



REGISTERED

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TEST REPORT NO. TP001 147124.1

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Test material: 2 Delrin (POM) elements, coloured; 2 PES tapes with coil, 6 PES tapes, raw or dyed with without flame retardant; 4 zine alloy sliders, raw or painted; 1 aluminum wire; 1 PA film and 1 heat seal w/PES tape, for testing.

SUBJECT OF ANALYSIS

According to your order dated 29.10.2018 analysis should be carried out on the samples received on 06.11.2018. This order and the assessments carried out are related to the application for renewal of your certificate TPAO 054092 according to the STANDARD 100 by OEKO-TEX®, product class I (products for babies and small children), Appendix 4. The application is based exclusively on materials already certified according to STANDARD 100 by OEKO-TEX®.

RESULTS OF ANALYSIS

The results of the analysis we have carried out are summarized in the following tables.

SUMMARY

All tested parameters fulfil the requirements of STANDARD 100 by OEKO-TEX®, product class I, Appendix 4. On basis of these results and considering your application as well as the documents (including copies of valid OEKO-TEX® certificates) submitted your OEKO-TEX® certificate TPAO 054092 can be issued. Also the regulations on harmful substances under the European REACH legislation, including the textile-relevant candidates for SVHC (Substances of Very High Concern) as per 27.06.2018 are considered. It is valid until 15.11.2019 and can then be renewed. Please find the said certificate enclosed with this test report. In addition, we refer to the declaration of conformity, point 2, quality assurance, and ask you to ensure and verify that your products from different processing or dyeing batches (in case applicable) are randomly checked for compliance with the STANDARD 100 by OEKO-TEX®. Tests can be carried out at your facility or at TESTEX and have to be documented. On request documentation has to be shown to TESTEX.

Swiss Textile Testing Institute
TESTEX AG


Mary Rose Egloff
Customer Service Ecology Manager


i.A. Anna Hänsli
Customer Service Officer

Enclosures mentioned

cc: TESTEX Taipei

proven since 1846



RE 147124.1





OVERVIEW

Please refer to overview table and table of result for failed samples.

p: tested and passed; X: tested and failed; d: done; ' ': not tested

	Sample No.									
	1	2	3	4	5	6	7	8	9	10
Azo Dyes OEKO-TEX® Method 11.1 (direct)	p	p								
Azo Dyes OEKO-TEX® Method 11.1 (Extract)				p	p		p	p		
Chlorinated Benzenes & Toluenes OEKO-TEX® Method 12	p			p			p		p	
Chlorinated Phenols and OPP OEKO-TEX® Method 5		p		p	p			p		
Colour Fastness To Perspiration OEKO-TEX® Method 20-B (EN ISO 105-E04)					p	p	p	p	p	
Colour Fastness To Saliva And Perspiration OEKO-TEX® Method 20-A	p	p	p	p	p	p	p	p	p	
Colour Fastness To Water OEKO-TEX® Method 20-C (EN ISO 105-E01)					p	p	p	p	p	
Disperse Dyes OEKO-TEX® Method 11.3/11.4			p		p	p		p		
Formaldehyde JIS L-1041 OEKO-TEX® Method 2	p		p		p			p		
Heavy Metals OEKO-TEX® Method 3.1 (Extract)		p		p		p			p	
Heavy Metals OEKO-TEX® Method 3.1 (Extract; inorganic accessories)										
Heavy Metals OEKO-TEX® Method 3.1 (incl. EN 12472)										
Heavy Metals OEKO-TEX® Method 3.2 (Digestion)	p									
Organic Tin Compounds OEKO-TEX® Method 7	p			p		p				
pH-Value OEKO-TEX® Method 1 (ISO 3071 - KCl)		p	p	p	p	p	p	p	p	p
Plasticisers OEKO-TEX® Method 6	p	p	p							
Polycyclic Aromatic Hydrocarbons (PAH) OEKO-TEX® Method 13	p	p	p							
Surfactants, Wetting Agent Residues OEKO-TEX® Method 15		p		p		p		p		

No. 1: Delrin POM teeth coloured A Red

No. 2: Delrin POM teeth coloured B Dk. Green



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- No. 3: PES tape + coil dyed A Grey
- No. 4: PES tape + coil dyed B Brown
- No. 5: PES tape dyed C Black
- No. 6: PES tape dyed D Coffee
- No. 7: PES tape dyed E Purple
- No. 8: PES tape dyed F Violet
- No. 9: PES tape with flame retardant Black
- No. 10: PES tape with flame retardant Raw white



p: tested and passed; X: tested and failed; d: done; ' ': not tested

	Sample No.									
	11	12	13	14	15	16	17	18	19	20
Azo Dyes OEKO-TEX® Method 11.1 (direct)				p		p				
Azo Dyes OEKO-TEX® Method 11.1 (Extract)										
Chlorinated Benzenes & Toluenes OEKO-TEX® Method 12										
Chlorinated Phenols and OPP OEKO-TEX® Method 5						p			p	
Colour Fastness To Perspiration OEKO-TEX® Method 20-B (EN ISO 105-E04)										
Colour Fastness To Saliva And Perspiration OEKO-TEX® Method 20-A										
Colour Fastness To Water OEKO-TEX® Method 20-C (EN ISO 105-E01)										
Disperse Dyes OEKO-TEX® Method 11.3/11.4										
Formaldehyde JIS L-1041 OEKO-TEX® Method 2	p					p			p	p
Heavy Metals OEKO-TEX® Method 3.1 (Extract)									p	p
Heavy Metals OEKO-TEX® Method 3.1 (Extract; inorganic accessories)	p			p		p		p		
Heavy Metals OEKO-TEX® Method 3.1 (incl. EN 12472)	p							p		
Heavy Metals OEKO-TEX® Method 3.2 (Digestion)		p	p		p		p	p		
Organic Tin Compounds OEKO-TEX® Method 7										p
pH-Value OEKO-TEX® Method 1 (ISO 3071 - KCl)									p	
Plasticisers OEKO-TEX® Method 6	p			p					p	
Polycyclic Aromatic Hydrocarbons (PAH) OEKO-TEX® Method 13									p	
Surfactants, Wetting Agent Residues OEKO-TEX® Method 15										

No. 11: Metal slider zinc alloy painted in Navy

No. 12: metal slider unpainted metal part

No. 13: Index 11 painted part navy

No. 14: Metal slider zinc alloy painted in Green



- No. 15: Index 14 painted part
- No. 16: Metal slider zinc alloy painted in Black
- No. 17: Index 16 painted part black
- No. 18: Aluminum wire (box+stop) raw
- No. 19: PA film clear
- No. 20: PES reinforcement tape on zipper Grey

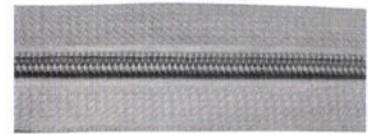
1



2



3



4



5



6



7



8



9



10



11



12





13



14



15



16



17



18



19

20

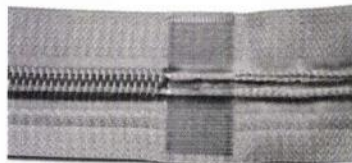


TABLE OF RESULTS

#2	#3	#4	#5
Delrin POM	PES tape +	PES tape +	PES tape
teeth	coil dyed A	coil dyed B	dyed C
coloured B	Grey	Brown	Black
Dk. Green			

pH-Value OEKO-TEX® Method 1 (ISO 3071 - KCI) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD				
	100 Product Class I Appendix 4				
No. of tests		2	2	2	2
• Aqueous extract	[pH] >=4.0 <=7.5	5.7	5.7	5.7	5.9



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		#6 PES tape dyed D Coffee	#7 PES tape dyed E Purple	#8 PES tape dyed F Violet	#9 PES tape with flame retardant Black
pH-Value OEKO-TEX® Method 1 (ISO 3071 - KCI) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests • Aqueous extract	[pH] >=4.0 <=7.5	2 6.0	2 5.9	2 5.9	2 5.6
		#10 PES tape with flame retardant Raw white	#19 PA film clear		
pH-Value OEKO-TEX® Method 1 (ISO 3071 - KCI) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests • Aqueous extract	[pH] >=4.0 <=7.5	2 5.5	2 6.1		
		#1 Delrin POM teeth coloured A Red	#3 PES tape + coil dyed A Grey	#5 PES tape dyed C Black	#8 PES tape dyed F Violet
Formaldehyde JIS L-1041 OEKO-TEX® Method 2 [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests • Free formaldehyde	[mg/kg] <16	1 <16	1 <16	1 <16	1 <16
		#11 Metal slider zinc alloy painted in Navy	#16 Metal slider zinc alloy painted in Black	#19 PA film clear	#20 PES reinforceme nt tape on zipper Grey
Formaldehyde JIS L-1041 OEKO-TEX® Method 2 [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests • Free formaldehyde	[mg/kg] <16	1 <16	1 <16	1 <16	1 <16



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#2	#4	#6	#9
Delrin POM teeth coloured B Dk. Green	PES tape + coil dyed B Brown	PES tape dyed D Coffee	PES tape with flame retardant Black

Heavy Metals OEKO-TEX® Method 3.1 (Extract) [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4				
No. of tests			1	1	1	1
• Antimony	[mg/kg]	<30	<0.02	<0.02	<0.02	1.6
• Arsenic	[mg/kg]	<0.20	<0.02	<0.02	<0.02	<0.02
• Lead	[mg/kg]	<0.20	<0.02	<0.02	<0.02	<0.02
• Cadmium	[mg/kg]	<0.10	<0.02	<0.02	<0.02	<0.02
• Chromium total	[mg/kg]	<1.0	<0.02	<0.02	<0.02	<0.02
• Cobalt	[mg/kg]	<1.0	<0.02	<0.02	<0.02	0.06
• Copper	[mg/kg]	<25	<0.40	<0.40	<0.40	<0.40
• Nickel	[mg/kg]	<1.0	<0.10	<0.10	<0.10	<0.10
• Mercury	[mg/kg]	<0.02	<0.01	<0.01	<0.01	<0.01
• Selenium	[mg/kg]		<0.10	<0.10	<0.10	<0.10
• Zinc	[mg/kg]		10	10	11	<0.40
• Manganese	[mg/kg]		<0.40	<0.40	<0.40	<0.40

#19	#20
PA film clear	PES reinforcement tape on zipper Grey

Heavy Metals OEKO-TEX® Method 3.1 (Extract) [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4		
No. of tests			1	1
• Antimony	[mg/kg]	<30	<0.02	<0.02
• Arsenic	[mg/kg]	<0.20	<0.02	0.03
• Lead	[mg/kg]	<0.20	<0.02	<0.02
• Cadmium	[mg/kg]	<0.10	<0.02	<0.02
• Chromium total	[mg/kg]	<1.0	<0.02	<0.02
• Cobalt	[mg/kg]	<1.0	<0.02	0.02
• Copper	[mg/kg]	<25	<0.40	<0.40
• Nickel	[mg/kg]	<1.0	<0.10	<0.10
• Mercury	[mg/kg]	<0.02	<0.01	<0.01
• Selenium	[mg/kg]		<0.10	<0.10
• Zinc	[mg/kg]		9.9	9.7
• Manganese	[mg/kg]		<0.40	<0.40



		#11	#14	#16	#18
		Metal slider zinc alloy painted in Navy	Metal slider zinc alloy painted in Green	Metal slider zinc alloy painted in Black	Aluminum wire (box+stop) raw
Heavy Metals OEKO-TEX® Method 3.1 (Extract; inorganic accessories)) [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4			
No. of tests		1	1	1	1
• Antimony	[mg/kg]	<30	<0.02	<0.02	<0.02
• Arsenic	[mg/kg]	<0.20	<0.02	<0.02	0.03
• Lead	[mg/kg]	<0.20	<0.02	<0.02	<0.02
• Cadmium	[mg/kg]	<0.10	<0.02	<0.02	<0.02
• Chromium total	[mg/kg]	<1.0	<0.02	<0.02	<0.02
• Cobalt	[mg/kg]	<1.0	<0.02	<0.02	<0.02
• Copper	[mg/kg]		<0.40	<0.40	<0.40
• Nickel	[mg/kg]	<0.50	0.16	0.16	<0.10
• Mercury	[mg/kg]	<0.02	<0.01	<0.01	<0.01
• Selenium	[mg/kg]		<0.10	<0.10	<0.10
• Zinc	[mg/kg]		54	19	21
• Manganese	[mg/kg]		<0.40	0.42	<0.40

#11 #18
Metal slider Aluminum
zinc alloy wire
painted in (box+stop)
Navy raw

		#1	#12
Heavy Metals OEKO-TEX® Method 3.1 (incl. EN 12472) [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4	
No. of tests		1	1
• Nickel	[mg/kg]	<0.50	<0.10
• Lead	[mg/kg]		<0.10

#1 #12 #13 #15
Delrin POM metal slider Index 11 Index 14
teeth unpainted painted part painted part
coloured A metal part navy
Red

		#1	#12	#13	#15
Heavy Metals OEKO-TEX® Method 3.2 (Digestion) [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4			
No. of tests		1	1	1	1
• Lead	[mg/kg]	<90	<0.20	<0.20	<0.20
• Cadmium	[mg/kg]	<40	<0.20	<0.20	<0.20
• Antimony	[mg/kg]		49	<0.20	<0.20



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#17 Index 16 painted part black
 #18 Aluminum wire (box+stop) raw

Heavy Metals OEKO-TEX® Method 3.2 (Digestion) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4		
No. of tests		1	1
• Lead [mg/kg]	<90	<0.20	40
• Cadmium [mg/kg]	<40	<0.20	24
• Antimony [mg/kg]		<0.20	<0.20

#2 Delrin POM teeth coloured B Dk. Green
 #4 PES tape + coil dyed B Brown
 #5 PES tape dyed C Black
 #8 PES tape dyed F Violet

Chlorinated Phenols and OPP OEKO-TEX® Method 5 [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests		1	1	1	1
• OPP (Orthophenylphenol) [mg/kg]	<10	<0.05	<0.05	<0.05	<0.05
• Pentachlorophenol (PCP) [mg/kg]	<0.05	<0.01	<0.01	<0.01	<0.01
• 2,3,5,6-TeCP [mg/kg]		<0.01	<0.01	<0.01	<0.01
• 2,3,4,6-TeCP [mg/kg]		<0.01	<0.01	<0.01	<0.01
• 2,3,4,5-TeCP [mg/kg]		<0.01	<0.01	<0.01	<0.01
• Tetrachlorophenols (TeCP, Sum) [mg/kg]	<0.05	<0.01	<0.01	<0.01	<0.01
• 2,3,4-TrCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 2,3,5-TrCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 2,3,6-TrCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 2,4,5-TrCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 2,4,6-TrCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 3,4,5-TrCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• Trichlorophenols (TrCP, Sum) [mg/kg]	<0.20	<0.05	<0.05	<0.05	<0.05
• 2,4/2,5-DCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 2,6-DCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 2,3-DCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 3,4-DCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 3,5-DCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• Dichlorophenols (DCP, Sum) [mg/kg]	<0.50	<0.05	<0.05	<0.05	<0.05
• 2-MCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 3-MCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• 4-MCP [mg/kg]		<0.05	<0.05	<0.05	<0.05
• Monochlorophenols (MCP, Sum) [mg/kg]	<0.50	<0.05	<0.05	<0.05	<0.05
• Phenol [mg/kg]	<20	<2.0	<2.0	<2.0	<2.0



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#16 #19
 Metal slider PA film
 zinc alloy clear
 painted in
 Black

Chlorinated Phenols and OPP OEKO-TEX® Method 5 [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4		
No. of tests			1	1
• OPP (Orthophenylphenol)	[mg/kg]	<10	<0.05	<0.05
• Pentachlorophenol (PCP)	[mg/kg]	<0.05	<0.01	<0.01
• 2,3,5,6-TeCP	[mg/kg]		<0.01	<0.01
• 2,3,4,6-TeCP	[mg/kg]		<0.01	<0.01
• 2,3,4,5-TeCP	[mg/kg]		<0.01	<0.01
• Tetrachlorophenols (TeCP, Sum)	[mg/kg]	<0.05	<0.01	<0.01
• 2,3,4-TrCP	[mg/kg]		<0.05	<0.05
• 2,3,5-TrCP	[mg/kg]		<0.05	<0.05
• 2,3,6-TrCP	[mg/kg]		<0.05	<0.05
• 2,4,5-TrCP	[mg/kg]		<0.05	<0.05
• 2,4,6-TrCP	[mg/kg]		<0.05	<0.05
• 3,4,5-TrCP	[mg/kg]		<0.05	<0.05
• Trichlorophenols (TrCP, Sum)	[mg/kg]	<0.20	<0.05	<0.05
• 2,4/2,5-DCP	[mg/kg]		<0.05	<0.05
• 2,6-DCP	[mg/kg]		<0.05	<0.05
• 2,3-DCP	[mg/kg]		<0.05	<0.05
• 3,4-DCP	[mg/kg]		<0.05	<0.05
• 3,5-DCP	[mg/kg]		<0.05	<0.05
• Dichlorophenols (DCP, Sum)	[mg/kg]	<0.50	<0.05	<0.05
• 2-MCP	[mg/kg]		<0.05	<0.05
• 3-MCP	[mg/kg]		<0.05	<0.05
• 4-MCP	[mg/kg]		<0.05	<0.05
• Monochlorophenols (MCP, Sum)	[mg/kg]	<0.50	<0.05	<0.05
• Phenol	[mg/kg]	<20	<2.0	<2.0



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#1	#2	#3	#11
Delrin POM teeth coloured A Red	Delrin POM teeth coloured B Dk. Green	PES tape + coil dyed A Grey	Metal slider zinc alloy painted in Navy

Plasticisers OEKO-TEX® Method 6 [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4	#1	#2	#3	#11
No. of tests			1	1	1	1
• DEP	[%]		<0.001	<0.001	<0.001	<0.001
• DPrP	[%]		<0.001	<0.001	<0.001	<0.001
• DIBP	[%]		<0.001	<0.001	<0.001	<0.001
• DBP	[%]		<0.001	<0.001	<0.001	<0.001
• DMEP	[%]		<0.001	<0.001	<0.001	<0.001
• DIPP	[%]		<0.001	<0.001	<0.001	<0.001
• NPIPP	[%]		<0.001	<0.001	<0.001	<0.001
• DPP	[%]		<0.001	<0.001	<0.001	<0.001
• DIHxP	[%]		<0.001	<0.001	<0.001	<0.001
• DHxP	[%]		<0.001	<0.001	<0.001	<0.001
• BBP	[%]		<0.001	<0.001	<0.001	<0.001
• DIHP*	[%]		<0.001	<0.001	<0.001	<0.001
• DIOP	[%]		<0.001	<0.001	<0.001	<0.001
• DCHP	[%]		<0.001	<0.001	<0.001	<0.001
• DEHP	[%]		<0.001	<0.001	<0.001	<0.001
• DNOP	[%]		<0.001	<0.001	<0.001	<0.001
• DINP*	[%]		<0.001	<0.001	<0.001	<0.001
• DNP	[%]		<0.001	<0.001	<0.001	<0.001
• DIDP	[%]		<0.001	<0.001	<0.001	<0.001
• DUP*	[%]		<0.001	<0.001	<0.001	<0.001
• Sum w/ DINP	[%]	<=0.10	<0.001	<0.001	<0.001	<0.001
• Sum w/o DINP	[%]		<0.001	<0.001	<0.001	<0.001
• * Components of DHNUP						
• DDDP	[%]		<0.001	<0.001	<0.001	<0.001
• TCEP	[%]	<=0.10	<0.0001	<0.0001	<0.0001	<0.0001
• Bisphenol A	[%]	<=0.1	<0.0001	<0.0001	<0.0001	<0.0001



TESTEX®

#14 #19
 Metal slider PA film
 zinc alloy clear
 painted in
 Green

Plasticisers OEKO-TEX® Method 6 [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4		
No. of tests		1	1
• DEP [%]		<0.001	<0.001
• DPrP [%]		<0.001	<0.001
• DIBP [%]		<0.001	<0.001
• DBP [%]		<0.001	<0.001
• DMEP [%]		<0.001	<0.001
• DIPP [%]		<0.001	<0.001
• NPIPP [%]		<0.001	<0.001
• DPP [%]		<0.001	<0.001
• DIHxP [%]		<0.001	<0.001
• DHxP [%]		<0.001	<0.001
• BBP [%]		<0.001	<0.001
• DIHP* [%]		<0.001	<0.001
• DIOP [%]		<0.001	<0.001
• DCHP [%]		<0.001	<0.001
• DEHP [%]		<0.001	<0.001
• DNOP [%]		<0.001	<0.001
• DINP* [%]		<0.001	<0.001
• DNP [%]		<0.001	<0.001
• DIDP [%]		<0.001	<0.001
• DUP* [%]		<0.001	<0.001
• Sum w/ DINP [%]	<=0.10	<0.001	<0.001
• Sum w/o DINP [%]		<0.001	<0.001
• * Components of DHNUP			
• DDDP [%]		<0.001	<0.001
• TCEP [%]	<=0.10	<0.0001	<0.0001
• Bisphenol A [%]	<=0.1	<0.0001	<0.0001



#1	#4	#6	#20
Delrin POM teeth coloured A Red	PES tape + coil dyed B Brown	PES tape dyed D Coffee	PES reinforcement tape on zipper Grey

Organic Tin Compounds OEKO-TEX® Method 7 [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4	#1	#4	#6	#20
No. of tests			1	1	1	1
• Trimethyltin (TMT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Dimethyltin (DMT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Monomethyltin (MMT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Tetraethyltin (TeET)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Dipropyltin (DPT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Monobutyltin (MBT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Tripropyltin (TPT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Dibutyltin (DBT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Monophenyltin (MPhT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Tributyltin (TBT)	[mg/kg]	<0.50	<0.05	<0.05	<0.05	<0.05
• Monoocetyl tin (MOT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Tetra butyltin (TeBT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Diphenyltin (DPhT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Dioctyltin (DOT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Tricyclohexyltin (TCT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05
• Triphenyltin (TPhT)	[mg/kg]	<0.50	<0.05	<0.05	<0.05	<0.05
• Trioctyltin (TOT)	[mg/kg]	<1.0	<0.05	<0.05	<0.05	<0.05



#1	#2	#14	#16
Delrin POM	Delrin POM	Metal slider	Metal slider
teeth	teeth	zinc alloy	zinc alloy
coloured A	coloured B	painted in	painted in
Red	Dk. Green	Green	Black

Azo Dyes		STANDARD	#1	#2	#14	#16
OEKO-TEX® Method 11.1 (direct) [OTC I		100 Product				
Product Class I - Testing Items Appendix		Class I				
4]		Appendix 4				
No. of tests			1	1	1	1
• Aniline	[mg/kg]	<100	<5.0	<5.0	<5.0	<5.0
• o-Toluidine	[mg/kg]	<20	<10	<10	<10	<10
• 2,4-Xylidine	[mg/kg]	<20	<10	<10	<10	<10
• 2,6-Xylidine	[mg/kg]	<20	<10	<10	<10	<10
• o-Anisidine	[mg/kg]	<20	<10	<10	<10	<10
• p-Chloraniline	[mg/kg]	<20	<10	<10	<10	<10
• p-Cresidine	[mg/kg]	<20	<10	<10	<10	<10
• 2,4,5-Trimethylaniline	[mg/kg]	<20	<10	<10	<10	<10
• 4-Chloro-o-toluidine	[mg/kg]	<20	<10	<10	<10	<10
• 2,4-Toluylenediamine	[mg/kg]	<20	<10	<10	<10	<10
• 2,4-Diaminoanisole	[mg/kg]	<20	<10	<10	<10	<10
• 2-Naphthylamine	[mg/kg]	<20	<10	<10	<10	<10
• 2-Amino-4-nitrotoluene	[mg/kg]	<20	<10	<10	<10	<10
• 4-Aminodiphenyl	[mg/kg]	<20	<10	<10	<10	<10
• 4,4'-Oxydianiline	[mg/kg]	<20	<10	<10	<10	<10
• Benzidine	[mg/kg]	<20	<10	<10	<10	<10
• 4,4'-	[mg/kg]	<20	<10	<10	<10	<10
Diaminodiphenylmethane						
• o-Aminoazotoluene	[mg/kg]	<20	<10	<10	<10	<10
• 3,3'-Dimethyl-4,4'-	[mg/kg]	<20	<10	<10	<10	<10
diaminodiphenylmethane						
• 3,3'-Dimethylbenzidine	[mg/kg]	<20	<10	<10	<10	<10
• 4,4'-Thiodianiline	[mg/kg]	<20	<10	<10	<10	<10
• 3,3'-Dichlorobenzidine	[mg/kg]	<20	<10	<10	<10	<10
• 4,4'-Methylene-bis-(2-	[mg/kg]	<20	<10	<10	<10	<10
chloraniline)						
• 3,3'-Dimethoxybenzidine	[mg/kg]	<20	<10	<10	<10	<10
• 1,4-Phenylenediamine	[mg/kg]		<10	<10	<10	<10
• N-Methylaniline	[mg/kg]		<10	<10	<10	<10



		#4 PES tape + coil dyed B Brown	#5 PES tape dyed C Black	#7 PES tape dyed E Purple	#8 PES tape dyed F Violet
Azo Dyes	STANDARD				
OEKO-TEX® Method 11.1 (Extract)	100 Product				
[OTC I Product Class I - Testing Items	Class I				
Appendix 4]	Appendix 4				
No. of tests		1	1	1	1
• Aniline [mg/kg]	<100	<5.0	<5.0	<5.0	<5.0
• o-Toluidine [mg/kg]	<20	<10	<10	<10	<10
• 2,4-Xylidine [mg/kg]	<20	<10	<10	<10	<10
• 2,6-Xylidine [mg/kg]	<20	<10	<10	<10	<10
• o-Anisidine [mg/kg]	<20	<10	<10	<10	<10
• p-Chloraniline [mg/kg]	<20	<10	<10	<10	<10
• p-Cresidine [mg/kg]	<20	<10	<10	<10	<10
• 2,4,5-Trimethylaniline [mg/kg]	<20	<10	<10	<10	<10
• 4-Chloro-o-toluidine [mg/kg]	<20	<10	<10	<10	<10
• 2,4-Toluylenediamine [mg/kg]	<20	<10	<10	<10	<10
• 2,4-Diaminoanisole [mg/kg]	<20	<10	<10	<10	<10
• 2-Naphthylamine [mg/kg]	<20	<10	<10	<10	<10
• 2-Amino-4-nitrotoluene [mg/kg]	<20	<10	<10	<10	<10
• 4-Aminodiphenyl [mg/kg]	<20	<10	<10	<10	<10
• 4,4'-Oxydianiline [mg/kg]	<20	<10	<10	<10	<10
• Benzidine [mg/kg]	<20	<10	<10	<10	<10
• 4,4'-	<20	<10	<10	<10	<10
Diaminodiphenylmethane					
• o-Aminoazotoluene [mg/kg]	<20	<10	<10	<10	<10
• 3,3'-Dimethyl-4,4'-	<20	<10	<10	<10	<10
diaminodiphenylmethane					
• 3,3'-Dimethylbenzidine [mg/kg]	<20	<10	<10	<10	<10
• 4,4'-Thiodianiline [mg/kg]	<20	<10	<10	<10	<10
• 3,3'-Dichlorobenzidine [mg/kg]	<20	<10	<10	<10	<10
• 4,4'-Methylene-bis-(2-	<20	<10	<10	<10	<10
chloraniline)					
• 3,3'-Dimethoxybenzidine [mg/kg]	<20	<10	<10	<10	<10
• 1,4-Phenylenediamine [mg/kg]		<10	<10	<10	<10
• N-Methylaniline [mg/kg]		<10	<10	<10	<10



		#3 PES tape + coil dyed A Grey	#5 PES tape dyed C Black	#6 PES tape dyed D Coffee	#8 PES tape dyed F Violet
Disperse Dyes					
OEKO-TEX® Method 11.3/11.4 [OTC I					
Product Class I - Testing Items Appendix					
4]					
STANDARD					
100 Product					
Class I					
Appendix 4					
No. of tests		1	1	1	1
• C.I. Disperse Blue 1*	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 3	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 7	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 26	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 35	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 102	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 106	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Blue 124	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Orange 1	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Orange 3	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Orange 11*	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Orange 37/76	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Orange 149	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Red 1	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Red 11	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Red 17	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 1	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 3*	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 9	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 23°	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 39S	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 49	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Brown 1	[mg/kg] <50	<10	<10	<10	<10
• C.I. Disperse Yellow 39	[mg/kg] <50	<10	<10	<10	<10
• Quinoline	[mg/kg]	<10	<10	<10	<10
• C.I. Basic Green 4	[mg/kg]	<10	<10	<10	<10



		#1	#4	#7	#9
		Delrin POM teeth coloured A Red	PES tape + coil dyed B Brown	PES tape dyed E Purple	PES tape with flame retardant Black
Chlorinated Benzenes & Toluenes OEKO-TEX® Method 12 [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4			
No. of tests		1	1	1	1
• Chlorobenzene	[mg/kg]	<0.05	<0.05	<0.05	<0.05
• 2-Chlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 3-Chlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 4-Chlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,3-Dichlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• Benzylchloride	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,4-Dichlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,2-Dichlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 2,4-Dichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 2,5-/ 2,6-Dichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,3,5-Trichlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• α,α-Dichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 2,3-/ 3,4-Dichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,2,4-Trichlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,2,3-Trichlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• α,α,α-Trichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 2,4,5-Trichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 2,3,6-Trichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,2,3,5-Tetrachlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,2,4,5-Tetrachlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• α,2,6-Trichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• α,2,4-Trichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 1,2,3,4-Tetrachlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• α,3,4-Trichlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• α,α,α,2-Tetrachlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• Pentachlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• 2,3,4,5,6-Pentachlorotoluene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• Hexachlorobenzene	[mg/kg]	<0.01	<0.01	<0.01	<0.01
• Sum	[mg/kg]	<1.0	<0.05	<0.05	<0.05



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#1	#2	#3	#19
Delrin POM teeth coloured A Red	Delrin POM teeth coloured B Dk. Green	PES tape + coil dyed A Grey	PA film clear

Polycyclic Aromatic Hydrocarbons (PAH) OEKO-TEX® Method 13 [OTC I Product Class I - Testing Items Appendix 4]		STANDARD 100 Product Class I Appendix 4	#1	#2	#3	#19
No. of tests			1	1	1	1
• Naphthalene	[mg/kg]		0.11	0.11	0.1	0.1
• Acenaphthylene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Acenaphthene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Fluorene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Phenanthrene	[mg/kg]		0.03	0.03	0.04	0.04
• Anthracene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Fluoranthene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• 1-Methylpyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Cyclopenta[cd]pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Benzo[a]anthracene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Chrysene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Benzo[b]fluoranthene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Benzo[k]fluoranthene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Benzo[j]fluoranthene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Benzo[e]pyrene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Benzo[a]pyrene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Dibenzo[ah]anthracene	[mg/kg]	<0.50	<0.01	<0.01	<0.01	<0.01
• Indeno[1,2,3-cd]pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Benzo[ghi]perylene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Dibenzo[ae]pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Dibenzo[al]pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Dibenzo[ai]pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Dibenzo[ah]pyrene	[mg/kg]		<0.01	<0.01	<0.01	<0.01
• Sum	[mg/kg]	<5.0	0.14	0.14	0.14	0.14



TESTEX®

#2	#4	#6	#8
Delrin POM teeth coloured B Dk. Green	PES tape + coil dyed B Brown	PES tape dyed D Coffee	PES tape dyed F Violet

Surfactants, Wetting Agent Residues OEKO-TEX® Method 15 [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests		1	1	1	1
• Pentylphenol (PeP) [mg/kg]		<0.1	<0.1	<0.1	<0.1
• Heptylphenol (HpP) [mg/kg]		<0.1	<0.1	<0.1	<0.1
• Octylphenol (OP) [mg/kg]		<0.1	<0.1	<0.1	<0.1
• Nonylphenol (NP) [mg/kg]		<0.1	<0.1	<0.1	<0.1
• Sum AP [mg/kg]	<10	<0.1	<0.1	<0.1	<0.1
• Octylphenoethoxylate (OPEO) [mg/kg]		<1.0	<1.0	<1.0	<1.0
• Nonylphenoethoxylate (NPEO) [mg/kg]		<1.0	<1.0	<1.0	<1.0
• Sum AP & APEO [mg/kg]	<100	<0.1	<0.1	<0.1	<0.1

#5	#6	#7	#8
PES tape dyed C Black	PES tape dyed D Coffee	PES tape dyed E Purple	PES tape dyed F Violet

Colour Fastness To Water OEKO-TEX® Method 20-C (EN ISO 105-E01) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests		1	1	1	1
• Change in colour [grade]		4-5	4-5	4-5	4-5
• Staining [grade]	>=3-4	4-5	4-5	4-5	4-5

#9
PES tape with flame retardant Black

Colour Fastness To Water OEKO-TEX® Method 20-C (EN ISO 105-E01) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4	
No. of tests		1
• Change in colour [grade]		4-5
• Staining [grade]	>=3-4	4-5



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		#5 PES tape dyed C Black	#6 PES tape dyed D Coffee	#7 PES tape dyed E Purple	#8 PES tape dyed F Violet
Colour Fastness To Perspiration OEKO-TEX® Method 20-B (EN ISO 105-E04) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests		1	1	1	1
• Fastness to acid solution					
• Change in colour (acid) [grade]		4-5	4-5	4-5	4-5
• Staining (acid) [grade]	>=3-4	4-5	4-5	4-5	4-5
• Fastness to alkaline solution					
• Change in colour (alkaline) [grade]		4-5	4-5	4-5	4-5
• Staining (alkaline) [grade]	>=3-4	4-5	4-5	4-5	4-5

#9
PES tape
with flame
retardant
Black

Colour Fastness To Perspiration OEKO-TEX® Method 20-B (EN ISO 105-E04) [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4	
No. of tests		1
• Fastness to acid solution		
• Change in colour (acid) [grade]		4-5
• Staining (acid) [grade]	>=3-4	4-5
• Fastness to alkaline solution		
• Change in colour (alkaline) [grade]		4-5
• Staining (alkaline) [grade]	>=3-4	4-5

#1
Delrin POM
teeth
coloured A
Red

#2
Delrin POM
teeth
coloured B
Dk. Green

#3
PES tape +
coil dyed A
Grey

#4
PES tape +
coil dyed B
Brown

		#1 Delrin POM teeth coloured A Red	#2 Delrin POM teeth coloured B Dk. Green	#3 PES tape + coil dyed A Grey	#4 PES tape + coil dyed B Brown
Colour Fastness To Saliva And Perspiration OEKO-TEX® Method 20-A [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests		1	1	1	1
• Colour fastness (saliva) [yes/no]	yes	yes	yes	yes	yes
• Colour fastness (perspiration) [yes/no]	yes	yes	yes	yes	yes



		#5 PES tape dyed C Black	#6 PES tape dyed D Coffee	#7 PES tape dyed E Purple	#8 PES tape dyed F Violet
Colour Fastness To Saliva And Perspiration OEKO-TEX® Method 20-A [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4				
No. of tests		1	1	1	1
• Colour fastness (saliva) [yes/no]	yes	yes	yes	yes	yes
• Colour fastness (perspiration) [yes/no]	yes	yes	yes	yes	yes

#9
PES tape
with flame
retardant
Black

Colour Fastness To Saliva And Perspiration OEKO-TEX® Method 20-A [OTC I Product Class I - Testing Items Appendix 4]	STANDARD 100 Product Class I Appendix 4	
No. of tests		1
• Colour fastness (saliva) [yes/no]	yes	yes
• Colour fastness (perspiration) [yes/no]	yes	yes

Zurich, 20.11.2018



TESTEX®

Active Base Certificates for: TPAO 054092 (Kuang Suo Company Ltd.)

20.11.2018

Certificate holder	Certificate	Product class / Appendix	Expiry date	Certificate state
Far Eastern New Century Corporation	TPFO 042351-Testex	I / 4	30.04.2019	Valid
Hung Chou Fiber Industrial Co., Ltd.	TPYO 073313-TESTEX AG	I / 4	31.01.2019	Valid