **M2221393**
T2221061 - COTTON - khaki
T2221064 - NYLON/RAYON/SPAN - purple

Determination of organo tin compounds

Date of ending the test	07-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Extraction method	Ultrasonic extraction with ethanol/acetic acid
Derivatisation	Tetraethylborate
Analytical method	GC-MS/MS
Compounds	See table
Results	
Determination limit	0,10 mg/kg

Compounds	C (mg/kg)
TBT	< 0.10
TPhT	< 0.10
DBT	< 0.10
DMT	< 0.10
DOT	< 0.10
DPhT	< 0.10
DPT	< 0.10
MBT	< 0.10
MOT	< 0.10
MMT	< 0.10
MPhT	< 0.10
TeBT	< 0.10
TeET	< 0.10
TCyHT	< 0.10
TMT	< 0.10
TOT	< 0.10
TeOT	< 0.10
TPT	< 0.10

Reference: **M2221393**
T2221061 - COTTON - khaki
T2221064 - NYLON/RAYON/SPAN - purple

Determination of octylphenol, nonylphenol and their ethoxylates

Date of ending the test	08-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Extraction method	Ultrasonic extraction with methanol
Analytical method	ESI-LC/MS/MS
Results	
Determination limit	BP, NP, OP, HpP, PeP: 1 mg/kg NPEO, OPEO: 10 mg/kg

Compounds	**C (mg/kg)**
BP	< 1.00
NP	< 1.00
OP	< 1.00
HpP	< 1.00
PeP	< 1.00
NP(EO)	< 10.0
OP(EO)	< 10.0
Sum BP, NP, OP, HpP, PeP	**< 2.00**
Sum BP, NP, OP, HpP, PeP, NP(EO), OP(EO)	**< 20.0**

Reference: **M2221395**
T2221061 - COTTON - khaki
T2221064 - NYLON/RAYON/SPAN - purple
T2221062 - MODAL/POLYESTER - brown

Arylamines coming from prohibited azo dyes in textiles

Date of ending the test	21-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Preparation procedure	Textiles dyed with pigments and/or dyed with colorants other than disperse dyes
Analysis	HPLC with DAD, confirmation : APCI-LC/MS/MS
Additional EN 14362-3 test	No need
Results	
Reporting limit	5 mg/kg. Aniline 10 mg/kg

Components	C (mg/kg)
2,4,5-Trimethylaniline	< 5.00
2,4-Diaminoanisole	< 5.00
2,4-Toluylendiamine	< 5.00
2-Amino-4-nitrotoluene	< 5.00
2-Naphthylamine	< 5.00
3,3'-Dimethoxybenzidine	< 5.00
3,3'-Dimethyl-4,4'-diaminobiphenylmethane	< 5.00
3,3'-Dimethylbenzidine	< 5.00
3.3'-Dichlorobenzidine	< 5.00
4,4'-Diaminobiphenylmethane	< 5.00
4,4'-Methylene-bis-(2-chloroaniline)	< 5.00
4,4'-Oxydianiline	< 5.00
4,4'-Thiodianiline	< 5.00
4-Aminobiphenyl	< 5.00
4-Chloro-o-toluidine	< 5.00
Benzidine	< 5.00
O-Aminoazotoluene	< 5.00
O-Toluidine	< 5.00
P-Chloroaniline	< 5.00
P-Cresidine	< 5.00
O-Anisidine	< 5.00
2,4-Xylidine	< 5.00
2,6-Xylidine	< 5.00
4-Aminoazobenzene (°)	< 5.00
2-Naphthylammoniumacetate	< 5.00
4-Chloro-o-toluidinium chloride	< 5.00
2.4-Diaminoanisole sulphate	< 5.00
2.4.5-Trimethylaniline hydrochloride	< 5.00
Sum of all Arylamines	< 10.0

Compound	C (mg/kg)
Aniline	< 10.0

(°) 4-aminoazobenzene degrades under the testing conditions. When detecting possible degradation products, the standard prescribes an additional test (EN 14362-3 accredited)

Dyestuffs under observation

Components(*)	**C (mg/kg)**
2-Amino-5-nitrothiazole	< 5.00
p-phenetidine	< 5.00
2-methyl-p-phenylendiamine	< 5.00
p-Anisidine	< 5.00
3,3'-Diaminobenzidin (biphenyl-3,3',4,4'-tetrayltetraamine)	< 5.00

(*) these components are not covered by accreditation

Reference: T2221064 - NYLON/RAYON/SPAN - purple

Determination of the colour fastness to water

Date of ending the test	14-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Apparatus	Perspirometer

Results

Monofibre

Numerical rating	
Staining on polyamide	4-5
Staining on viscose	4-5

Grading against grey scale for change in colour (ISO105 A02) and/or staining (ISO 105 A03):

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: T2221064 - NYLON/RAYON/SPAN - purple

Determination of the colour fastness to perspiration

Date of ending the test	14-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Apparatus	Perspirometer

Results

Monofibre, Alkaline solution

Numerical rating	
Staining on polyamide	4-5
Staining on viscose	4-5

Monofibre, Acid solution

Numerical rating	
Staining on polyamide	4
Staining on viscose	4-5

Grading against grey scale for change in colour (ISO105 A02) and/or staining (ISO 105 A03):

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: T2221064 - NYLON/RAYON/SPAN - purple

Determination of the colour fastness to rubbing

Date of ending the test	14-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	-
Apparatus	Crockmeter
Pressure on test specimen	9 N
Number of cycles	10
Direction	Fabrics : direction 1 = warp - direction 2 = weft Non-woven : direction 1 = production - direction 2 = perpendicular to it Manufactured: direction 1 = length - direction 2 = width Yarn and print : only 1 direction

Results

Staining on cotton rubbing cloth (dry)	Numerical rating
Direction 1	5
Direction 2	5

Grading against grey scale for change in colour (ISO105 A02) and/or staining (ISO 105 A03):

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: T2221064 - NYLON/RAYON/SPAN - purple

Determination of heavy metals

Date of ending the test	09-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Deviation from the standard	
Extraction method	Acid solution (ISO 105 E04)
Determination	ICP-OES Cr(VI) - colorimetric

Metals	Determination limit (DL) mg/kg	Concentration mg/kg
Sb (antimony)	1.50	< 1.50
As (arsenic)	0.200	< 0.20
Pb (lead)	0.200	< 0.20
Cd (cadmium)	0.0500	< 0.05
Cr (chromium)	0.200	< 0.20
Co (cobalt)	0.100	< 0.10
Cu (copper)	1.50	< 1.50
Ni (nickel)	0.100	< 0.10
Hg (mercury)	0.0200	< 0.02
Ba (barium)	1.50	< 1.50
Se (selenium)	1.50	< 1.50

Reference: **T2221064 - NYLON/RAYON/SPAN - purple**

Determination of OPP and chlorinated phenols

Date of ending the test	07-11-2022
Standard used	OEKO-TEX® (2022)
Product standard	Standard 100 by Oeko-Tex® (2022)_Appendix 4
Extraction method	Microwave extraction with KOH
Analytical method	HRAM GC-MS
Components	O-phenylphenol (OPP) phenol, 2 chlorophenol, 3 chlorophenol, 4 chlorophenol, 2,3 dichlorophenol, 2,4 dichlorophenol, 2,5 dichlorophenol, 2,6-dichlorophenol,3,4-dichlorophenol,3,5-dichlorophenol, 2,3,4-trichlorophenol, 2,3,5-trichlorophenol, 2,3,6-trichlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 3,4,5-trichlorophenol, 2,3,5,6-tétrachlorophenol, 2,3,4,6-tétrachlorophenol, 2,3,4,5- tétrachlorophenol, pentachlorophenol (PCP)
Determination limit	PCP, TeCP, TrCP, DCP, MCP: 0.02 mg/kg Phenol: 10,0 mg/kg OPP: 1.00 mg/kg

Compound	C (mg/kg)
Phenol	< 10
OPP	< 1.0
PCP	< 0.020
TeCP (Sum)	< 0.020
TrCP (Sum)	< 0.020
DCP (Sum)	< 0.020
MCP (Sum)	< 0.020

Greenwear Co., Ltd.
243, Geomjun-gil, Nam-myeon, Yanju-si, Gyeonggi-do
11410 Yanju – Gyeonggi
SOUTH KOREA

our reference	**Gent**
JLP.EW/3833	2022-11-30

STANDARD 100 by OEKO-TEX® certification report

1. Subject of Analysis

STANDARD 100 by OEKO-TEX® Certificate – Appendix 4

Commission piece dyeing with natural colorants of 100% cotton, cotton/spandex, cotton/polyester, cotton/polyester/spandex, tencel/spandex, tencel/polyester, modal/spandex, modal/polyester, modal/tencel, 100% nylon, nylon/spandex, nylon/tencel, nylon/rayon, nylon/rayon/spandex, nylon/modal, nylon/modal/polyester, 100% polyester, polyester/cotton, polyester/rayon, polyester/modal, polyester/spandex

Class II

2. Conclusion

The materials with reference

- COTTON - khaki
- MODAL/POLYESTER - brown
- TENCEL/POLYESTER - dark purple
- NYLON/RAYON/SPAN - purple
- POLYESTER/RAYON - yellow

meet the requirements of STANDARD 100 by OEKO-TEX® – Appendix 4, Class II.

Please fill in the attached declaration of conformity and send the signed version back to us.

We would like to ask you to indicate in which language(s) you require the certificate and provide us with the right description in the right language.

Please also make sure that the correct address, as it should be written on the certificate, is mentioned.

As soon as we receive the declaration of conformity, completed and signed, we can proceed with the creation of the certificate.

3. Test results

Quality name

- mix: COTTON - khaki / NYLON/RAYON/SPAN - purple
- mix: MODAL/POLYESTER - brown / TENCEL/POLYESTER - dark purple
- mix: COTTON - khaki / NYLON/RAYON/SPAN - purple / MODAL/POLYESTER - brown
- COTTON - khaki
- MODAL/POLYESTER - brown
- TENCEL/POLYESTER - dark purple
- NYLON/RAYON/SPAN - purple
- POLYESTER/RAYON - yellow

Detailed information is to be found in: Analysis report 22.05688.01, dd. 22-11-2022

REFERENCE	**mix: COTTON - khaki / NYLON/RAYON/SPAN - purple**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
Organic tin compounds - TBT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPhT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeET	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TCyHT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPT	< 2.0 mg/kg	< 0.10 mg/kg
BP, NP, OP, HpP, PeP – sum	< 10.0 mg/kg	< 2.00 mg/kg
BP, NP, OP, HpP, PeP, NP(EO), OP(EO) – sum	< 100.0 mg/kg	< 20.0 mg/kg

REFERENCE	**mix: MODAL/POLYESTER - brown / TENCEL/POLYESTER - dark purple**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
Organic tin compounds - TBT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPhT	< 1.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - DPT	< 2.0 mg/kg	< 0.10 mg/kg

Organic tin compounds - MBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - MPhT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeBT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeET	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TCyHT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TMT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TeOT	< 2.0 mg/kg	< 0.10 mg/kg
Organic tin compounds - TPT	< 2.0 mg/kg	< 0.10 mg/kg
BP, NP, OP, HpP, PeP – sum	< 10.0 mg/kg	< 2.00 mg/kg
BP, NP, OP, HpP, PeP, NP(EO), OP(EO) – sum	< 100.0 mg/kg	< 20.0 mg/kg

REFERENCE	**mix: COTTON - khaki / NYLON/RAYON/SPAN - purple / MODAL/POLYESTER - brown**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
Sum of all Arylamines	< 20.0 mg/kg	< 10.0 mg/kg
Aniline	< 50.0 mg/kg	< 10.0 mg/kg
2-Amino-5-nitrothiazole	Under observation	< 5.00 mg/kg
p-Phenetidine	Under observation	< 5.00 mg/kg
2-Methyl-p-phenylendiamine	Under observation	< 5.00 mg/kg
p-Anisidine	Under observation	< 5.00 mg/kg
3,3'-Diaminobenzidin (biphenyl-3,3',4,4'-tetrayltetraamine)	Under observation	< 5.00 mg/kg

REFERENCE	**COTTON - khaki**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
pH	4.0 - 7.5	5.6
Metal: Sb	< 30.0 mg/kg	< 1.50 mg/kg
Metal: As	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Pb	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Cd	< 0.1 mg/kg	< 0.05 mg/kg
Metal: Cr	< 2.0 mg/kg	< 0.20 mg/kg
Metal: Co	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Cu	< 50.0 mg/kg	< 1.50 mg/kg
Metal: Ni	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Hg	< 0.02 mg/kg	< 0.02 mg/kg
Metal: Ba	< 1000.0 mg/kg	< 1.50 mg/kg
Metal: Se	< 100.0 mg/kg	< 1.50 mg/kg
Pentachlorophenol (PCP)	< 0.5 mg/kg	< 0.020 mg/kg
Tetrachlorophenol (TeCP, sum)	< 0.5 mg/kg	< 0.020 mg/kg
Trichlorophenol (TrCP, sum)	< 2.0 mg/kg	< 0.020 mg/kg
Dichlorophenol (DCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Monochlorophenol (MCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Orthophenylphenol (OPP)	< 25.0 mg/kg	< 1.0 mg/kg
Phenol	< 50.0 mg/kg	< 10 mg/kg
Colour fastness to water	3	4-5

Colour fastness to perspiration - acid	3-4	4-5
Colour fastness to perspiration - alkaline	3-4	4-5
Colour fastness to rubbing - dry	4	4-5

REFERENCE	**MODAL/POLYESTER - brown**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
pH	4.0 - 7.5	6.0
Metal: Sb	< 30.0 mg/kg	< 1.50 mg/kg
Metal: As	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Pb	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Cd	< 0.1 mg/kg	< 0.05 mg/kg
Metal: Cr	< 2.0 mg/kg	< 0.20 mg/kg
Metal: Co	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Cu	< 50.0 mg/kg	< 1.50 mg/kg
Metal: Ni	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Hg	< 0.02 mg/kg	< 0.02 mg/kg
Metal: Ba	< 1000.0 mg/kg	< 1.50 mg/kg
Metal: Se	< 100.0 mg/kg	< 1.50 mg/kg
Pentachlorophenol (PCP)	< 0.5 mg/kg	< 0.020 mg/kg
Tetrachlorophenol (TeCP, sum)	< 0.5 mg/kg	< 0.020 mg/kg
Trichlorophenol (TrCP, sum)	< 2.0 mg/kg	< 0.020 mg/kg
Dichlorophenol (DCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Monochlorophenol (MCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Orthophenylphenol (OPP)	< 25.0 mg/kg	< 1.0 mg/kg
Phenol	< 50.0 mg/kg	< 10 mg/kg
Colour fastness to water	3	4-5
Colour fastness to perspiration - acid	3-4	4-5
Colour fastness to perspiration - alkaline	3-4	4-5
Colour fastness to rubbing - dry	4	4-5
Octamethylcyclotetrasiloxane (D4)	< 0.1 %	< 0.010 %
Decamethylcyclopentasiloxane (D5)	< 0.1 %	< 0.010 %
Dodecamethylcyclohexasiloxane (D6)	< 0.1 %	< 0.010 %

REFERENCE	**TENCEL/POLYESTER - dark purple**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
pH	4.0 - 7.5	5.9
Formaldehyde	< 75.0 mg/kg	< 16.0 mg/kg
Colour fastness to water	3	5
Colour fastness to perspiration - acid	3-4	4-5
Colour fastness to perspiration - alkaline	3-4	5
Colour fastness to rubbing - dry	4	4-5

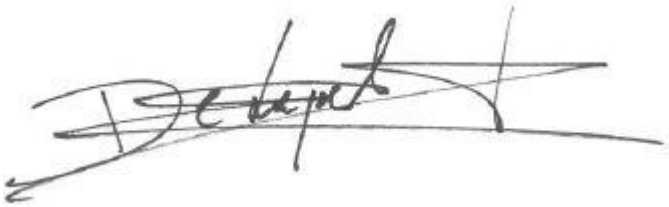
REFERENCE	**NYLON/RAYON/SPAN - purple**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
Metal: Sb	< 30.0 mg/kg	< 1.50 mg/kg
Metal: As	< 1.0 mg/kg	< 0.20 mg/kg

Metal: Pb	< 1.0 mg/kg	< 0.20 mg/kg
Metal: Cd	< 0.1 mg/kg	< 0.05 mg/kg
Metal: Cr	< 2.0 mg/kg	< 0.20 mg/kg
Metal: Co	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Cu	< 50.0 mg/kg	< 1.50 mg/kg
Metal: Ni	< 4.0 mg/kg	< 0.10 mg/kg
Metal: Hg	< 0.02 mg/kg	< 0.02 mg/kg
Metal: Ba	< 1000.0 mg/kg	< 1.50 mg/kg
Metal: Se	< 100.0 mg/kg	< 1.50 mg/kg
Pentachlorophenol (PCP)	< 0.5 mg/kg	< 0.020 mg/kg
Tetrachlorophenol (TeCP, sum)	< 0.5 mg/kg	< 0.020 mg/kg
Trichlorophenol (TrCP, sum)	< 2.0 mg/kg	< 0.020 mg/kg
Dichlorophenol (DCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Monochlorophenol (MCP, sum)	< 3.0 mg/kg	< 0.020 mg/kg
Orthophenylphenol (OPP)	< 25.0 mg/kg	< 1.0 mg/kg
Phenol	< 50.0 mg/kg	< 10 mg/kg
Colour fastness to water	3	4-5
Colour fastness to perspiration - acid	3-4	4
Colour fastness to perspiration - alkaline	3-4	4-5
Colour fastness to rubbing - dry	4	5

REFERENCE	**POLYESTER/RAYON - yellow**	
Test of STANDARD 100 by OEKO-TEX® App. 4 – Class II	**Requirements**	**Results**
pH	4.0 - 7.5	5.8
Colour fastness to water	3	5
Colour fastness to perspiration - acid	3-4	5
Colour fastness to perspiration - alkaline	3-4	5
Colour fastness to rubbing - dry	4	5

4. Annex

- Analysis report 22.05688.01, dd. 22-11-2022
- Declaration of conformity



Best regards,

Jolien De Lepeleire – Coordinator OEKO-TEX®