



TESTEX®

TESTEX RUNDTEST

FARBECHTHEITEN

COLOR FASTNESS

No. 38

AUSWERTUNG / EVALUATION

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Allgemeines

Ganz zu Beginn soll vorweggenommen werden, dass für alle untersuchten Proben kein wirklich wahrer Wert (true value) bekannt ist. Die erhaltenen Werte können also nicht mit einem Referenzwert verglichen werden.

Anmerkung

Verschiedentlich zeigen einzelne Resultate eines Labors eine unerwartet hohe Abweichung zu den Resultaten anderer Labors. Werte mit einer Abweichung >1 Note werden in der Auswertung mit einem "x" gekennzeichnet.

Resultate, die sich statistisch nicht sinnvoll auswerten lassen (z.B. > 6) werden in der Auswertung mit einem "x" gekennzeichnet.

In der Auswertung sind sowohl der Mittelwert und die Standardabweichung als auch der Median angegeben. Der Median ist die Zahl die in der Mitte einer nach Grösse sortierter Zahlenreihe liegt, d.h. die eine Hälfte der Zahlen hat Werte die kleiner oder gleich sind als der Median und die andere Hälfte hat Werte die grösser oder gleich sind als der Median.

Es werden die Graphiken bezüglich Farbtonänderung und Anbluten - der nach Norm einzusetzenden Einzelfaser-Begleitgewebe - dargestellt.

In den vorliegenden Graphiken ist der Mittelwert (\emptyset) mittels einer durchgehenden Linie gekennzeichnet.

HINWEIS: Der Leserlichkeit halber wurden die Bezeichnungen des Waschmittels bei ISO 105-C06 resp. -C08 gekürzt. Die Angaben "**S**-Perborat" resp. "**Na** -Perborat werden bei den entsprechenden Teilnehmern nur noch mit "Perborat" angegeben.

General

At first is to be mentioned that for all analysed samples the true value is not known. The determined values and results can therefore not be compared with a reference value.

Remark

Sometimes single results of a lab show an unusual high deviation compared to the results of other laboratories. Values with a deviation >1 class are being marked with an "x" in the evaluation.

Results that cannot be used for statistical calculations (such as > 6) will be marked in the evaluation with an "x".

In the evaluation the mean value and the standard deviation as well as the median value are indicated. The median is the figure in the middle of a range of figures which are sorted according to their size, i.e. half of the figures have values which are smaller or even to the median and the other half of the figures have values which are larger or even to the median.

Graphics are attached for the change in colour and the staining of the adjacent fabrics - the relevant single fabrics according to the standard.

In the following graphics the mean value (\emptyset) is visualized with a line straight across.

NOTE: For easier reading, the indications given about the washing detergent in ISO 105-C06 and -C08 have been reduced. Details like "**S**-perborate" and "**Na** perborate" given by some participants have been taken out and replaced by "perborate" only.



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RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO Farbe Weinrot

Sample: Knitted fabric 100% CO, winered

**Waschechtheit 60°C (Haushaltswäsche & gewerbliche Wäsche)
Fastness to washing 60°C (domestic and commercial laundering)
(ISO 105-C06/C2S)**

Lab Code	Washing detergent	Single fibre	Multi fibre	Assessment		Change in colour	Staining								
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN	
1	ECE + Perborate	✓		✓		4	2-3				4				
1	ECE + Perborate		✓			4	2	4-5	4-5			4-5	4-5		4-5
1	ECE + Perborate	✓			✓	4									
27	ECE		✓		✓	3-4	2-3	5	x 2-3			5	4-5		4-5
33	ECE + Phosphate		✓	✓		4	2-3	4-5	4-5			4-5	4-5		4-5
35	ECE+Perborate+TAED	✓		✓		4	1-2				3				
35	ECE+Perborate+TAED		✓	✓		4	1-2	4-5	4-5		2-3			4-5	4-5
44	ECE + Perborate		✓	✓		4-5	2	4-5	4-5			4-5	4-5		4-5
44	ECE + Perborate	✓		✓		4-5	2					4-5			
59	ECE + Phosphate	✓		✓		4	1-2				3				
59	ECE + Phosphate	✓			✓	4	2-3				3-4				
71	ECE + Perborate	✓		✓		4	2				2-3				
79	ECE	✓		✓		4	2-3				3-4				
79	ECE		✓	✓		4	2-3	4-5	4-5		3			4-5	4-5
81	ECE	✓		✓		4-5	2-3					4-5			
83	ECE + Perborate			✓		4	1-2				2-3				
83	ECE + Perborate			✓		4	1-2				2-3				
83	ECE + Perborate			✓		4	1-2				2-3				
84	ECE + Perborate	✓		✓		4-5	2-3				3				
84	ECE + Perborate		✓	✓		4-5	2-3	5	4-5		3			5	4-5
85	ECE		✓	✓		4-5	3	4-5	4-5		3-4			4-5	4-5
86	ECE + Perborate		✓	✓		4-5	2-3	4-5	4-5			4-5	4-5		4-5
86	ECE + Perborate		✓	✓		4-5	3	4-5	4			4	4		4
87	ECE + Perborate	✓		✓		4-5	2-3				3				
87	ECE + Perborate	✓			✓	4-5	2-3				3				
88	ECE B + Perborate		✓	✓		4	2-3	4-5	4-5		3-4			4-5	4-5
89	ECE + Perborate	✓		✓		4-5	2				3				
89	ECE + Perborate		✓	✓		4-5	2-3	4-5	4-5		2-3			4-5	4-5
90	ECE + Perborate		✓		✓	4	2	4-5	4-5	x	4-5	4-5			4-5
91	ECE		✓	✓		4	2-3	4-5	4-5		3			4-5	4-5
91	ECE	✓		✓		4	2-3				3				
92	ECE	✓		✓		3-4	1-2				2				
92	ECE		✓	✓		3-4	1-2	4-5	4-5		2			4-5	4-5
98	ECE + Perborate		✓	✓		4-5	3-4	4-5	4-5			4-5	4-5		4-5
101	ECE B + Perborate		✓	✓		4-5	3	4-5	4-5			4-5	4-5		4-5
101	ECE B + Perborate	✓		✓		4	2-3					4-5			
107	ECE + Perborate		✓	✓		4	2-3	4-5	4		3			4-5	4-5
111	ECE + Perborate		✓	✓		4	2-3	5	5		4			5	5
111	ECE + Perborate		✓		✓	4	2-3	5	5		3-4			5	5
117	ECE + Perborate		✓	✓		4	1-2	4-5	4-5			4-5	4-5		4
117	ECE + Perborate		✓		✓	4	2	4-5	4-5			4-5	4-5		4
118	ECE + Perborate		✓	✓		4-5	2	4-5	4-5			4-5	4-5		4-5
119	ECE + Perborate		✓	✓		4-5	3-4	4-5	4-5			4-5	4-5		4-5
121	ECE + Perborate	✓		✓		4-5	2-3				3-4				
121	ECE + Perborate		✓	✓		4-5	2-3	4-5	4-5		3			4-5	4-5
127	ECE + Perborate		✓	✓		4-5	2	4-5	4-5			4-5	4-5		4-5
135	ECE B + Perborate		✓	✓		4	3	4-5	4-5			4-5	4-5		4-5
138	ECE + Perborate		✓	✓		4	2-3	4-5	4-5			4-5	4-5		4
142 A	ECE		✓	✓		4-5	2	4-5	4-5			4-5	4-5		4
142 B	ECE		✓	✓		4	2	4-5	4-5			4-5	4-5		4
143	ECE Non Phosphate		✓	✓		4	2-3	4-5	4			4	4-5		4
145	ECE		✓	✓		4	2	4	4-5			3-4	3-4		4
145	ECE		✓	✓		4-5	2	4	4-5			3-4	4		3-4
146	ECE + Perborate		✓	✓		3-4	2	4-5	4-5			4-5	4-5		4



TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO Farbe Weinrot

Sample: Knitted fabric 100% CO, winered

**Waschechtheit 60°C (Haushaltswäsche & gewerbliche Wäsche)
Fastness to washing 60°C (domestic and commercial laundering)
(ISO 105-C06/C2S)**

Lab Code	Washing detergent	Single fibre	Multi fibre	Assessment		Change in colour	Staining								
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN	
147	ECE + Perborate		✓	✓		4-5	x	4	4-5	4-5		4-5	4-5		4-5
151	ECE + Perborate		✓	✓		4		2	4-5	4		4-5	4		4
153	?		✓	✓		4		1-2	4-5	4-5		4-5	4-5		4-5
163	ECE + Parborate		✓	✓		4-5		3-4	5	4-5		4-5	5		5
163	ECE + Perborate		✓	✓		4		3-4	4-5	4		4	4-5		4-5
166	ECE+ Parborate		✓	✓		4-5		2	4-5	4-5			4		4-5
170	ECE + Perborate		✓	✓		4		2	5	4-5		5	5		4-5
175	ECE B + Perborate		✓	✓		4		3	4-5	4-5		4-5		4-5	4-5
180	ECE		✓	✓		4		1-2	4-5	4-5	x	1-2	4	4-5	4-5
181	ECE + Perborate		✓	✓		4		3	4-5	4-5		3		4-5	4-5
183	ECE		✓	✓		3-4		3	5	5		3-4		5	5
189	ECE + Perborate		✓	✓		4		2	4-5	4-5			4-5	4	4-5
189	ECE + Perborate		✓		✓	4-5		2	4-5	4-5			4-5	4	4-5
190	ECE B + Perborate		✓	✓		4-5		2	4-5	4-5			4-5	4-5	4-5
192	ECE + Perborate		✓	✓		4-5		3-4	5	5		5	5		5
193	ECE B		✓	✓		4-5		3-4	4-5	4-5		4-5	4-5		4-5
198	ECE + Perborate	✓		✓		4		2				2-3			
198	ECE + Perborate		✓	✓		4		2	5	4-5		2-3		4-5	4-5
203	ECE		✓	✓		4		2	4-5	4-5		3		4-5	4-5
212	ECE + Perborate		✓	✓		4-5		2-3	4-5	4-5		3-4		4-5	4-5
215	ECE B + Phosphate		✓	✓		4-5		3	5	4-5		3		4-5	4-5
232	ECE Non Phosphate		✓	✓		4		2	4-5	4-5			4-5	4-5	4-5
233	ECE	✓		✓		4		2-3				3			
233	ECE	✓			✓	3-4		2-3				3			
233	ECE	✓		✓		4		2-3				3			
233	ECE	✓			✓	4		2-3				3			
237	ECE B+Perborate		✓	✓		4		2-3	4-5	4-5			4-5	4	4-5
238	ECE + Perborate		✓	✓		4		x	4	5		4-5	5		4-5
239	ECE + Perborate		✓	✓		4-5		2-3	4-5	4-5			4-5	4-5	4-5
243	ECE + Perborate		✓	✓		4-5		3	4-5	4-5			4-5	4-5	4-5
245	ECE B		✓	✓		4		2-3	4-5	4-5			4-5		4
247	ECE + Perborate		✓	✓		4-5		2-3	4-5	4-5			4-5	4-5	4-5
247	ECE + Perborate		✓	✓		4		3	4-5	4-5		5	4-5		4-5
254	ECE		✓	✓		4		2	4-5	4-5		3		4-5	4-5
255	ECE + Phosphate		✓	✓		4-5		2-3	5	4-5			4-5	4-5	4-5
255	ECE + Phosphate		✓		✓	4		2-3	5	5		5	4-5		4-5
256	ECE B + Perborate		✓	✓		4-5		2-3	4-5	4-5			4-5	4-5	4-5
256	ECE B + Perborate		✓	✓		4-5		2-3	4-5	4-5			4-5	4-5	4-5
263	ECE B + Perborate		✓	✓		4		2	4-5	4-5			4	4	4
264	ECE B, Phosphate		✓	✓		4		2-3	4-5	4-5			4-5	4-5	4-5
267	ECE Det. B		✓	✓		3		2	4-5	4-5			4-5	4	4-5
267	ECE Det. B		✓		✓	3		2	5	4-5			4-5	4	4-5
283	ECE B + Perborate		✓	✓		4		2-3	4-5	4-5			4-5	4	4-5
285	ECE + Perborate		✓	✓		4		3	4-5	4-5		3-4		4-5	4-5
291	ECE + Perborate		✓	✓		4-5		2-3	4-5	4-5		4		4-5	4-5
296	ECE + Perborate		✓	✓		4-5		2	4-5	4-5			4-5	4-5	4-5
298	ECE B + Perborate		✓	✓		4		2-3	4-5	4-5			4-5	4-5	4-5
298	ECE B + Perborate		✓	✓		4		2-3	4-5	4-5			4-5	4-5	4-5
304	ECE		✓	✓		4-5		2-3	4-5	4-5		3-4		4-5	4-5
304	ECE		✓	✓		4-5		2-3	4-5	4-5		3-4		4-5	4-5
304	ECE		✓	✓		4-5		2-3	4-5	4-5		3-4		4-5	4-5
304	ECE		✓	✓		4-5		2-3	4-5	4-5		3-4		4-5	4-5
306	ECE + Phosphate		✓	✓		3-4		3	4-5	4-5			4-5	4-5	4-5



TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO Farbe Weinrot

Sample: Knitted fabric 100% CO, winered

**Waschechtheit 60°C (Haushaltswäsche & gewerbliche Wäsche)
Fastness to washing 60°C (domestic and commercial laundering)
(ISO 105-C06/C2S)**

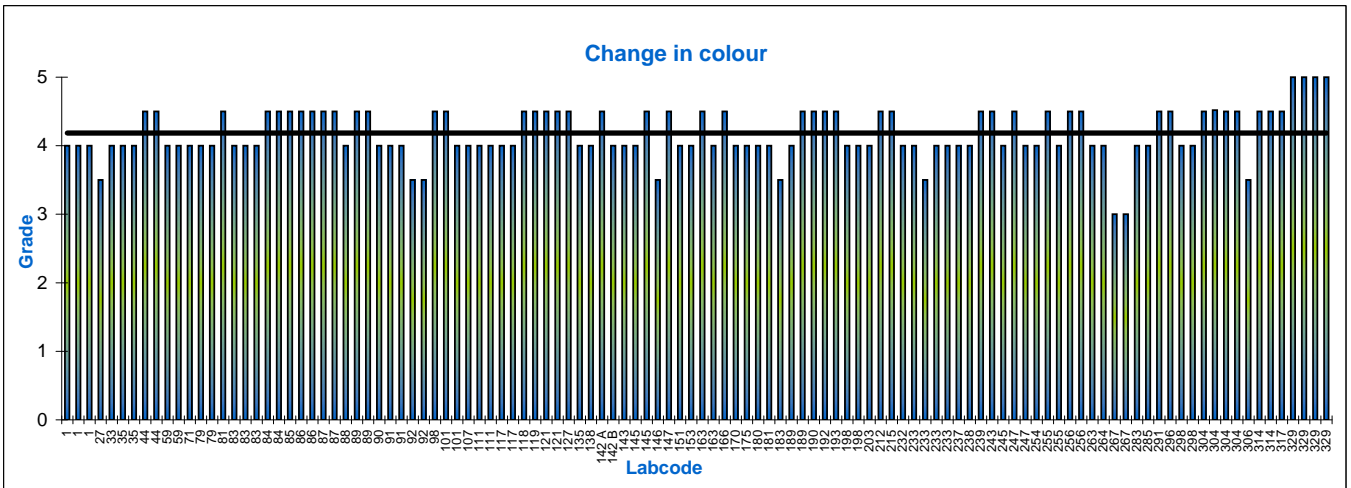
Lab Code	Washing detergent	Single fibre	Multi fibre	Assessment		Change in colour	Staining								
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN	
314	ECE + Phosphate		✓	✓		4-5	x	4	5	5		4-5	5		4-5
314	ECE + Phosphate		✓	✓		4-5	x	4	5	5		4-5	5		4-5
317	ECE B + Perborate		✓	✓		4-5		2-3	4-5	4-5		4-5	4-5		4-5
329	ECE	✓				5		3				4-5			
329	ECE	✓				5		3-4				4-5			
329	ECE	✓				5		3-4				4-5			
329	ECE	✓				5		3				4-5			
n						114		113	85	85	48	66	58	27	85
Ø						4.18		2.46	4.58	4.49	3.07	4.47	4.44	4.56	4.44
s						0.37		0.59	0.22	0.29	0.56	0.26	0.30	0.21	0.25
Median						4		2-3	4-5	4-5	3	4-5	4-5	4-5	4-5



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Waschechtheit 60°C (Haushaltswäsche und gewerbliche Wäsche)
Color fastness to washing 60°C (Domestic and commercial laundering)
(ISO 105-C06/C2S)





TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO Farbe Weinrot

Sample: Knitted fabric 100% CO, winered

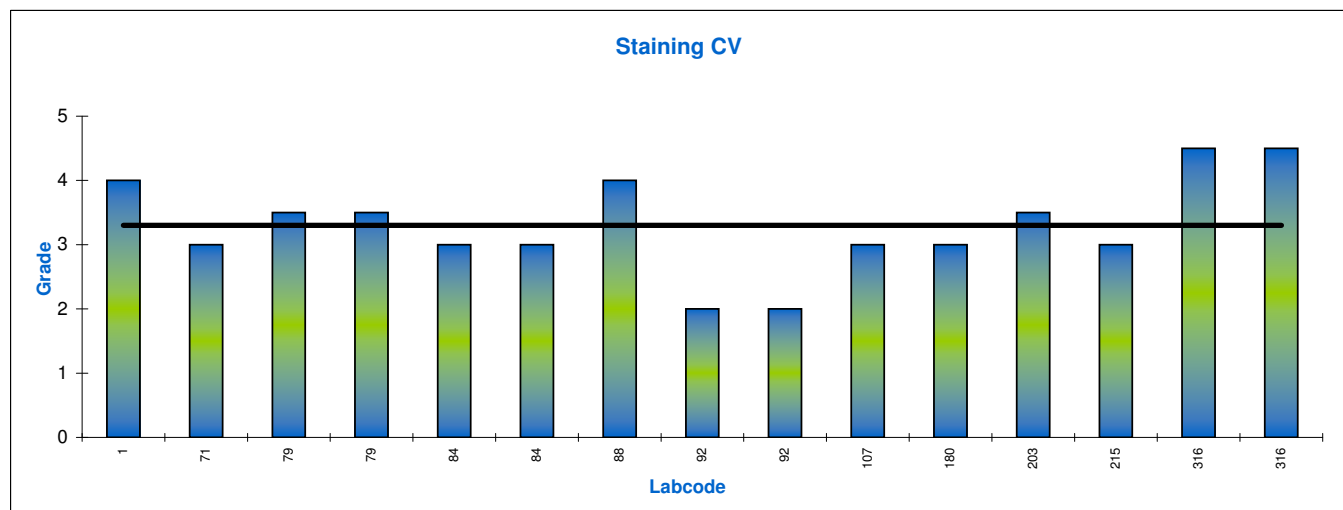
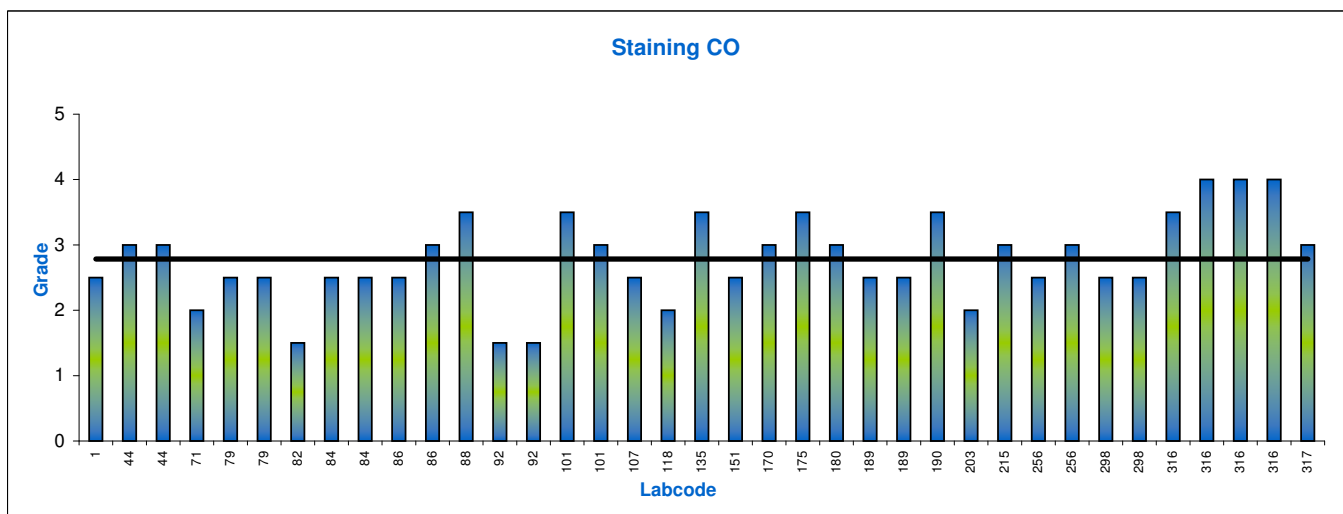
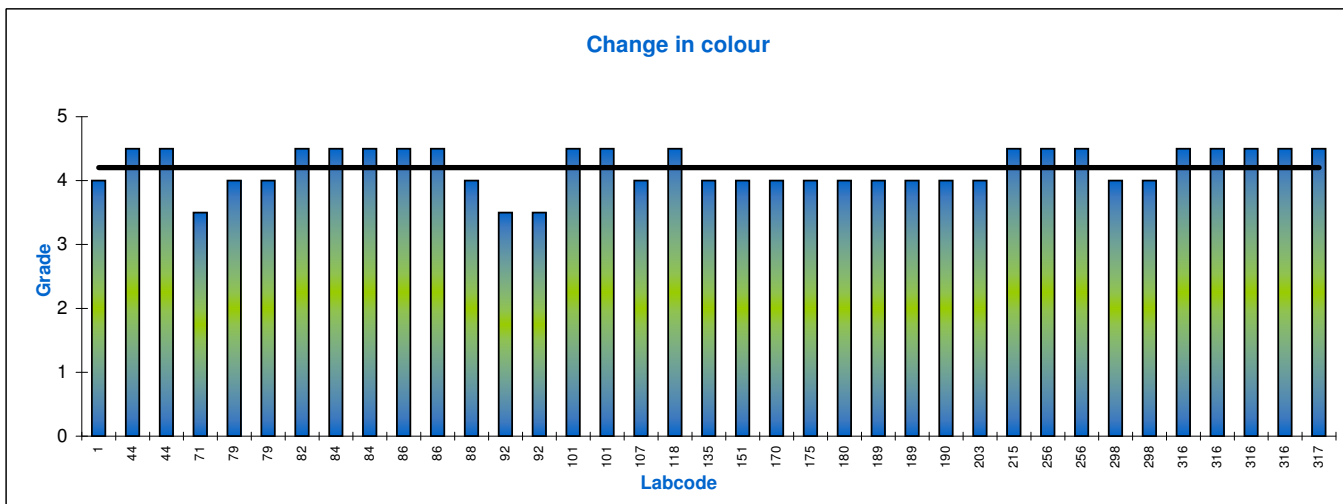
Waschechtheit 60°C (Haushaltswäsche & gewerbliche Wäsche) Fastness to washing 60°C (domestic and commercial laundering) (ISO 105-C08)														
Lab Code	Washing detergent	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
1	ECE+TAED+Perborate	✓		✓		4	2-3				4			
44	ECE+Perb. TAED	✓	✓	✓		4-5	3	4-5	4-5		4-5	4-5		4-5
44	ECE+Perb. TAED	✓		✓		4-5	3				4-5			
71	ECE	✓		✓		3-4	2			3				
79	ECE	✓		✓		4	2-3			3-4				
79	ECE		✓	✓		4	2-3	4-5	4-5	3-4			4-5	4-5
82	AATCC STANDARD	✓		✓		4-5	1-2	4-5	4-5		4-5			
84	ECE + Perborate	✓		✓		4-5	2-3			3				
84	ECE + Perborate		✓	✓		4-5	2-3	4-5	4-5	3			5	4-5
86	ECE + Perborate + TAED		✓	✓		4-5	2-3	4-5	4-5		4-5	4-5		4-5
86	ECE + Perborate + TAED		✓	✓		4-5	3	4-5	4		4	4		4
88	ECE + Perborate		✓	✓		4	3-4	4-5	4-5	4			4-5	4-5
92	ECE	✓		✓		3-4	1-2			2				
92	ECE		✓	✓		3-4	1-2	4-5	4-5	2			4-5	4-5
101	ECE+Perborate+TAED		✓	✓		4-5	3-4	4-5	4-5		4-5	4-5		4-5
101	ECE+Perborate+TAED	✓		✓		4-5	3				4-5			
107	ECE+Perborate+TAED		✓	✓		4	2-3	4-5	4	3			4-5	4-5
118	ECE+Perborate+TAED		✓	✓		4-5	2	4-5	4-5		4-5	4-5		4-5
135	ECE A + Perborate TAED		✓	✓		4	3-4	4-5	4-5		4-5	4-5		4-5
151	ECE +non-Phosphate+TAED		✓	✓		4	2-3	4-5	4		4-5	4		4
170	ECE + Perborate + TAED		✓	✓		4	3	5	4-5		4-5	5		5
175	ECE A + Perborate TAED		✓	✓		4	3-4	4-5	4-5		4-5		4-5	4-5
180	ECE		✓	✓		4	3	4-5	4-5	3	4-5	4-5	4-5	4-5
189	ECE TAED+Perb.		✓	✓		4	2-3	4-5	4-5		4-5	4		4-5
189	ECE TAED+Perb.		✓	✓	✓	4	2-3	4-5	4-5		4-5	4		4-5
190	ECE A + Perborate + TAED		✓	✓		4	3-4	4-5	4-5		4-5	4-5		4-5
203	ECE		✓	✓		4	2	4-5	4-5	3-4		4-5		4-5
215	ECE A +non-Phosphate		✓	✓		4-5	3	5	4-5	3			4	4-5
256	ECE A + Perborate + TAED		✓	✓		4-5	2-3	4-5	4-5		4-5	4-5		4-5
256	ECE A + Perborate + TAED		✓	✓		4-5	3	4-5	4-5		4-5	4-5		4-5
298	ECE A + Perborate + TAED		✓	✓		4	2-3	4-5	4-5		4-5	4		4-5
298	ECE A + Perborate + TAED		✓	✓		4	2-3	4-5	4-5		4-5	4		4-5
316	ECE A		✓	✓		4-5	3-4	5	5		5	4-5		4-5
316	ECE A		✓	✓		4-5	x 4	5	5		5	4-5		4-5
316	ECE A		✓	✓		4-5	x 4	5	5	x 4-5			5	4-5
316	ECE A		✓	✓		4-5	x 4	5	5	x 4-5			5	4-5
317	ECE A + Perborate + TAED		✓	✓		4-5	3	4-5	4-5		4-5	4-5		4-5
n						37	37	30	30	15	23	20	10	29
Ø						4.20	2.78	4.60	4.52	3.30	4.52	4.38	4.60	4.48
s						0.32	0.66	0.20	0.25	0.75	0.18	0.28	0.32	0.16
Median						4	2-3	4-5	4-5	3	4-5	4-5	4-5	4-5



TESTEX®

RUNDTEST Colour Fastness No. 38

Waschechtheit 60°C (Haushaltswäsche und gewerbliche Wäsche)
Color fastness to washing 60°C (Domestic and commercial laundering)
(ISO 105-C08)





TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO, marine

Sample: knitted fabric 100% CO, navy

**Schweissechtheit, alkalisch / Fastness to perspiration, alkaline
(ISO 105-E04)**

Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining								
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN	
1	Perspirometer	✓		✓	✓	4-5	1-2					2-3			
1	Perspirometer		✓	✓		4-5	2	3	2-3		x	4-5	4		3
27	Hydrotest		✓	✓	✓	4-5	2	3	2-3			3	3-4		2-3
33	Perspirometer		✓	✓		4-5	2	3	2-3			3-4	4		2-3
33	Perspirometer	✓		✓		4-5	2-3					3-4			
35	Perspirometer	✓		✓		4-5	2					2			
35	Perspirometer		✓	✓		4-5	1-2	2-3	2-3			2	3-4		2-3
44	Perspirometer		✓	✓		4-5	2-3	3	2-3			3	4		3
44	Perspirometer	✓		✓		4-5	2-3					3			
59	Perspirometer	✓		✓		4-5	1-2					2-3			
59	Perspirometer	✓		✓	✓	4-5	2-3					3			
71	Hydrotest	✓		✓		4	2					3			
79	Perspirometer	✓		✓		4	2-3					2-3			
79	Perspirometer		✓	✓		4-5	2-3	3	3			3	4		3
81	Perspirometer	✓		✓		4-5	2-3					3			
82	Perspirometer	✓		✓		4-5	1-2					2-3			
83	Penetrometr/Incubator			✓		4-5	2					2-3			
83	Penetrometr/Incubator			✓		4-5	2					2-3			
84	Perspirometer	✓		✓		4-5	2-3					3			
84	Perspirometer		✓	✓		4-5	2-3	3	3-4			3-4	4-5		3-4
85	Perspirometer	✓		✓		4-5	2					3-4			
85	Perspirometer		✓	✓		4-5	2	3	3			3	3-4		3
86	Perspirometer		✓	✓		4-5	2-3	3	3			3-4	3-4		3
86	Perspirometer	✓		✓		4-5	2-3					3			
87	Perspirometer 1	✓		✓		4-5	2-3					3			
87	Perspirometer 2	✓		✓	✓	4-5	2-3					3			
88	Perspirometer 290	✓		✓		4-5	2-3					3			
88	Perspirometer 290		✓	✓		4-5	2-3	3-4	2-3			3-4	4-5		3-4
89	Hydrotest	✓		✓		4-5	2					3			
89	Hydrotest		✓	✓		4-5	2-3	4	4		3			4-5	4
90	Incubator		✓	✓	✓	4-5	2	3	4		2-3	3			3
91	Perspirometer		✓	✓		4-5	2	3-4	3-4			3-4	4-5		3-4
91	Perspirometer	✓		✓		4-5	2					3			
92	Perspirometer	✓		✓		4-5	2					2-3			
92	Perspirometer		✓	✓		4-5	2	3-4	3			2-3	3-4		3
98	Perspirometer		✓	✓		4	2-3	3-4	3-4			3-4	4		3
101	Perspirometer		✓	✓		4-5	2-3	4	3			3-4	4		3-4
101	Perspirometer	✓		✓		4-5	2					4			
107	Perspirometer		✓	✓		4-5	2-3	3-4	3-4			3-4	4		3-4
111	Perspirometer		✓	✓		4-5	2	3	2-3			3	4		3
111	Perspirometer		✓	✓	✓	4-5	2-3	3	3			3	4		3
117	Perspirometer		✓	✓		4	2	3	2			2-3	3-4		2-3
117	Perspirometer		✓	✓	✓	4-5	2	3	2			2-3	3-4		3
118	Perspirometer		✓	✓		4-5	2	3-4	3			3-4	4		3-4
119	Incubator		✓	✓		4-5	2-3	3-4	3-4			3-4	4-5		3-4
121	Hydrotest	✓		✓		4-5	2					2-3			
121	Hydrotest		✓	✓		4-5	2	3	2-3			3	4		3
127	Perspirometer		✓	✓		4-5	2	2-3	2-3			2-3	3-4		2-3
135	Perspirometer		✓	✓		4-5	2-3	3-4	3-4			3-4	4		3-4
138	Atlas AATCC PR-1		✓	✓		4-5	2	3-4	2-3			3	4		3
142 A	Perspirometer		✓	✓		4-5	2	3	3			3	4		3
142 A	Perspirometer	✓		✓			2					2-3			
142 B	Perspirometer		✓	✓		5	2	2-3	2			2-3	4-5		2-3
142 B	Perspirometer	✓		✓			2					2			
143	Perspirometer		✓	✓		4-5	2-3	4	3			4	4		3-4



TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO, marine

Sample: knitted fabric 100% CO, navy

**Schweissechtheit, alkalisch / Fastness to perspiration, alkaline
(ISO 105-E04)**

Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
145	Hydrotest		✓	✓		4-5	2	3-4	3		3	4		3
145	Hydrotest		✓	✓		4-5	2	3-4	3		3	4		3
146	Perspiration Tester Atlas		✓	✓		4-5	2	3	2-3	x	4-5	3-4		3
147	Perspirometer		✓	✓		4-5	3	4	4		3-4	4-5		4
151	Incubator + Perspirometer		✓	✓		4-5	2	3-4	3		3	4		3-4
153	Perspirometer		✓	✓		4-5	2	3-4	2-3		3	4		3-4
163	Perspirometer		✓	✓		4	3	4	3-4		4	4		4
163	Perspirometer		✓	✓		4-5	x	3-4	4-5		4	4-5	x	4-5
166	Perspirometer		✓	✓		4-5	2	2-3	2-3		3-4	3-4		2-3
170	Perspirometer		✓	✓		4-5	2-3	4	3		4	4-5		4
175	Perspirometer PR-1		✓	✓		4-5	x	3-4	4-5		4		4-5	4
180	Perspirometer		✓	✓		4-5	1-2	2-3	x	1-2	2	4	4	2-3
181	Perspirometer		✓	✓		4-5	2-3	3-4	3-4	2-3			4-5	3-4
183	Perspirometer		✓	✓		4-5	3	4	3-4	3			5	4
189	Perspirometer		✓	✓		4-5	2	3-4	3		3	4		3
189	Perspirometer		✓		✓	4-5	2	3-4	3		3	3-4		3
190	Perspirometer		✓	✓		4-5	2	3	3		3	4		2-3
192	Perspirometer		✓	✓		4-5	2	3-4	3		3-4	4-5		3-4
193	Perspirometer		✓	✓		4-5	2	3	x	1-2	4	3-4		3
198	Perspirometer	✓		✓		4-5	2				2-3			
198	Perspirometer		✓	✓		4-5	2	3	2-3		3	3		3
203	Hydrotest		✓	✓		5	2-3	3-4	3-4		4	4		3-4
212	Perspirometer		✓	✓		4-5	2	3-4	3		3-4	4		3
215	Perspirometer		✓	✓		4-5	2-3	3-4	3		3-4	3-4		3
217	Perspirometer		✓	✓		4-5	3	4	4		3-4	4-5		3-4
217	Perspirometer		✓	✓		4-5	2-3	4-5	3-4		4	4-5		4
232	SDL Atlas Model PR-1		✓	✓		4-5	2	3	x	1-2	3-4	3-4		3
233	?	✓		✓		5	2				3			
233	?	✓			✓	5	2				3			
233	?	✓		✓		5	2				3			
233	?	✓		✓		5	2				3			
237	Perspirometer		✓	✓		4-5	2-3	3	3		3-4	4		3-4
238	Perspirometer		✓	✓		5	x	3-4	4-5	4	x	4-5	4-5	4
239	Perspirometer		✓	✓		4-5	2-3	3-4	3-4		3-4	4		3-4
243	Perspirometer		✓	✓		4-5	2-3	3-4	3		4	4		3-4
245	Perspirometer		✓	✓		4-5	2	3-4	3-4		3-4		4	3-4
247	Perspirometer		✓	✓		4-5	2	2-3	2-3		3	4		2-3
247	Perspirometer		✓	✓		4-5	2	2-3	2-3		3-4	4		2-3
254	Perspirometer		✓	✓		4-5	3	3-4	3-4		3	4		3-4
255	Perspiration Tester		✓	✓		5	3	3-4	4		x	4-5	4-5	3-4
255	Perspiration Tester		✓		✓	4-5	x	3-4	4-5	x	4-5	4-5		4
256	Perspirometer + Incubator		✓	✓		4-5	2-3	4	3-4		4	4		3-4
256	Perspirometer + Incubator		✓	✓		4-5	3	4	3-4		x	4-5	4	4
263	Perspirometer + Incubator		✓	✓		4	2	2-3	2-3		3	4		2-3
264	Perspirometer		✓	✓		4-5	2-3	4	3-4		3-4	4		3-4
267	Perspirometer		✓	✓		4-5	2	2-3	3		2	3-4		2-3
267	Perspirometer		✓		✓	5	2	3	3		2-3	3-4		3
283	Perspirometer		✓	✓		4	2-3	4	3-4		3-4	4		3
285	Perspirometer	✓		✓		5	2-3				3			
285	Perspirometer		✓	✓		5	3	3			3	3-4		3
291	Perspirometer		✓	✓		4-5	3	3-4	3-4	3-4			4	3-4
296	Perspirometer		✓	✓		4-5	2	3-4	3		3-4	4		3-4
298	Perspirometer		✓	✓		4-5	2	3-4	3		3-4	4		3
298	Perspirometer		✓	✓		4-5	2	3-4	3		3-4	4		3

RUNDTTEST Colour Fastness No. 38

Muster: Gewirke 100% CO, marine

Sample: knitted fabric 100% CO, navy

**Schweissechtheit, alkalisch / Fastness to perspiration, alkaline
(ISO 105-E04)**

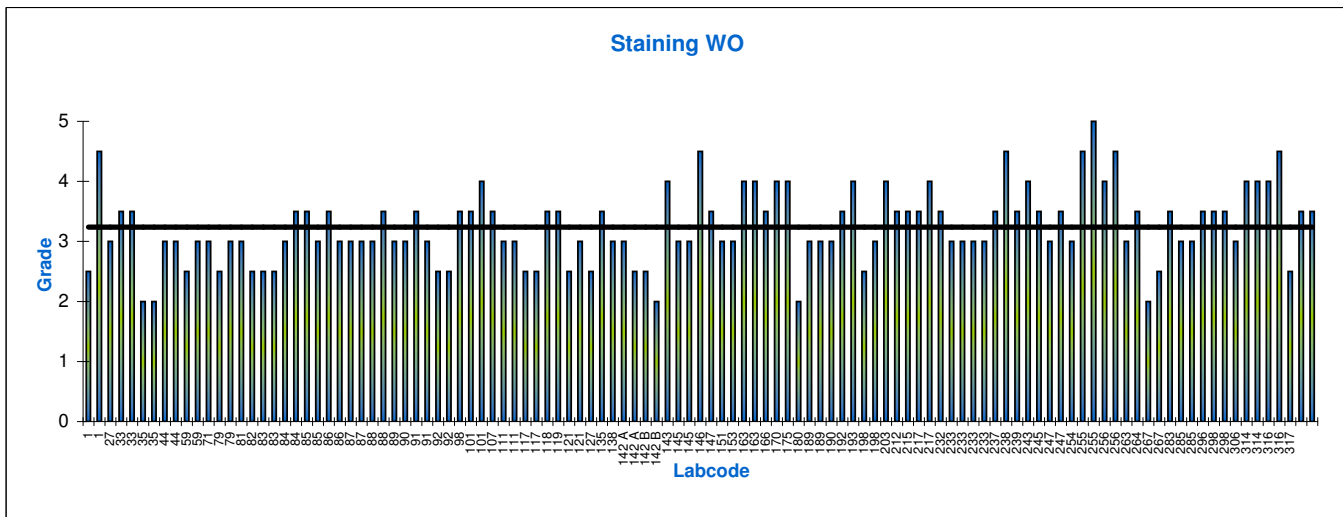
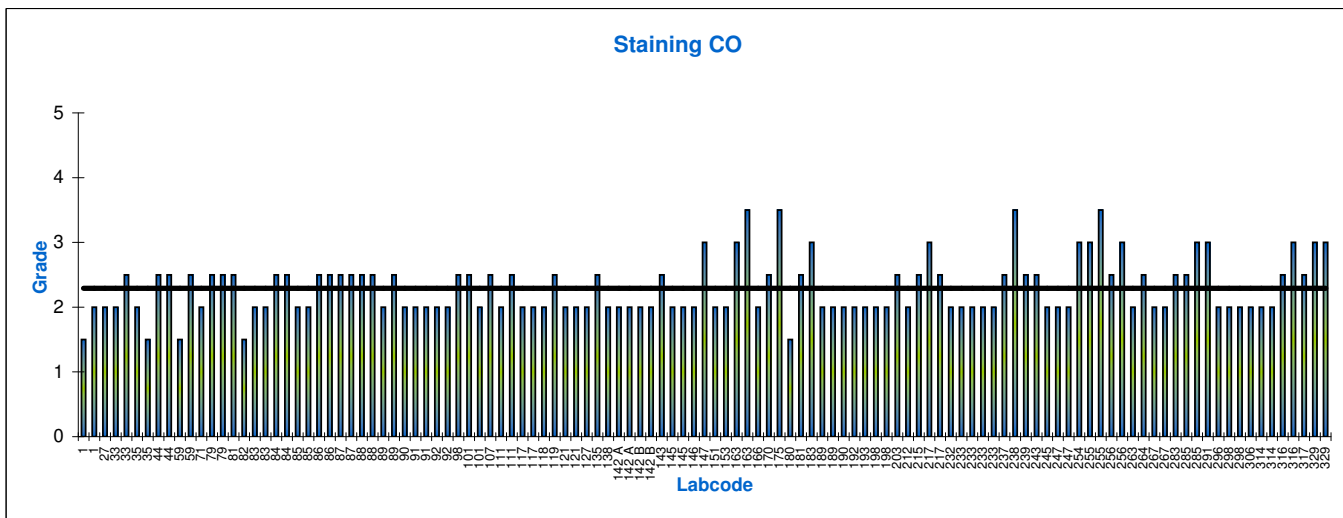
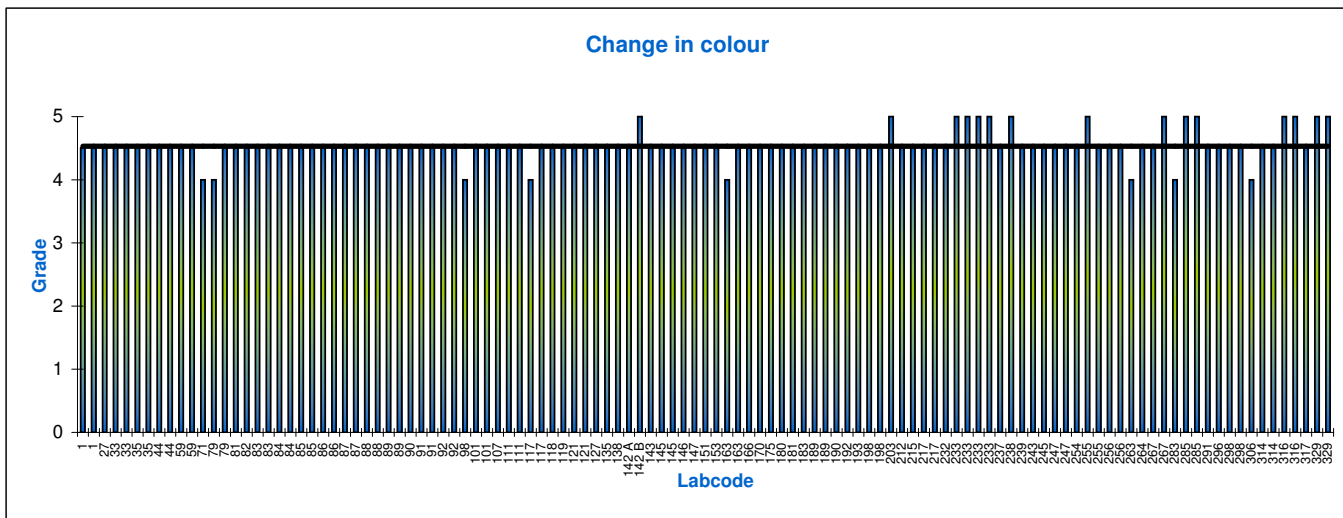
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
306	Perspirometer		✓	✓		4	2	3	3		3	3-4		3
314	Perspirometer		✓	✓		4-5	2	4	3		4	4		3-4
314	Perspirometer		✓	✓		4-5	2	4	3		4	4		3-4
316	Perspirometer		✓	✓		5	2-3	4-5	3-4		4	4-5		3-4
316	Perspirometer		✓	✓		5	3	4	4	x	4-5	4-5		3-4
317	Perspirometer		✓	✓		4-5	2-3	3	3-4		2-3	4		3
329	Perspirometer	✓		✓		5	3				3-4			
329	Perspirometer	✓		✓		5	3				3-4			
n						115	117	84	83	6	113	77	7	84
Ø						4.53	2.29	3.40	3.06	2.75	3.24	3.97	4.36	3.23
s						0.22	0.43	0.54	0.61	0.52	0.61	0.35	0.38	0.47
Median						4-5	2	3-4	3	2-3	3	4	4-5	3



TESTEX®

RUNDTEST Colour Fastness No. 38

Schweissechtheit, alkalisch / Colour fastness to perspiration, alkaline
(ISO 105-E04)




RUNDTEST Colour Fastness No. 38
Muster: Gewirke 100% CO, marine

Sample: knitted fabric 100% CO, navy

Schweissechtheit, sauer / Fastness to perspiration, acid (ISO 105-E04)														
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
1	Perspirometer	✓		✓	✓	4-5	2					2		
1	Perspirometer		✓	✓	✓	4-5	2	2-3	1-2		4	4		3
27	Hydrotest		✓		✓	5	2-3	2-3	2		3	3-4		2-3
33	Perspirometer		✓	✓		4-5	2	3-4	2		3-4	4		3
33	Perspirometer	✓		✓		4-5	2-3				3-4			
35	Perspirometer	✓		✓		4-5	2				x 1-2			
35	Perspirometer		✓	✓		4-5	1-2	x 2	1-2		x 1-2	3-4		2
44	Perspirometer		✓	✓		4-5	2	2-3	1-2		3	3-4		2-3
44	Perspirometer	✓		✓		4-5	2				2-3			
59	Perspirometer	✓		✓		4-5	1-2				2-3			
59	Perspirometer	✓		✓	✓	4-5	2-3				3			
71	Hydrotest	✓		✓		4-5	2				2-3			
79	Perspirometer	✓		✓		4-5	2-3				2-3			
79	Perspirometer		✓	✓		4-5	2-3	3	2		2-3	4		3
81	Perspirometer	✓		✓		4-5	2-3				3			
82	Perspirometer	✓		✓		4-5	1-2				2-3			
83	Penetrometr/Incubator			✓		4-5	2-3				2-3			
83	Penetrometr/Incubator			✓		4-5	2-3				2-3			
84	Perspirometer	✓		✓		4-5	2-3				2-3			
84	Perspirometer		✓	✓		4-5	2-3	3	3		3	4-5		3-4
85	Perspirometer	✓		✓		4-5	2-3				3			
85	Perspirometer		✓	✓		4-5	2-3	3	2-3		2-3	3-4		3
86	Perspirometer		✓	✓		4-5	2-3	3	2		3	3-4		3
86	Perspirometer	✓	✓	✓		4-5	2-3				2-3			
87	Perspirometer 1	✓		✓		4-5	2-3				3			
87	Perspirometer 2	✓		✓	✓	4-5	2-3				3			
88	Perspirometer 290	✓		✓		4-5	2-3				3			
88	Perspirometer 290		✓	✓		4-5	2-3	4	x 3-4		4	4-5		3-4
89	Hydrotest	✓		✓		4-5	2-3				2-3			
89	Hydrotest		✓	✓		4-5	2-3	4	x 4	3	3		4-5	4
90	Incubator		✓		✓	4-5	2	3	x 4	2-3	3			2
91	Perspirometer		✓	✓		4-5	2-3	3-4	2		3	4		3-4
91	Perspirometer	✓		✓		4-5	3				3			
92	Perspirometer	✓		✓		4-5	2				2-3			
92	Perspirometer		✓	✓		4-5	2	3	2		2-3	3-4		3
98	Perspirometer		✓	✓		4	2-3	3-4	3		3-4	4		3-4
101	Perspirometer		✓	✓		4-5	2-3	3-4	2		3-4	4		3-4
101	Perspirometer	✓		✓		4-5	2				4			
107	Perspirometer		✓	✓		4-5	2-3	3-4	2		3-4	4		3-4
111	Perspirometer		✓	✓		5	2	2-3	1-2		2-3	4		3
111	Perspirometer		✓		✓	5	2-3	3	2		2-3	4		3
117	Perspirometer		✓	✓		4	2	2-3	1		2-3	3-4		2-3
117	Perspirometer		✓	✓	✓	4-5	2	2-3	1-2		2-3	3		3
118	Perspirometer		✓	✓		4-5	2	3-4	2		3-4	4		3-4
119	Incubator		✓	✓		4-5	3	3-4	2		3	4-5		3-4
121	Hydrotest	✓		✓		4-5	2				2-3			
121	Hydrotest		✓	✓		4-5	2	3	2		2-3	4		3
127	Perspirometer		✓	✓		4-5	2	2-3	1-2		2-3	3-4		2-3
135	Perspirometer		✓	✓		4-5	2-3	3-4	2-3		3-4	4		3-4
138	Atlas AATCC PR-1		✓	✓		4-5	2-3	3-4	2		3	4		3
142 A	Perspirometer		✓	✓		4-5	2-3	3	2		3	4		3
142 A	Perspirometer	✓		✓			2				2			
142 B	Perspirometer		✓	✓		5	1-2	2-3	1-2		2-3	4		2-3
142 B	Perspirometer	✓		✓			2				2			
143	Perspirometer		✓	✓		4-5	2-3	4	3		4	4-5		3-4


RUNDTEST Colour Fastness No. 38
Muster: Gewirke 100% CO, marine

Sample: knitted fabric 100% CO, navy

Schweissechtheit, sauer / Fastness to perspiration, acid (ISO 105-E04)														
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
145	Hydrotester		✓	✓		4-5	2	3-4	2-3		2-3	4		3
145	Hydrotester		✓	✓		4-5	2	3-4	2-3		2-3	4		3
146	Perspiration Tester Atlas		✓	✓		4-5	2-3	3	1-2		4	4		3
147	Perspirometer		✓	✓		4-5	3	4	2-3		3	4-5		4
151	Incubator + Perspirometer		✓	✓		4-5	2	3	2		3	4		3
153	Perspirometer		✓	✓		4-5	2-3	3-4	2		3	4		3-4
163	Perspirometer		✓	✓		4-5	3	4	3		4	4		4
163	Perspirometer		✓	✓		4-5	3-4	4-5	x 3-4		4	4-5	x	4-5
166	Perspirometer		✓	✓		4-5	2	2-3	2		3	4		2-3
170	Perspirometer		✓	✓		4-5	2-3	4	x 3-4		x 4-5	4-5		4
175	Perspirometer PR-1		✓	✓		4-5	3-4	4-5	x 3-4		4		4-5	4
180	Perspirometer		✓	✓		4-5	1-2	2-3	1-2	2	2	4	4	2-3
181	Perspirometer		✓	✓		4-5	2-3	3-4	2-3	2-3			4-5	3-4
183	Perspirometer		✓	✓		4-5	3	4	x 3-4	2-3			5	3-4
189	Perspirometer		✓	✓		4-5	2	3	2		2-3	4		3
189	Perspirometer		✓	✓	✓	4-5	2	3	2		3	4		3
190	Perspirometer		✓	✓		4-5	2-3	3	2		2-3	4		3
192	Perspirometer		✓	✓		4-5	2-3	3-4	2		3	4-5		3-4
193	Perspirometer		✓	✓		4-5	1-2	3	2-3		4	3		3
198	Perspirometer	✓		✓		4-5	2				2-3			
198	Perspirometer		✓	✓		4-5	2	3	2		2-3	3		2-3
203	Hydrotest		✓	✓		5	2	3-4	2-3		4	4		3-4
212	Perspirometer		✓	✓		4-5	2	3	2		3-4	4		3
215	Perspirometer		✓	✓		4-5	2-3	3	2-3		3	3-4		3
217	Perspirometer		✓	✓		4-5	2-3	3-4	2-3		2-3	4-5		3-4
217	Perspirometer		✓	✓		4-5	2-3	4	2		3	4-5		4
232	SDL Atlas Model PR-1		✓	✓		4-5	2	3	1-2		3	3-4		3
233	?	✓		✓		5	2-3				2-3			
233	?	✓		✓	✓	5	2-3				2-3			
233	?	✓		✓		5	2-3				2-3			
233	?	✓		✓	✓	4-5	2-3				2-3			
237	Perspirometer		✓	✓		4-5	2-3	3	2		3-4	4		3-4
238	Perspirometer		✓	✓		5	3-4	4-5	x 3-4		x 4-5	4-5		4
239	Perspirometer		✓	✓		4-5	2-3	2-3	2		3-4	3-4		3-4
243	Perspirometer		✓	✓		4-5	2-3	3-4	2-3		4	4		3
245	Perspirometer		✓	✓		4-5	2-3	3	2-3		3-4		4	3
247	Perspirometer		✓	✓		4-5	2-3	2-3	2		3	4		2-3
247	Perspirometer		✓	✓		4-5	2-3	2-3	2		3	3-4		2-3
254	Perspirometer		✓	✓		4-5	3	3-4	3		3	4		3-4
255	Perspiration Tester		✓	✓		5	3	3-4	3		x 4-5	4-5		3
255	Perspiration Tester		✓	✓	✓	4-5	3	4-5	x 4		x 4-5	4-5		4
256	Perspirometer + Incubator		✓	✓		4-5	2-3	3-4	2		3-4	4		3-4
256	Perspirometer + Incubator		✓	✓		4-5	3	3-4	2-3		3-4	4		4
263	Perspirometer + Incubator		✓	✓		4	2	2-3	1-2		3	4		2-3
264	Perspirometer		✓	✓		4-5	2-3	3-4	2-3		3-4	4		3-4
267	Perspirometer		✓	✓		4-5	2	2-3	1-2		2	3-4		2-3
267	Perspirometer		✓	✓	✓	4-5	2	2-3	2		2-3	3-4		3
283	Perspirometer		✓	✓		4	2-3	4	2-3		3-4	4		3-4
285	Perspirometer	✓		✓		5	2-3				3			
285	Perspirometer		✓	✓		5	2	3	2		3	3-4		3
291	Perspirometer		✓	✓		4-5	3	3-4	2-3	3-4			4	3-4
296	Perspirometer		✓	✓		4-5	2	3-4	2		3-4	4		3-4
298	Perspirometer		✓	✓		4-5	2	3-4	2		3	4		3
298	Perspirometer		✓	✓		4-5	2	3-4	2		3	4		3
306	Perspirometer		✓	✓		4	2-3	3	2		3	3-4		3

RUNDTEST Colour Fastness No. 38

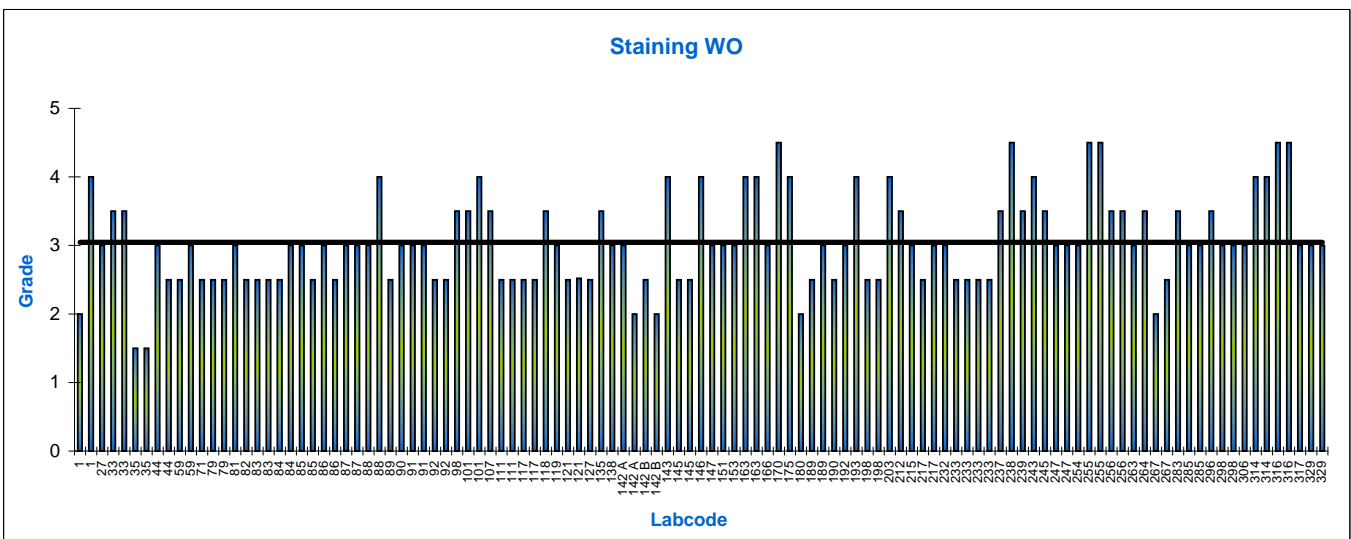
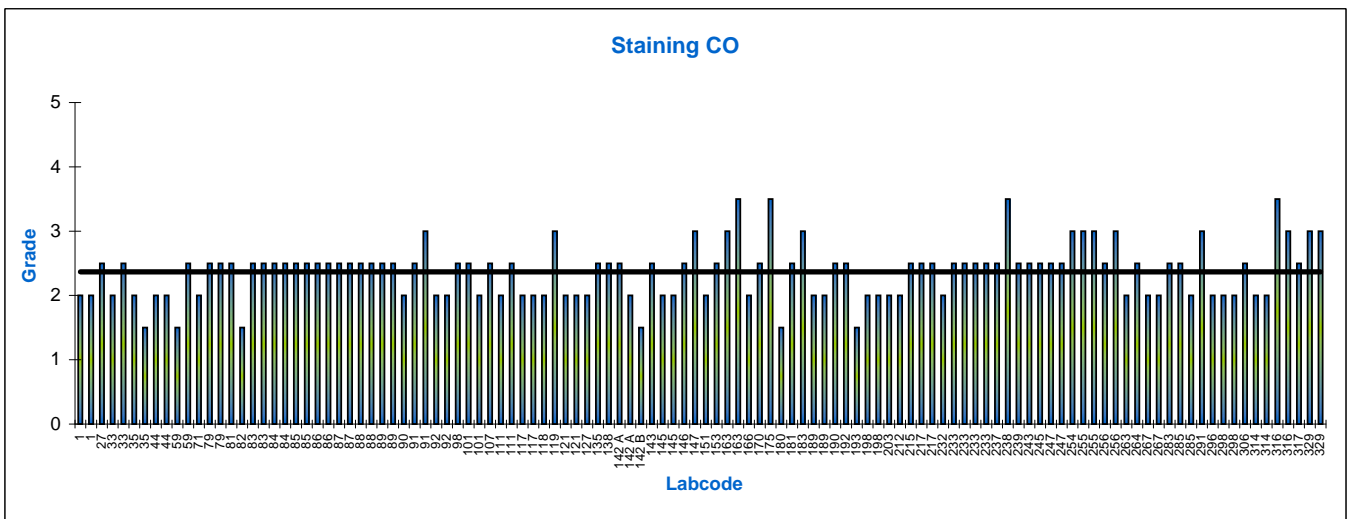
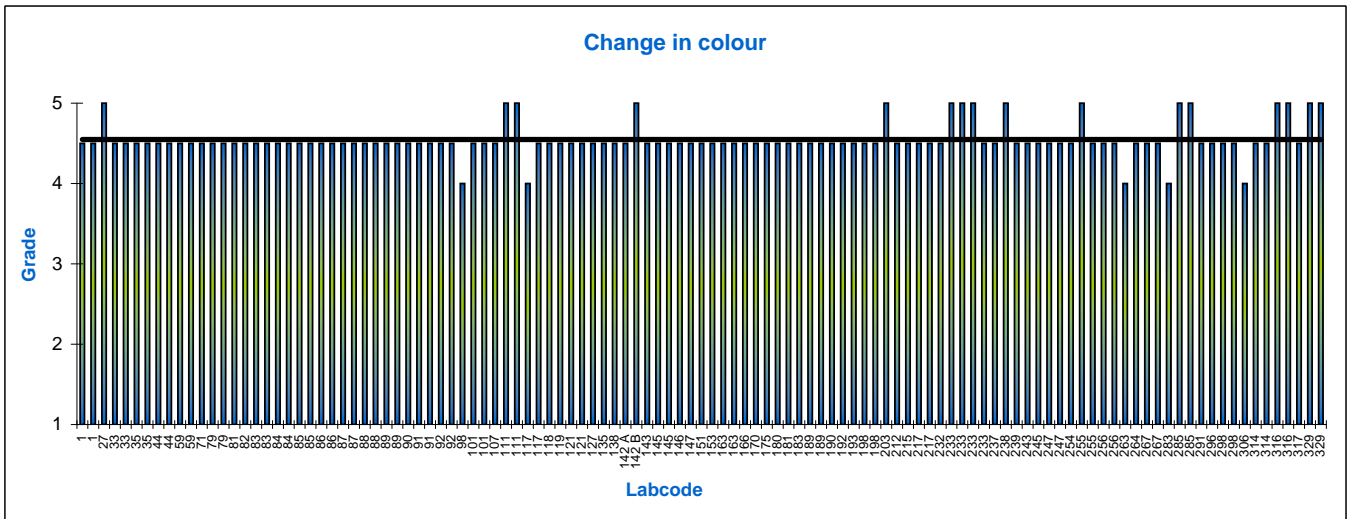
Muster: Gewirke 100% CO, marine

Sample: knitted fabric 100% CO, navy

Schweissechtheit, sauer / Fastness to perspiration, acid (ISO 105-E04)														
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
314	Perspirometer		✓	✓		4-5	2	4	2		4	4		3-4
314	Perspirometer		✓	✓		4-5	2	4	2		4	4		3-4
316	Perspirometer		✓	✓		5	3-4	4-5	3		x 4-5	4-5		4
316	Perspirometer		✓	✓		5	3	4-5	3		x 4-5	4-5		4
317	Perspirometer		✓	✓		4-5	2-3	3	2-3		3	4		3
329	Perspirometer	✓		✓		5	3				3			
329	Perspirometer	✓		✓		5	3				3			
n						115	117	84	84	6	113	77	7	84
Ø						4.55	2.37	3.29	2.29	2.67	3.04	3.95	4.36	3.21
s						0.21	0.43	0.59	0.65	0.52	0.66	0.37	0.38	0.50
Median						4-5	2-3	3-4	2	2-3	3	4	4-5	3

RUNDTEST Colour Fastness No. 38

Schweissechtheit, sauer / Colour fastness to perspiration, acid
(ISO 105-E04)





TESTEX®

RUNDTEST Colour Fastness No. 38

Muster: Gewebe100% CO, Jeansblau

Sample: Woven fabric 100% CO, jeans blue

Wasserechtheit / Fastness to water (ISO 105-E01)														
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
1	Perspirometer	✓		✓	✓	4-5	4-5					4-5		
1	Perspirometer		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5		4-5
27	Hydrotest		✓		✓	4-5	5	5	4-5		4-5	4-5		5
33	Perspirometer		✓	✓	✓	5	4-5	4-5	4-5		4-5	4-5		4-5
33	Perspirometer	✓				5	4-5				4-5			
35	Perspirometer	✓		✓		5	5				4-5			
35	Perspirometer		✓	✓	✓	5	5	5	4-5		5	5		5
44	Perspirometer		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5		4-5
44	Perspirometer	✓		✓	✓	4-5	4-5				4-5			
59	Perspirometer	✓		✓		4-5	4-5				4			
59	Perspirometer	✓			✓	5	5				4-5			
71	Hydrotest	✓		✓		4-5	4-5				4-5			
79	Perspirometer	✓		✓		5	4-5				4-5			
79	Perspirometer		✓	✓	✓	5	4-5	4-5	4-5		4-5	4-5		4-5
81	Perspirometer	✓		✓		5	4-5				4-5			
82	Perspirometer	✓		✓		4-5	4-5				4-5			
83	Penetrometr/Incubator			✓		5	4-5				4-5			
83	Penetrometr/Incubator			✓		5	4-5				4-5			
84	Perspirometer	✓		✓		5	4-5				4-5			
84	Perspirometer		✓	✓	✓	5	4-5	4-5	4		4	3-4		4-5
85	Perspirometer	✓		✓		5	4-5				4-5			
86	Perspirometer		✓	✓	✓	4-5	5	5	5		4-5	5		5
86	Perspirometer	✓		✓		4-5	4-5				4-5			
87	Perspirometer 1	✓		✓		4-5	4-5				4			
87	Perspirometer 2	✓			✓	4-5	5				4			
88	Perspirometer 290	✓		✓		5	5	5						
88	Perspirometer 290		✓	✓		5	5	5	5		5	5		5
89	Hydrotest	✓		✓		4-5	4-5	4-5						
89	Hydrotest		✓	✓		4-5	4	4-5	x 2	4-5			x 3	4-5
90	Incubator		✓		✓	4	4-5	4-5	4-5	4-5	4-5			4-5
91	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
91	Perspirometer	✓		✓		4-5	4-5				4-5			
92	Perspirometer	✓		✓		4-5	4-5				4-5			
92	Perspirometer		✓	✓		4-5	4-5	4-5	3-4		4-5	3-4		4-5
98	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
101	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		5
101	Perspirometer		✓	✓		4-5	5	5	4-5		5	4-5		5
107	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
111	Perspirometer	✓		✓		5	5	5	4-5		5	5		5
111	Perspirometer	✓			✓	5	5	5	4-5		5	5		5
117	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
117	Perspirometer		✓		✓	4-5	4-5	5	4-5		4-5	4-5		4-5
118	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
119	Incubator		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
121	Hydrotest	✓		✓		4-5	4-5				4-5			
121	Hydrotest		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
127	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
135	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
138	Atlas AATCC PR-1		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
142 A	Perspirometer		✓	✓		4-5	5	5	5		5	5		5
142 A	Perspirometer	✓		✓			5				5			
142 B	Perspirometer		✓	✓		5	5	5	5		5	5		5



TESTEX®

RUNDTEST Colour Fastness No. 38

Muster: Gewebe100% CO, Jeansblau

Sample: Woven fabric 100% CO, jeans blue

Wasserechtheit / Fastness to water (ISO 105-E01)														
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
142 B	Perspirometer	✓		✓			5					5		
143	Perspirometer		✓	✓		4-5	4	4-5	4		4-5	4-5		4-5
145	Hydrotest		✓	✓		4-5	4-5	5	4-5		4-5	4-5		5
145	Hydrotest		✓	✓		4-5	4-5	5	4-5		4-5	4-5		5
146	Perspiration Tester Atlas		✓	✓		5	5	4-5	4-5		5	4-5		5
147	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
151	Incubator + Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
153	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
163	Perspirometer		✓	✓		5	4-5	4-5	4-5		5	5		5
163	Perspirometer		✓	✓		5	4-5	4-5	4-5		4-5	4-5		4-5
166	Perspirometer		✓	✓		4-5	4-5	4-5	4		4-5	4-5		4-5
170	Perspirometer		✓	✓		5	5	5	5		5	5		5
175	Perspirometer PR-1		✓	✓		4-5	4-5	4-5	4-5		4-5		4-5	4-5
180	Perspirometer		✓	✓		4-5	4-5	4-5	4	4-5	4-5	4	4-5	4-5
181	Perspirometer		✓	✓		4-5	4-5	4-5	4-5	4-5			4-5	4-5
183	Perspirometer		✓	✓		5	5	5	5	5			5	5
189	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
189	Perspirometer		✓		✓	4	4	4-5	4		4-5	4		4-5
190	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
192	Perspirometer		✓	✓		5	4	5	5		5	5		5
193	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
198	Perspirometer		✓	✓		4-5	5	5	5		4-5	5		5
203	Hydrotest		✓	✓		5	5	4-5	4-5		4-5	4-5		4-5
212	Perspirometer		✓	✓		5	4-5	4-5	4-5		5	4-5		5
215	Perspirometer		✓	✓		4-5	4-5	4-5	4		4-5	4-5		4-5
217	Perspirometer		✓	✓		4-5	4-5	5	4-5		4-5	5		5
217	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
232	SDL Atlas Model PR-1		✓	✓		4-5	4-5	4-5	4-5		4-5	4		4-5
233	?	✓		✓		4-5	4-5				4-5			
233	?	✓			✓		5				5			
233	?	✓		✓		4-5	5				5			
233	?	✓			✓		5				5			
237	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
238	Perspirometer		✓	✓		5	5	5	5		4-5	4-5		5
239	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
243	Perspirometer		✓	✓		4-5	4-5	4-5	4		4-5	3-4		4-5
245	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5		4-5	5
247	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
247	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
254	Perspirometer		✓	✓		4-5	4-5	4-5	4		4-5	4-5		4-5
255	Perspiration Tester		✓	✓		5	5	4-5	5		5	5		5
255	Perspiration Tester		✓		✓	5	5	5	5		5	5		5
256	Perspirometer + Incubator		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
256	Perspirometer + Incubator		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
263	Perspirometer + Incubator		✓	✓		4-5	4-5	5	4-5		5	4-5		5
264	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
267	Perspirometer		✓	✓		5	5	4-5	4-5		4-5	4-5		4-5
267	Perspirometer		✓		✓	5	5	5	4-5		4-5	4-5		4-5
283	Perspirometer		✓	✓		4	4-5	4-5	4-5		4-5	4-5		4-5
285	Perspirometer	✓		✓		5	5				5			
285	Perspirometer		✓	✓		5	5	5	4-5		5	5		5
291	Perspirometer		✓	✓		4-5	4-5	4-5	4-5	5			4-5	5

RUNDTEST Colour Fastness No. 38

Muster: Gewebe100% CO, Jeansblau

Sample: Woven fabric 100% CO, jeans blue

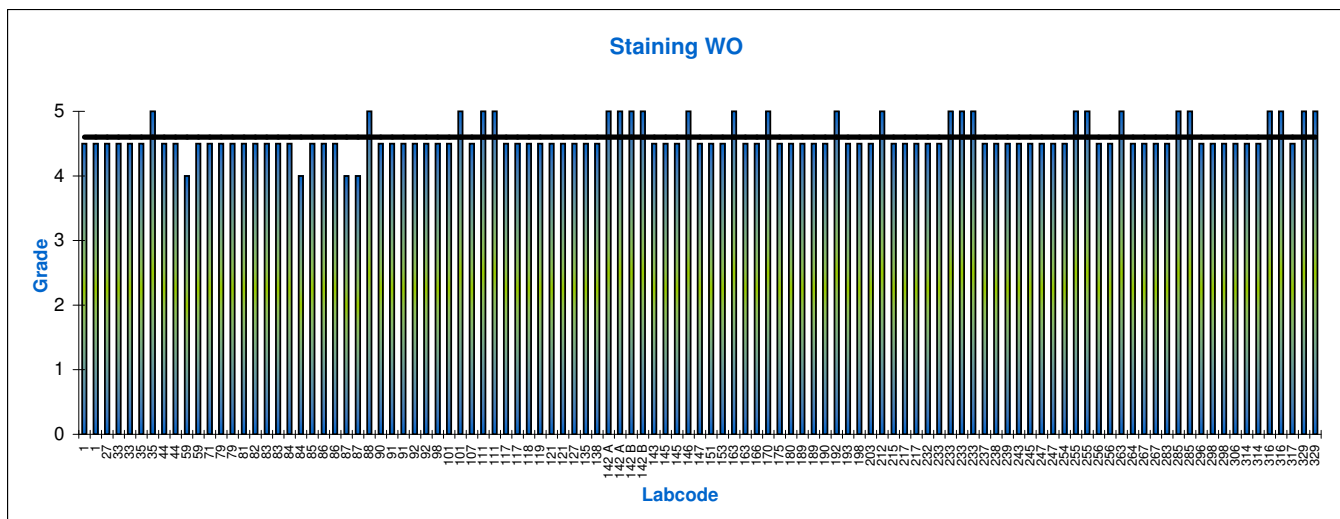
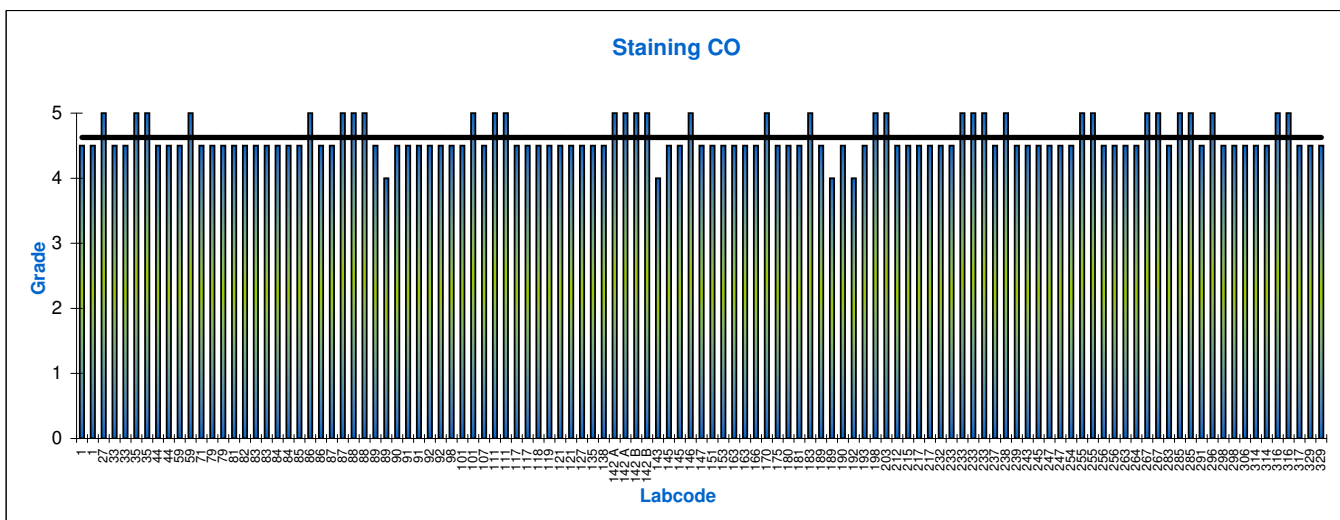
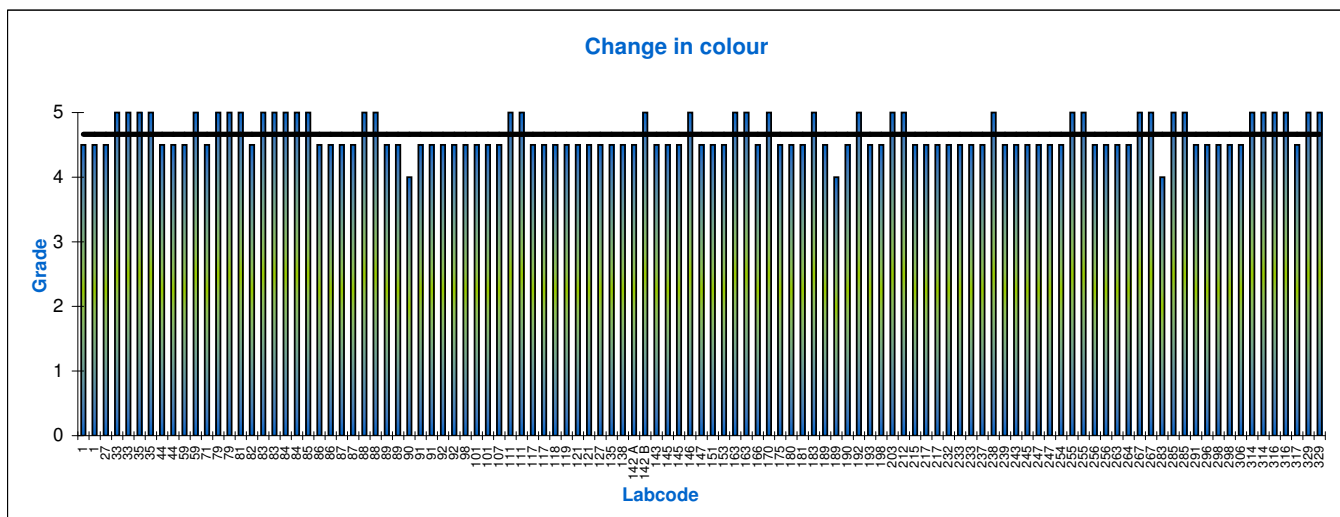
Wasserechtheit / Fastness to water (ISO 105-E01)														
Lab Code	Testing apparatus	Single fibre	Multi fibre	Assessment		Change in colour	Staining							
				Visually	Col. meas.		CO	PES	PA	CV	WO	CA	CT	PAN
296	Perspirometer		✓	✓		4-5	5	4-5	4-5		4-5	5		4-5
298	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
298	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
306	Perspirometer		✓	✓		4-5	4-5	4-5	4		4-5	4		4-5
314	Perspirometer		✓	✓		5	4-5	4-5	4-5		4-5	5		5
314	Perspirometer		✓	✓		5	4-5	4-5	4-5		4-5	5		5
316	Perspirometer		✓	✓		5	5	5	5		5	5		5
316	Perspirometer		✓	✓		5	5	5	5		5	5		5
317	Perspirometer		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5		4-5
329	Perspirometer	✓		✓		5	4-5				5			
329	Perspirometer	✓		✓		5	4-5				5			
n						111	115	86	84	6	109	77	7	84
Ø						4.66	4.63	4.65	4.48	4.67	4.60	4.56	4.36	4.68
s						0.26	0.26	0.23	0.39	0.26	0.24	0.34	0.63	0.24
Median						4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5



TESTEX®

RUNDTEST Colour Fastness No. 38

Wasserechtheit / Colour fastness to water
(ISO 105-E01)





TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Gewebe, 100% CO, Pflaume

Sample: woven fabric, 100% CO, plum

Reibechtheit / Fastness to rubbing (ISO 105-X12)										
Lab Code	Year of standard	Download force [N]	Testing conditions		Assessment		Dry		Wet	
			°C	% rel. Humidity	Visually	Colour measurement	Length	Cross	Length	Cross
1	2001	9	20	65	✓		1-2	1-2	1	1
27	2002	9.2	20	65		✓	2	2	1	1
33	2003	9	20	65	✓		2-3	2-3	1	1-2
35	2003	9	20	65	✓		2	2	1-2	1-2
44	2001	9	20	65	✓		2-3	2-3	1-2	1-2
59	2002	9	20	65	✓		2-3	2-3	1-2	1-2
71	2002	9	20	65	✓		2	2	1	1
79	2001	9	20	65	✓		2-3	2-3	1-2	1-2
81	2002	9	20	65	✓		3	3	2-3	2-3
82	2002	9	20	65	✓		2	2	1	1
83	?	9	20	65	✓		2	2	1	1
84	2003	9	25	65	✓		2	2-3	1-2	1
85	2002	9	20	65	✓		2-3	2-3	1-2	1-2
86	2002	9	20	65	✓		2-3	2-3	1-2	1
86	2002	9	20	65	✓		2	2	1	1
87	2001	9	21	62		✓	1-2	1-2	1	1
88	2002	9	20	61	✓		2-3	2-3	2	2
89	2002	9	20	65	✓		3	3	1-2	1-2
90	2001	9	20	65		✓	1-2	1-2	1	1
91	2002	9	21	65	✓		2-3	2-3	2-3	2
92	2003	9	20	65	✓		1-2	1-2	1-2	1-2
98	1995	9	22	65	✓		2-3	2-3	1-2	1-2
101	2001	9	20	65	✓		2	2	1	1
107	2003	9	20	65	✓		2	2-3	1-2	1-2
111	2002	6	20	65	✓		2-3	2-3	1	1
117	2008-95	9	22	46	✓		2	2	1	1
118	2001	9	20	65	✓		2	2	1-2	1-2
119	?	9	20	65	✓		1-2	1-2	1	1-2
121	2002	9	22	65	✓		1-2	1-2	1	1
127	2001	9	20	65	✓		2	2	1	1
135	2001-05	9	20	65	✓		2-3	2-3	2	1-2
138	2001	9	20	65	✓		2	2	1-2	1-2
142 A	2001	9	20	65	✓			2		1
142 B	2001	9	20	65	✓			2		1
143	?	9	21	62	✓		2-3	2-3	2	2
145	2002	9	20	65	✓		2-3	2-3	2	2
146	2001	9	20	65	✓		2	2	1	1
147	?	9	22	64	✓		2-3	2-3	1-2	1-2
151	2003	9	20	65	✓		2	2	1	1
153	2001	9	20	65	✓		2	2	1	1
163	2002	9	20	65	✓		3-4	3-4	2	2
166	2001	9	20	65	✓		2		1	
170	2002	9	20	65	✓		2	2	1-2	1-2
175	2002	9	21	65	✓		3	3	1-2	1-2
180	2002-12	9	20	65	✓		2-3	2-3	1-2	2
181	2002	9	20	65	✓		2-3	2-3	1-2	1-2
182	2003	9	23.6	47	✓		x 4-5	x 4-5	x 3-4	x 3-4
183	?	?	?	?	✓		2-3	2-3	1-2	1-2
189	2003	9	20	65	✓		2-3	2-3	1-2	1-2
190	2001	9	20	65	✓		2-3	2-3	1-2	1-2
192	2002-12	9	?	?	✓		2		1-2	
193	?	9	22	?	✓		2-3		2	
198	2003	9	20	65	✓		2	2	1	1
203	2002	9	20	65	✓		3	2-3	1-2	1-2
212	2002	9	20	65	✓		1-2	1-2	1	1



TESTEX®

RUNDTEST Colour Fastness No. 38

Muster: Gewebe, 100% CO, Pflaume

Sample: woven fabric, 100% CO, plum

Reibechtheit / Fastness to rubbing (ISO 105-X12)										
Lab Code	Year of standard	Download force [N]	Testing conditions		Assessment		Dry		Wet	
			°C	% rel. Humidity	Visually	Colour measurement	Length	Cross	Length	Cross
215	2001	9	20	65	✓		2-3	2-3	1-2	1-2
217	1995	9	?	?	✓		2	2	1-2	1-2
232	2001	9	25	65	✓		1-2	1-2	1	1
233	1995	9	20	50	✓		2	2	1	1
233	1995	9	20	50		✓	2	2	1	1
237	2001	9	21	66	✓		2-3	2	1	1
238	2001	9	20	65	✓		3-4	3-4	2	2
239	2002	9	20	65	✓		2-3	2-3	1-2	1-2
243	2001	9	20	65	✓		1-2	1-2	1	1
245	2003	9	20	65	✓		2-3	2-3	1-2	1-2
247	2003	9	20	65	✓		2	2	1	1
254	2002	9	20	65	✓		2-3	2-3	1-2	1-2
255	2001	9	21	63	✓		2-3	2	1-2	1
256	2003	9	20	66	✓		3	3	2	1-2
256	2003	9	20	66	✓		3-4	3-4	2	1-2
263	2003	9	21	65	✓		3	3	2-3	1-2
264	2001	9	20	65	✓		2	2	1-2	1-2
267	2001	9	21.5	63.4	✓		2	2	1-2	1-2
283	2001	9	20	65	✓		2-3	2-3	1-2	1-2
285	2002	9	20	65	✓		2-3	2-3	2	2
291	2002	9	21	45	✓		2-3	3	2	2
296	2002-12	9	20	65	✓		2	2	1	1
298	2001	9	20	65	✓		2-3	2-3	1-2	1-2
304	2001	9	20	65	✓		2	2	1	1
306	2006	9	20	63	✓		2-3	2-3	1-2	1-2
314	2001	9	20	65	✓		2	2	1-2	1-2
316	?	9	20	65	✓		3	3	2	2
317	2001 - 2006	9	20	65	✓		2-3	2-3	2	2
329	2001	9	22	63	✓		3	3	2	2
n							82	81	82	81
Ø							2.32	2.32	1.47	1.42
s							0.53	0.53	0.47	0.44
Median							2-3	2-3	1-2	1-2

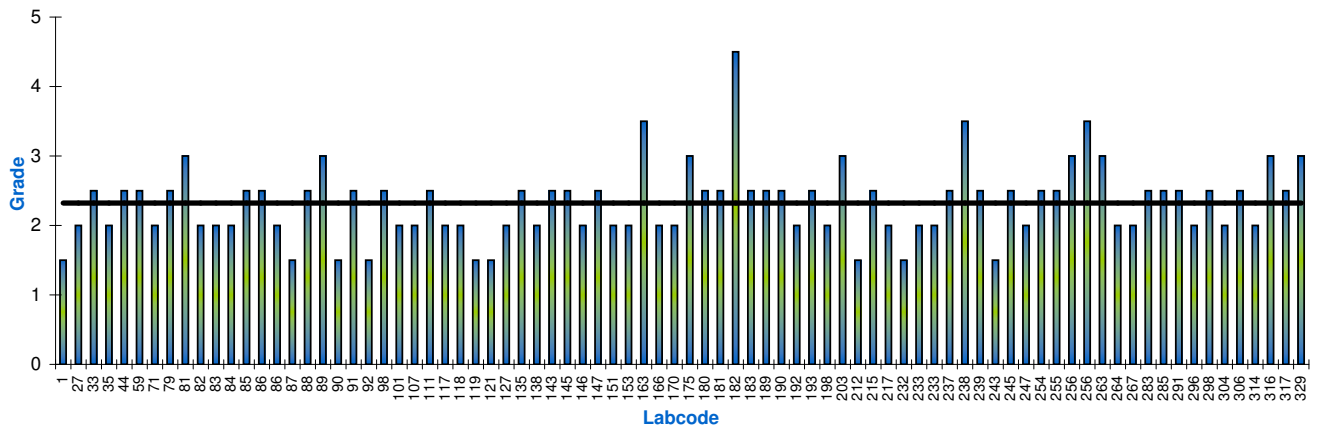


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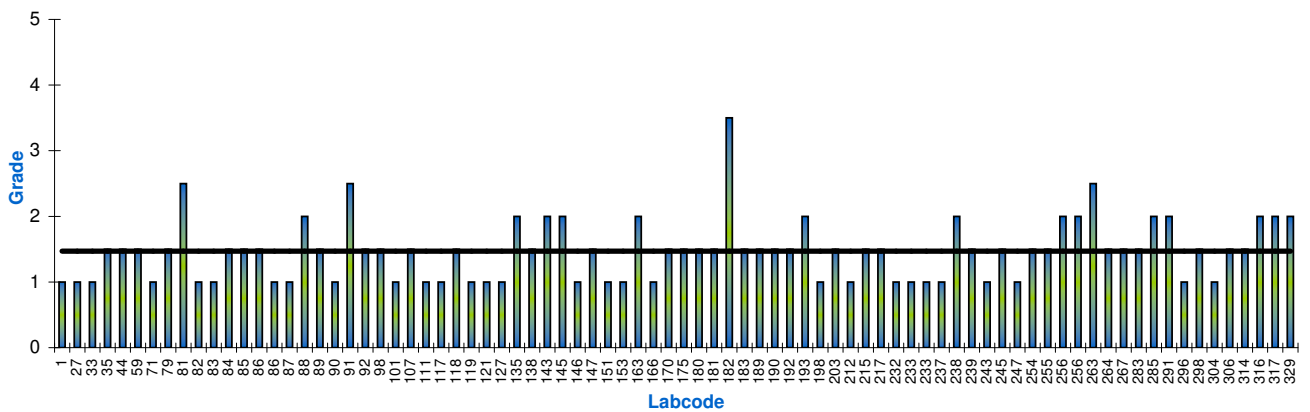
RUNDTEST Colour Fastness No. 38

Reibechtheit / Colour fastness to rubbing
(ISO 105 X12)

Dry, in length direction



Wet, in length direction





TESTEX®

RUNDTEST Colour Fastness No. 38

Muster: Gewebe 100% CO Canvas Khaki

Sample: Woven fabric, 100% CO Canvas Khaki

**Trockenreinigungsechtheit / Fastness to dry cleaning
(ISO 105-D01)**

Lab Code	Testing apparatus	Solvent agent	Single fibre	Multi fibre	Assessment		Change in colour	Staining								
					Visually	Colour measurement		CO	PES	PA	CV	WO	CA	CT	PAN	
1	Linitest	Perchlorethylen	✓		✓	✓	4-5	4-5				4-5				
1	Linitest	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
35	Autowash	Perchlorethylen	✓		✓	✓	5	4-5				5				
35	Autowash	Perchlorethylen		✓	✓	✓	5	5	5	5		5	5			5
44	Gyrowash	Perchlorethylen		✓	✓	✓	4-5	4-5	5	4-5		5	4-5			5
44	Gyrowash	Perchlorethylen	✓		✓	✓	4-5	4-5				5				
59	Linitest	Tetrachlorethylen	✓		✓	✓	4-5	5				4-5				
59	Linitest	Tetrachlorethylen	✓		✓	✓	5	5			4-5	5				
71	Linitest	Perchlorethylen	✓		✓	✓	4-5	4-5			4-5					
79	Gyrowash	Perchlorethylen	✓		✓	✓	4-5	4-5				4-5				
79	Gyrowash	Perchlorethylen		✓	✓	✓	4-5	5	5	4-5		4-5	5			5
81	Linitest	Perchlorethylen	✓		✓	✓	4-5	5				5				
82	SJK Laundry Tester C-16	Perchlorethylen	✓		✓	✓	4-5	4-5	4-5							
83	Linitest	Perchlorethylen			✓	✓	4-5	5	5	5		5	5			5
83	Linitest	Perchlorethylen			✓	✓	4-5	5	5	5		5	5			5
84	Scourotester	Perchlorethylen	✓		✓	✓	4-5	4-5				4-5				
86	Washweel	Tetrachlorethylen		✓	✓	✓	4-5	5	5	5		5	5			4-5
86	Washweel	Tetrachlorethylen		✓	✓	✓	5	4-5	4-5	4-5		4-5	4-5			4-5
87	Linitest 1	Perchlorethylen	✓		✓	✓	4-5	4-5				4-5				
87	Linitest 2	Perchlorethylen	✓		✓	✓	4-5	5				5				
88	Linitest	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
89	Linitest	Perchlorethylen	✓		✓	✓	4-5	4-5				4-5				
89	Linitest	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5	4-5			4-5		4-5
90	Gyrowash	Tetrachlorethylen		✓	✓	✓	4-5	4	4-5	4-5	4-5	4-5				4-5
91	Launder-O-meter	Tetrachlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
91	Launder-O-meter	Tetrachlorethylen	✓		✓	✓	4-5	4-5				4-5				
92	Linitest	Perchlorethylen	✓		✓	✓	5	5				4-5				
92	Linitest	Perchlorethylen		✓	✓	✓	5	5	5	5		4-5	5			4-5
98	Launder-O-Meter	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
101	Linitest	Perchlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
101	Linitest	Perchlorethylen		✓	✓	✓	4-5	5	4-5	5		5	4-5			5
107	Launder-O-meter	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
111	Ahiba Polymat	Perchlorethylen	✓		✓	✓	5	5	5	5		5	5			5
111	Ahiba Polymat	Perchlorethylen		✓	✓	✓	5	5	5	5		5	5			5
117	Linitest	Tetrachlorethylen		✓	✓	✓	4	4-5	4-5	4-5		4-5	4-5			4-5
117	Linitest	Tetrachlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	5			4-5
118	Atlas LP2	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
121	Linitest	Perchlorethylen	✓		✓	✓	4-5	4-5				4-5				
121	Linitest	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
127	Autowash	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
135	Gyrowash	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
138	Atlas LP2	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
142 A	Ahiba Nuance	Perchlorethylen		✓	✓	✓	4-5	5	5	5		5	5			4-5
142 B	Ahiba Nuance	Perchlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
145	Linitest Atlas	Tetrachlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
145	Linitest Atlas	Tetrachlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
146	Gyrowash	Perchlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
147	Linitest	Perchlorethylen		✓	✓	✓	4-5	4-5	5	5		5	5			5
151	Rota Wash	Tetrachlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
153	Gyrowash	?		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
163	Labin Washing Fastness Te	Tetrachlorethylen		✓	✓	✓	4-5	4-5	5	5		5	5			4-5
163	Labin Washing Fastness Te	Tetrachlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
166	Gyrowash	Tetrachlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5		4-5	4-5			4-5
170	Gyrowash	Tetrachlorethylen		✓	✓	✓	4-5	5	5	5		5	5			5
175	Gyrowash	Tetrachlorethylen		✓	✓	✓	3-4	4-5	4-5	4-5		4-5		4-5		4-5
180	Linitest Plus	Perchlorethylen		✓	✓	✓	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5	4-5

RUNDTEST Colour Fastness No. 38

Muster: Gewebe 100% CO Canvas Khaki

Sample: Woven fabric, 100% CO Canvas Khaki

**Trockenreinigungsechtheit / Fastness to dry cleaning
(ISO 105-D01)**

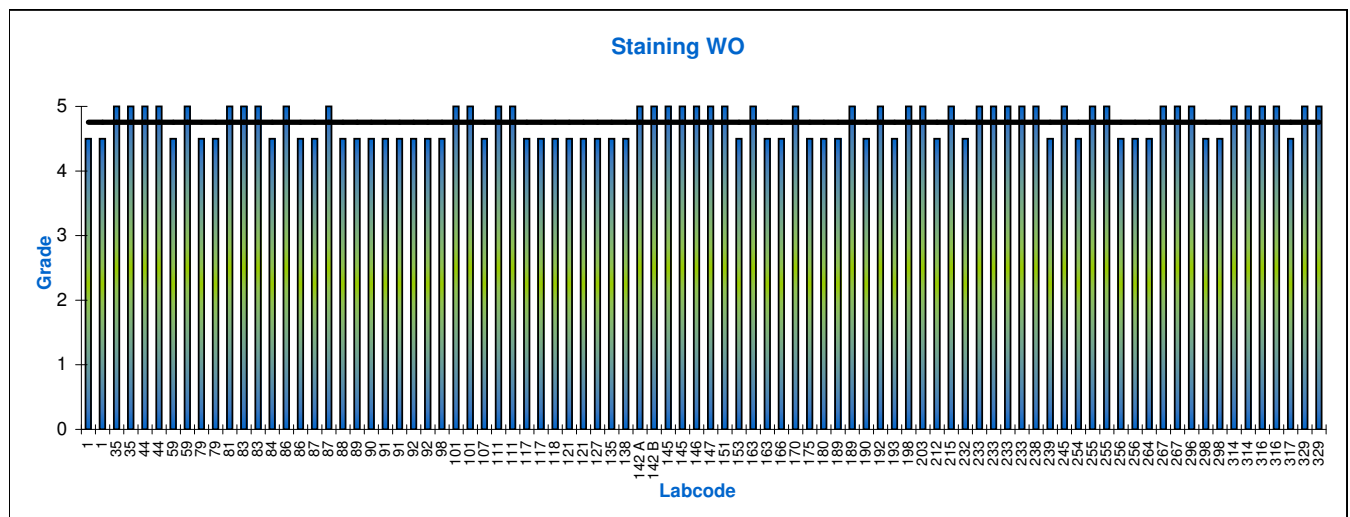
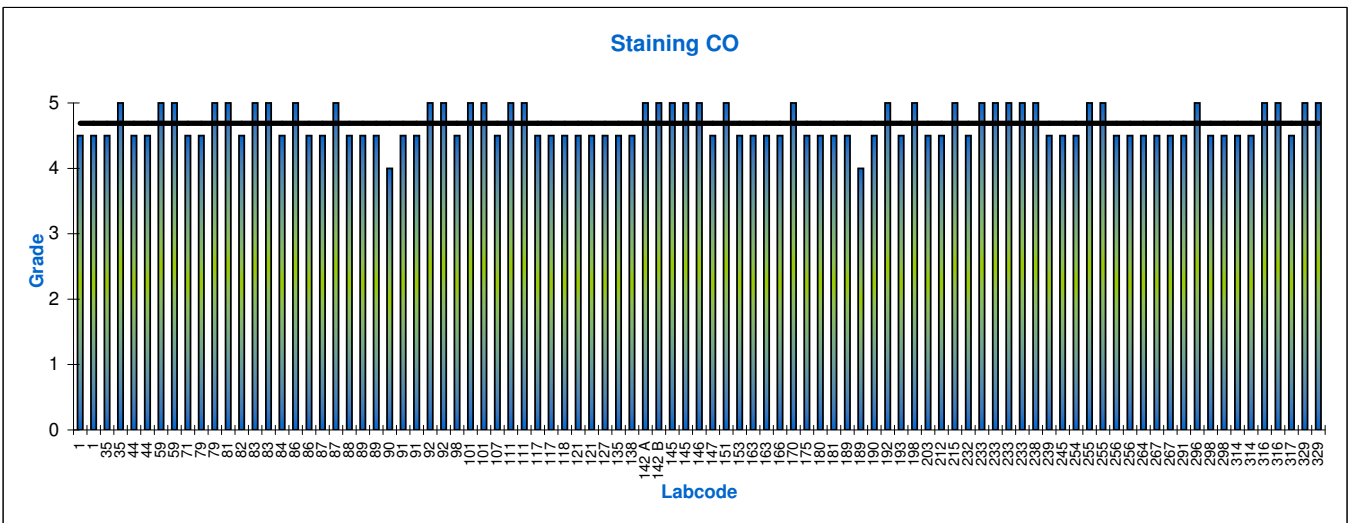
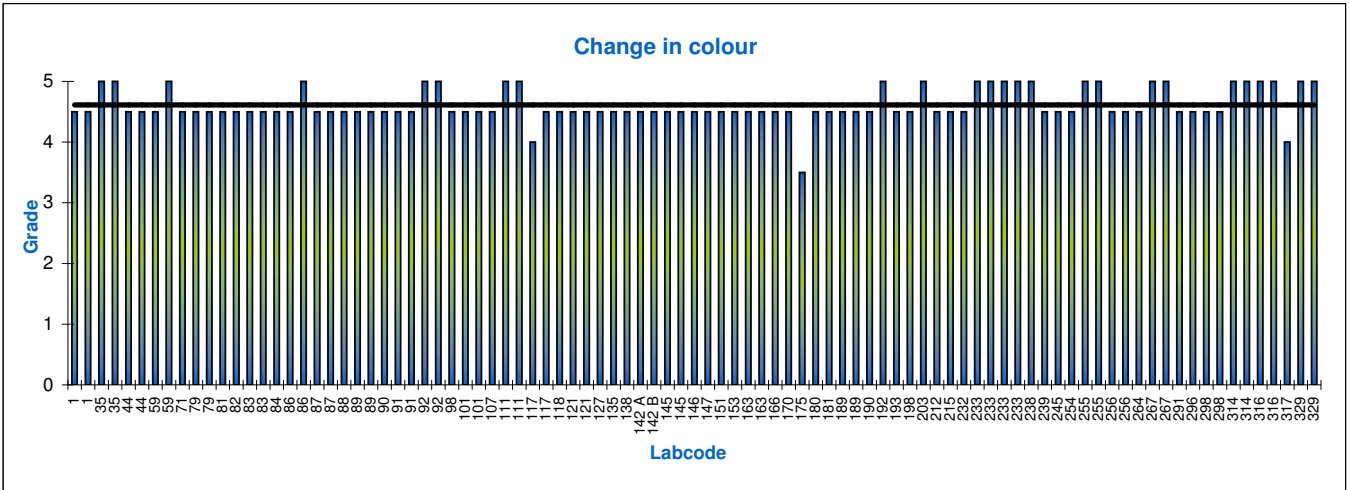
Lab Code	Testing apparatus	Solvent agent	Single fibre	Multi fibre	Assessment		Change in colour	Staining								
					Visually	Colour measurement		CO	PES	PA	CV	WO	CA	CT	PAN	
181	Linitest	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5	4-5				4-5	4-5
189	Linitest	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
189	Linitest	Perchlorethylen		✓	✓	✓	4-5	4	4-5	4-5		5	4			4
190	Launder-O-meter	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
192	?	?		✓	✓		5	5	5	5		5	5			5
193	Gyrowash	Perchlorethylen			✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
198	Labomat	Perchlorethylen		✓	✓		4-5	5	5	5		5	5			5
203	Linitest	Tetrachlorethylen		✓	✓		5	4-5	4-5	4-5		5	4-5			4-5
212	Linitest	Tetrachlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	5			4-5
215	Washtec	Tetrachlorethylen		✓	✓		4-5	5	5	5		5	5			5
232	Atlas Launder-O-Meter	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
233	Linitest Plus	Perchlorethylen	✓		✓		5	5				5				
233	Linitest Plus	Perchlorethylen	✓		✓	✓	5	5				5				
233	Linitest Plus	Perchlorethylen	✓		✓		5	5				5				
233	Linitest Plus	Perchlorethylen	✓		✓	✓	5	5				5				
238	Launder-O-meter	Perchlorethylen		✓	✓		5	5	5	5		5	5			5
239	Gyrowash	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
245	Linitest	Perchlorethylen		✓	✓		4-5	4-5	5	4-5		5		4-5		5
254	Linitest	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
255	Linitest	?		✓	✓		5	5	5	5		5	5			5
255	Linitest	?		✓	✓	✓	5	5	5	5		5	5			5
256	Rotawash	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
256	Rotawash	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
264	Linitest Washing Tester	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
267	Gyrowash	Perchlorethylen		✓	✓		5	4-5	4-5	5		5	4-5			5
267	Gyrowash	Perchlorethylen		✓	✓	✓	5	4-5	4-5	4-5		5	4-5			5
291	Linitest	Perchlorethylen		✓	✓		4-5	4-5	4-5	4-5	4			4-5		4-5
296	Gyrowash	Tetrachlorethylen		✓	✓		4-5	5	5	5		5	5			5
298	Launder-O-meter	?		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
298	Launder-O-meter	?		✓	✓		4-5	4-5	4-5	4-5		4-5	4-5			4-5
314	Linitest	Tetrachlorethylen		✓	✓		5	4-5	4-5	5		5	5			5
314	Linitest	Tetrachlorethylen		✓	✓		5	4-5	4-5	5		5	5			5
316	?	Perchlorethylen		✓	✓		5	5	5	5		5	5			5
316	?	Perchlorethylen		✓	✓		5	5	5	5		5	5			5
317	Gyrowash	Perchlorethylen		✓	✓		4	4-5	4-5	4-5		4-5	4-5			4-5
329	Launder-O-meter	Perchlorethylen	✓		✓		5	5				5				
329	Launder-O-meter	Perchlorethylen	✓		✓		5	5				5				
n							93	93	72	71	6	88	65	6	71	
Ø							4.6	4.7	4.7	4.7	4.4	4.8	4.7	4.5	4.7	
s							0.27	0.26	0.25	0.25	0.20	0.25	0.27	0.00	0.26	
Median							4.5	4.5	4.5	4.5	4.5	5.0	4.5	4.5	4.5	



TESTEX®

RUNDTEST Colour Fastness No. 38

Trockenreinigungsechtheit / Colour fastness to dry cleaning
(ISO 105-D01)




RUNDTEST Colour Fastness No. 38
Muster: Gewebe 100 % LI Schilf und Gewirke piqué 100 % CO navy

Sample: Woven fabric, 100% LI reed coloured and knitted fabric piqué, 100 % CO colour navy

Lichtechtheit / Fastness to light (ISO 105-B02)										
Lab Code	Testing apparatus	Sample room conditions				Intensity of irradiation		Exposure to light hrs	Change in colour according to blue scale grade for	
		°C	% humidity	Clocking mode	Reversing mode	(300-400nm) W/m ²	(420nm) W/m ²		navy blue	reedgreen
1	Xenotest Alpha	35	40		✓	35		437	3	6-7
35	Xenotest Beta+	50	40	✓		42		?	4	6
44	Xenotest 150S+	?	?	✓		42		?	3-4	7
59	Xenotest 150S+	45	40	✓		✓		374	3-4	6-7
71	Xenotest Beta	50	40	✓		42		272	3-4	6-7
79	Xenotest 150 S	20	65		✓			198	3-4	6-7
81	Xenotest	21	65		✓			?	4	6-7
82	Xenon Fade-O-Meter C1300	63	30	✓			1.1	40	4-5	x 5
83	Xenotest Alpha HE	35	40	✓		60		248	3-4	6
84	Xenotest Alpha	36	40					145	4	7
85	Xenotest 150S	35	40		✓			?	3-4	7
86	Xenotest 150	50	40		✓			146	4	5-6
86	Xenotest 150	50	40		✓			146	4	6
88	Xenotest 220	35	40	✓		42		379	4	6-7
89	Xenotest Beta+	30	40		✓	42		510	3-4	7
101	Xenotest BETA (ATLAS)	32	35	✓		42		220	3-4	6-7
107	Xenotest Alpha LM	50	40		✓			165	3	6
111	Q-Sun	44	35	✓			1.1	240	3-4	6-7
117	Xanotest Alpha LM-HE-W	35	40		✓	50		414	3-4	6-7
118	Atlas CI 4000	63	30				1.1	80	3-4	6
119	Sun Test	21	65					96	3-4	x 5
121	Xenotest Alpha HE	40	35		✓	42		90	4	6-7
127	Xenotest Alpha HE	50	40	✓		42		206	4	6-7
135	Xenotest Beta	50	40	✓		42		69	3-4	5-6
138	Xenotest Alpha+	20	65	✓		42		268	4	6-7
142 A	Xenotest Alpha+	50	40	✓		42		?	3-4	7
142 B	Xenotest Alpha+	50	40	✓		42		?	3	6-7
143	Atlas CI 3000	?	?	✓			1.1	?	3-4	7
146	Xenotest	40	50					130	4	6-7
147	Xenotest 150S	52	44		✓	1030		128	3-4	6-7
151	Xenotest	20	65		✓			?	4	x 5
153	Xenotest 150S	?	?	✓				20	4-5	5-6
170	Xenotest ALPHA	50	40		✓	?		70	3	x 5
175	Xenotest 105S	31	40	✓			1.1	33	4	x 4-5
180	Xenotest Alpha LM	36	40	✓			?	?	3	7
181	Xenotest Alpha HE	35	40	✓		42		118	3-4	6-7
182	Atlas CI 3000+	40	50	✓			1.1	225	4	x 5
183	Xenotest 150	18	58					150	4	6
189	Xenotest Alpha LM	50	40		✓			168	3-4	6
190	Xenotest Alpha LM	45	40	✓		42		216	3-4	6-7
198	Alpha LM	35	40		✓	42		326	3-4	6
203	Alpha LM	48	50		✓	42		566	3-4	7
212	Xenotest Alpha	42	41	✓		?		350	3-4	6
215	Megasol James Heal	32	43		✓	42		304	3-4	6
232	Atlas CI 4000	63	30	✓			1.1	40	3-4	6
233	Xenotest Alpha HE LM	35	40		✓	42		215	3-4	6-7
239	Xenotest Atlas 150S+	35	19		✓	42		425	3-4	6-7
243	Atlas CI 4000	20	65	✓			1.1	?	3-4	6
245	Xenotest Alpha LM	50	50	✓		60		540	3-4	6-7
247	Xenotest 220	47	40	✓		42		794	4	6-7
254	Xenotest 150 S	55	80	✓		76		250	4	7
264	Xenon Arc Weather-O-meter CI 4000	47	45	✓		44	1.1	283	4	6-7
267	Heraus Xenotester							100	4	6

RUNDTEST Colour Fastness No. 38

Muster: Gewebe 100 % LI Schilf und Gewirke piqué 100 % CO navy

Sample: Woven fabric, 100% LI reed coloured and knitted fabric piqué, 100 % CO colour navy

Lichtechtheit / Fastness to light (ISO 105-B02)										
Lab Code	Testing apparatus	Sample room conditions				Intensity of irradiation		Exposure to light hrs	Change in colour according to blue scale grade for	
		°C	% humidity	Clocking mode	Reversing mode	(300-400nm) W/m ²	(420nm) W/m ²		navy blue	reedgreen
291	Q - Sun Xenotest XE-3-HDS	?	40			340		?	3	6
296	Xenon Alpha-LM	36	40		✓	42		100	3	x 5
298	Atlas CI 3000+	63	30	✓			1.1	265	3-4	6-7
316	Apolio [™]	20	65			✓		244	3-4	6
317	Xenotest Alpha+	18-25	75		✓	✓		136	3-4	6-7
n									58	58
∅									3.63	6.21
s									0.36	0.61
Median									3-4	6-7

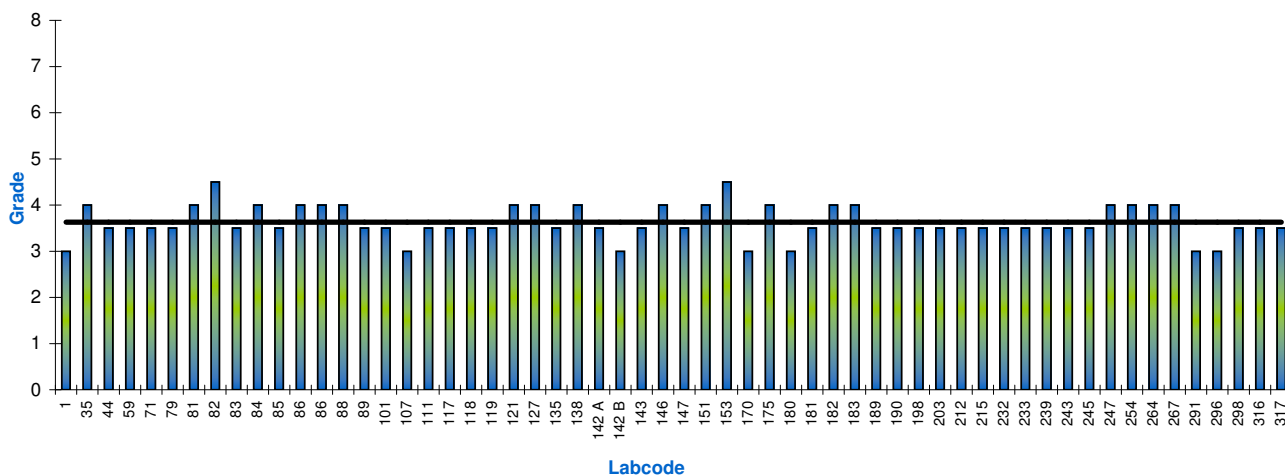


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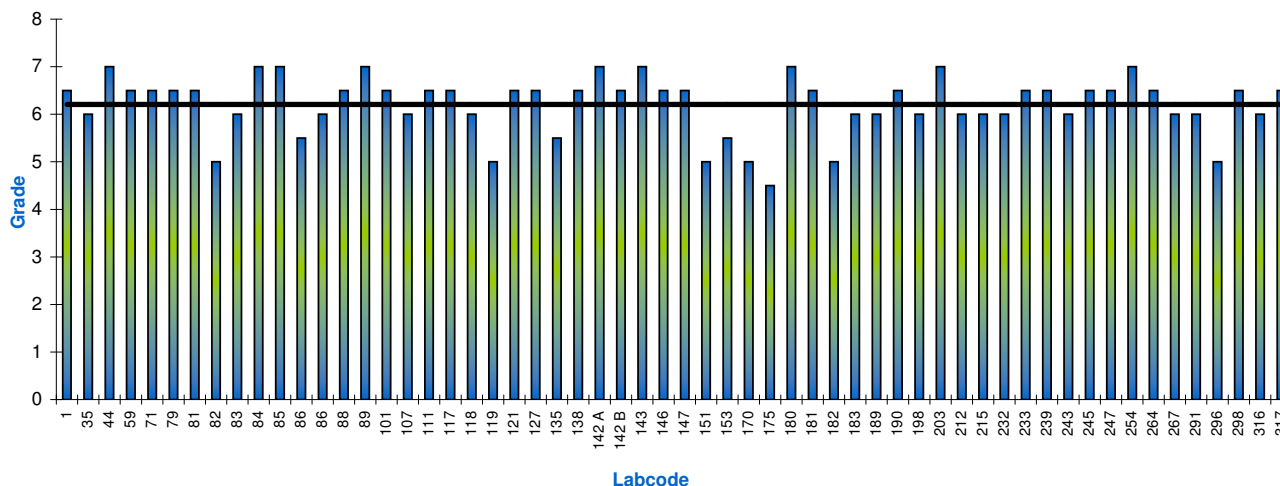
RUNDTEST Colour Fastness No. 38

Lichtechtheit / Colour fastness to light
(ISO 105-B02)

Change in colour, knitted sample navy blue



Change in colour, woven sample reedgreen





TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Papiermuster 7, Farbe Lila

Sample: Paper pattern 7, colour lilac

**Bewertung von Papiermuster / Assessment of paper pattern
(ISO 105/A01 - A04)**

Lab Code	Assessment		Change in colour	Staining CO	Staining PES
	visually	colour measurement			
1	✓		2-3	4	3
1		✓	2	4-5	3-4
27		✓	2	4-5	3-4
33	✓		3	4-5	3-4
35	✓		2	4	3
44	✓		2-3	4	3
59	✓		2-3	4	3
59		✓	2	4-5	3-4
71	✓		2-3	4-5	3-4
79	✓		2-3	4-5	3-4
81	✓		3	4-5	4
82	✓		3-4	4	3
83	✓		3	4	3
84	✓		2-3	4-5	3-4
85	✓		2-3	4-5	4
86	✓		2-3	4-5	3-4
86	✓		3	4-5	3-4
87	✓		2	4-5	3-4
87		✓	2	4-5	3-4
88	✓		2-3	4-5	3-4
89	✓		3	4	3-4
90		✓	2	4	3
91	✓		2	4	3-4
92	✓		3	4	3
98	✓		3	4-5	3-4
101	✓		2-3	4	3
101		✓	2	4-5	3-4
107	✓		3-4	4	3
111	✓		2-3	4-5	3-4
111		✓	2	4-5	3-4
117	✓		2	4	3-4
117		✓	2	4-5	3-4
118	✓		2-3	4	3
119	✓		3	4-5	4
121	✓		2-3	4	3
127	✓		2-3	4	3-4
135	✓		2-3	4	3-4
135	✓		2	4	3
138	✓		2-3	4	3-4
142 A	✓		2-3	4	3
142 B	✓		3	3-4	2-3
143	✓		3	3-4	3
145	✓		3	4-5	4
146	✓		2-3	4-5	3-4
147	✓		2-3	4-5	4
151	✓		2-3	4-5	3-4
153	✓		2	4	3
163	✓		3-4	4-5	4
163	✓		3-4	4-5	4-5
166	✓		2-3	4-5	3
170	✓		3	4-5	3-4
175	✓		2	4-5	3-4
180	✓		3	4	3-4



TESTEX®

RUNDTTEST Colour Fastness No. 38

Muster: Papiermuster 7, Farbe Lila

Sample: Paper pattern 7, colour lilac

**Bewertung von Papiermuster / Assessment of paper pattern
(ISO 105/A01 - A04)**

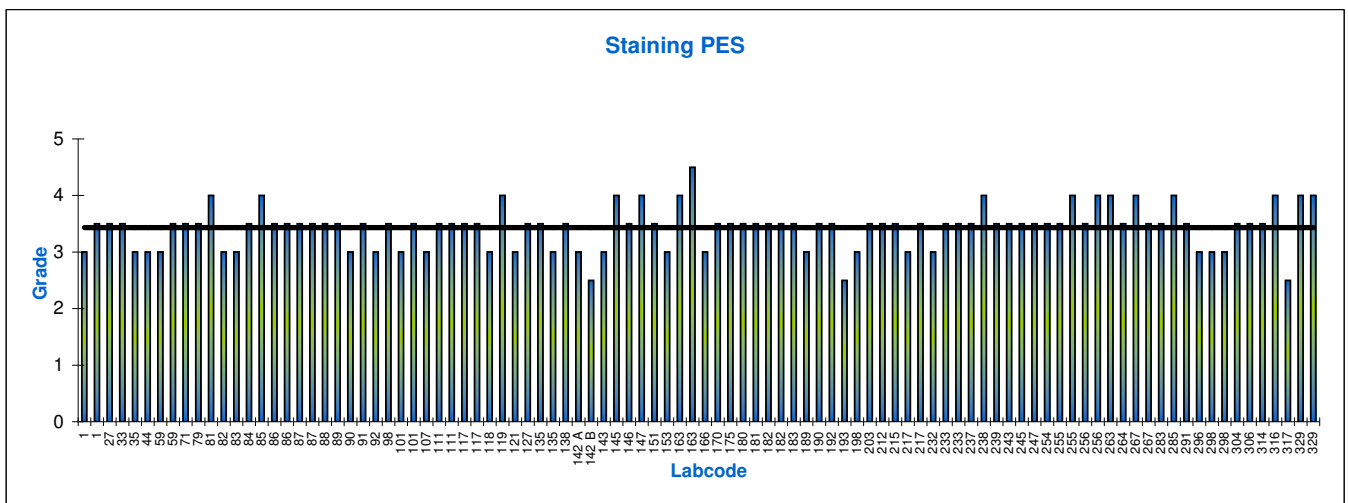
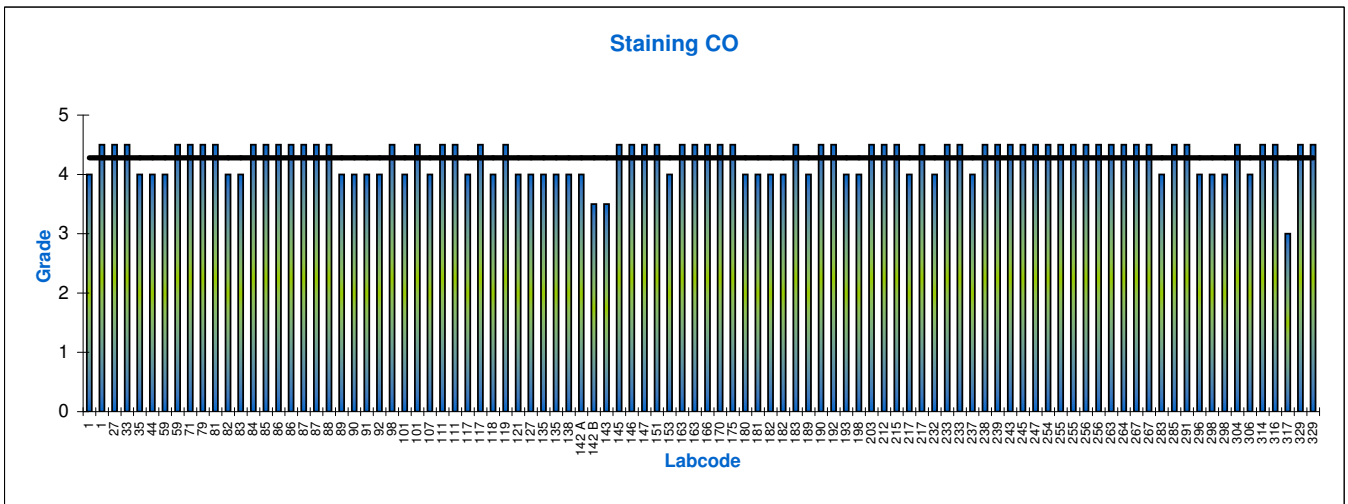
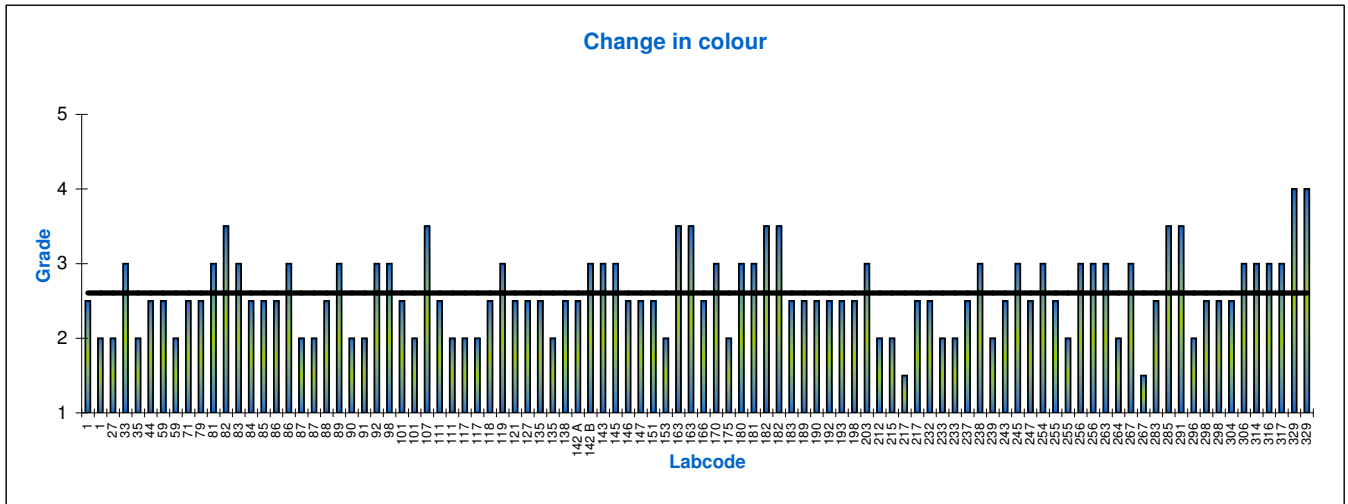
Lab Code	Assessment		Change in colour	Staining CO	Staining PES
	visually	colour measurement			
181	✓		3	4	3-4
182	✓		3-4	4	3-4
182	✓		3-4	4	3-4
183	✓		2-3	4-5	3-4
189	✓		2-3	4	3
190	✓		2-3	4-5	3-4
192	✓		2-3	4-5	3-4
193	✓		2-3	4	2-3
198	✓		2-3	4	3
203	✓		3	4-5	3-4
212	✓		2	4-5	3-4
215	✓		2	4-5	3-4
217	✓		1-2	4	3
217	✓		2-3	4-5	3-4
232	✓		2-3	4	3
233	✓		2	4-5	3-4
233		✓	2	4-5	3-4
237	✓		2-3	4	3-4
238	✓		3	4-5	4
239		✓	2	4-5	3-4
243	✓		2-3	4-5	3-4
245	✓		3	4-5	3-4
247	✓		2-3	4-5	3-4
254	✓		3	4-5	3-4
255	✓		2-3	4-5	3-4
255		✓	2	4-5	4
256	✓		3	4-5	3-4
256	✓		3	4-5	4
263	✓		3	4-5	4
264	✓		2	4-5	3-4
267	✓		3	4-5	4
267		✓	1-2	4-5	3-4
283	✓		2-3	4	3-4
285	✓		3-4	4-5	4
291	✓		3-4	4-5	3-4
296	✓		2	4	3
298	✓		2-3	4	3
298	✓		2-3	4	3
304	✓		2-3	4-5	3-4
306	✓		3	4	3-4
314	✓		3	4-5	3-4
316	✓		3	4-5	4
317	✓		3	x 3	2-3
329	✓		x 4	4-5	4
329	✓		x 4	4-5	4
n			98	98	98
Ø			2.61	4.28	3.43
s			0.51	0.30	0.37
Median			2-3	4-5	3-4



TESTEX®

RUNDTEST Colour Fastness No. 38

Bewertung von Papiermuster Nr. 7 / Assessment of paper pattern no. 7
(ISO 105/A01 - A04)





TESTEX®

RUNDTEST Colour Fastness No. 38

Muster: Papiermuster 8, Farbe Hellgrün

Sample: Paper pattern 8, colour light green

**Bewertung von Papiermuster / Assessment of paper pattern
(ISO 105/A01 - A04)**

Lab Code	Assessment		Change in colour	Staining CO	Staining PES
	visually	colour measurement			
1	✓		3-4	2	3
1		✓	3	1-2	2
27		✓	3	1-2	2-3
33	✓		4	2	3-4
35	✓		3	1-2	3
44	✓		3-4	2	3
59	✓		3-4	2-3	3-4
59		✓	3	1-2	2-3
71	✓		3	2	3-4
79	✓		3	2-3	3-4
81	✓		4	3	4
82	✓		4	2-3	3-4
83	✓		3-4	2-3	3-4
84	✓		3	2-3	3-4
85	✓		3	2-3	3-4
86	✓		3-4	2-3	3-4
86	✓		4	3	4
87	✓		3-4	2	3
87		✓	3-4	2	3
88	✓		4	3	4
89	✓		4	2-3	3-4
90		✓	2-3	1	2
91	✓		4	2-3	3-4
92	✓		3-4	2-3	3
98	✓		3-4	3	4
101	✓		3-4	2	3
101		✓	3	1-2	2-3
107	✓		3-4	2-3	3-4
111	✓		3-4	2	3
111		✓	3	1-2	2-3
117	✓		2-3	1-2	2-3
117		✓	3	1-2	2-3
118	✓		3	2-3	3-4
119	✓		4	3	4
121	✓		3-4	2	3
127	✓		3-4	1-2	2-3
135	✓		3-4	2-3	3-4
138	✓		4	2	3
142 A	✓		3-4	3-4	2-3
142 B	✓		3-4	2-3	3
143	✓		3-4	2	3
145	✓		3-4	3	4
146	✓		3	2	3
147	✓		3-4	3	4
151	✓		3	2-3	3-4
153	✓		3	1-2	3
163	✓		4	3-4	4-5
163	✓		3-4	3-4	4-5
166	✓		3-4	2-3	3-4
170	✓		4	2-3	3-4
175	✓		2-3	2-3	4
180	✓		4	2-3	3-4
181	✓		3-4	2-3	4



TESTEX®

RUNDTEST Colour Fastness No. 38

Muster: Papiermuster 8, Farbe Hellgrün

Sample: Paper pattern 8, colour light green

**Bewertung von Papiermuster / Assessment of paper pattern
(ISO 105/A01 - A04)**

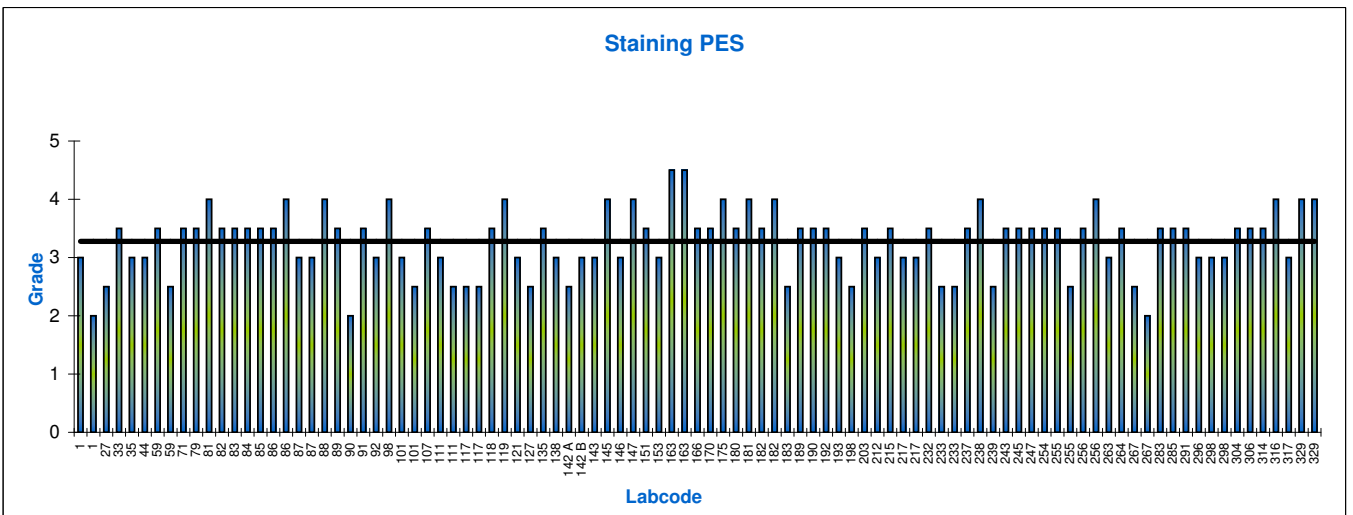
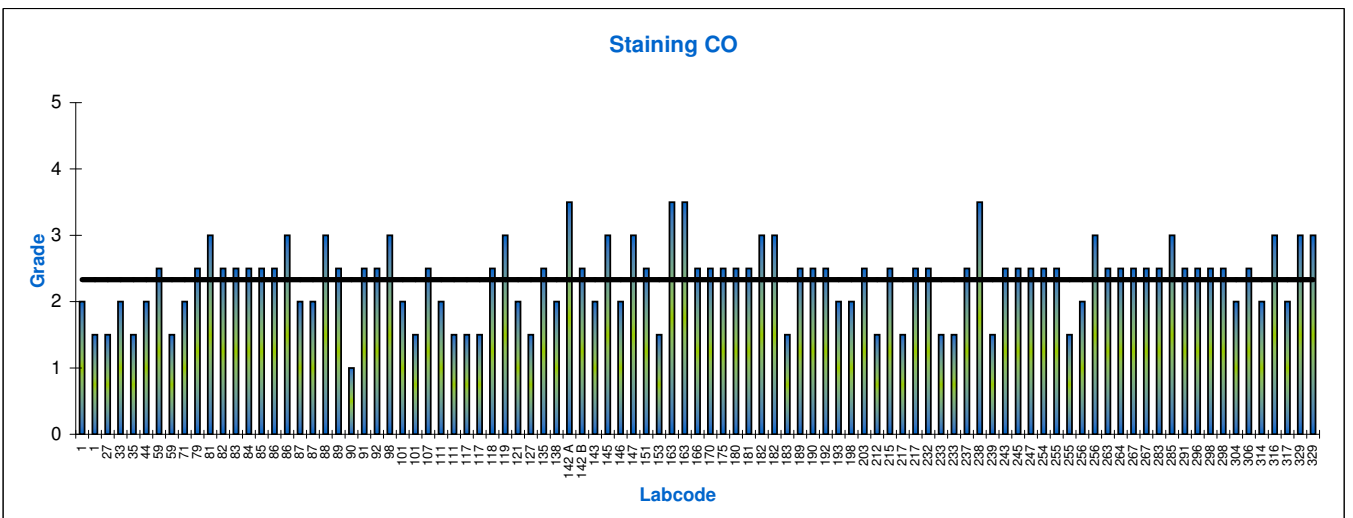
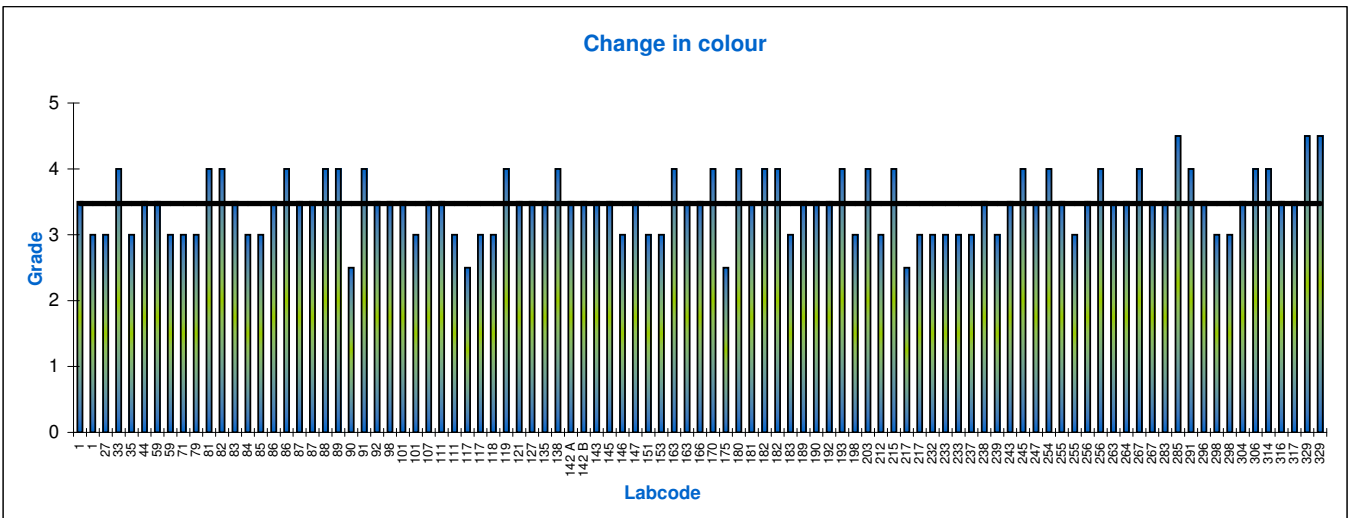
Lab Code	Assessment		Change in colour	Staining CO	Staining PES
	visually	colour measurement			
182	✓		4	3	3-4
182	✓		4	3	4
183	✓		3	1-2	2-3
189	✓		3-4	2-3	3-4
190	✓		3-4	2-3	3-4
192	✓		3-4	2-3	3-4
193	✓		4	2	3
198	✓		3	2	2-3
203	✓		4	2-3	3-4
212	✓		3	1-2	3
215	✓		4	2-3	3-4
217	✓		2-3	1-2	3
217	✓		3	2-3	3
232	✓		3	2-3	3-4
233	✓		3	1-2	2-3
233		✓	3	1-2	2-3
237	✓		3	2-3	3-4
238	✓		3-4	3-4	4
239		✓	3	1-2	2-3
243	✓		3-4	2-3	3-4
245	✓		4	2-3	3-4
247	✓		3-4	2-3	3-4
254	✓		4	2-3	3-4
255	✓		3-4	2-3	3-4
255		✓	3	1-2	2-3
256	✓		3-4	2	3-4
256	✓		4	3	4
263	✓		3-4	2-3	3
264	✓		3-4	2-3	3-4
267	✓		4	2-3	2-3
267		✓	3-4	2-3	2
283	✓		3-4	2-3	3-4
285	✓		4-5	3	3-4
291	✓		4	2-3	3-4
296	✓		3-4	2-3	3
298	✓		3	2-3	3
298	✓		3	2-3	3
304	✓		3-4	2	3-4
306	✓		4	2-3	3-4
314	✓		4	2	3-4
316	✓		3-4	3	4
317	✓		3-4	2	3
329	✓		4-5	3	4
329	✓		4-5	3	4
n			97	97	97
Ø			3.47	2.33	3.28
s			0.45	0.54	0.54
Median			3-4	2-3	3-4



TESTEX®

RUNDTEST Colour Fastness No. 38

Bewertung von Papiermuster Nr. 8 / Assessment of paper pattern no. 8
(ISO 105/A01 - A04)





TESTEX®

RUNDTTEST Colour Fastness No. 38

Lab Code	Bezugsquelle Begleitgewebe Source of supply of adjacent fabrics
1	EMPA Testmaterials
27	James H. Heal
33	Verson Vlies Courrier (VVC)
35	TESCOM
44	?
59	EMPA Testmaterials / Testex
71	Testex Bad Münstereifel
79	James H. Heal, England / Adsol
81	Testex Prüftextilien Germany *
82	Japan Standard Association
83	Multi Fibre D.W. - SDC Enterprises
84	Testex Prüftextilien Germany *
85	Testfabrics Inc.
86	SDC Enterprises, Bradford, UK
87	James H. Heal, England
88	Testex Prüftextilien Germany * / James H.Heal
89	Testex Prüftextilien Germany * / James H.Heal
90	Dutest Agencies, Western Cape S.A.
91	Testfabrics Inc.
92	Aitex ES-03801 Alcoy
98	SDC Multifiber cloth - M/s. Anith. Garments Bangalore
101	Tescom Supplier of James Heal
107	Testex
111	Quality Assured Consumables James H. Heal Halifax England
117	James H. Heal / England, Type 2 DW
118	James H. Heal
119	James H. Heal
121	Testex BRD
127	Multifibre DW - The Society of Dyers and Colorists
135	SDC
138	Testfabrics Inc.
142	James Heal
143	Paramount
145	James H. Heal
146	?
147	James H.Heal / Multifibre Testfabric "DW" / Linitest Hanau
151	DW Testfabrics Inc.
153	SDC
163	James H. Heal
166	Testex Prüftextilien Germany * / James H.Heal Multifibre
170	Testfabrics Inc. USA
175	James H. Heal
180	Testfabrics Inc., Multifibre DW & TV
181	?
182	?
183	Ghesquire
189	SDC Enterprises Limited
190	Testfabrics Inc. Ugur Özsgatay
192	James H. Heal
193	James H. Heal Multifibre DW
198	James H. Heal
203	wfk Testgewebe GmbH
212	Testex Prüftextilien
215	James H.Heal / Multifaser DW und TV
217	Testex Prüftextilien Germany *
232	SDL Enterprises
233	Testex Prüftextilien Germany *
237	DDC Multifibre
238	James H. Heal
239	SDL Atlas
243	James H. Heal
245	SDC Interprises Limited
247	SDC Interprises Limited
254	?
255	SDC Interprises Limited
256	James H. Heal
263	?
264	James H. Heal
267	SDC
283	James H. Heal
285	Testex Prüftextilien Germany *
291	Testex Prüftextilien Germany *
296	Testex Prüftextilien Germany *
298	James H. Heal
304	James H. Heal
306	SDC Enterprises Limited
314	SDL Atlas Ltd.
316	James H. Heal
317	?
329	?

* = Keine Verwandtschaft mit TESTEX Zürich - No relations with TESTEX Zürich

RUNDTEST Colour Fastness No. 38

Lexikon / Dictionary

Abkürzungen Abbreviations	Deutsch	English
n	Anzahl Werte	Number of values
Median	Median	Median
Ø	Mittelwert	Mean value
s	Standardabweichung	Standard deviation
hrs	Stunden	Hours
°C	Temperatur	Temperature
W/m ²	Watt pro Quadratmeter	Watt per square meter
CA	2½ Azetat	2½ Acetate
CO	Baumwolle	Cotton
CT	Triazetat	Triacetate
CV	Viskose	Viscose
PA	Polyamid	Polyamide
PAN	Polyacryl	Acrylic
PES	Polyester	Polyester
SE	Seide	Silk
WO	Wolle	Wool
	Anbluten	Staining
	Anbluten des Lösemittels	Staining of solvent agent
	Belichtungszeit	Exposure to light
	Bestrahlungsstärke	Intensity of irradiation
	Beurteilung	Assessment
	Bewertungsnote	Grade
	Einzelfaser	Single fibre
	Farbmetrisch	Colour measurement (Col. meas.)
	Farbtonänderung	Change in colour
	Feuchtigkeit in %	% humidity
	Lösemittel	Solvent agent
	Mehrfaser	Multi fibre
	Nass	Wet
	Probenraumkonditionen	Sample room conditions
	Prüfgerät	Testing apparatus
	Trocken	Dry
	Visuell	Visually

REPORT EVALUATED BY / AUSGEWERTET DURCH:



Denise Vlach / Industrial & Institute Service

REPORT APPROVED BY / FREIGEgeben DURCH:



Adrian Meili / Manager Industrial & Institute Service