PRÜFSTELLE TEXTIL

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ZLS-P-846/09

Von der Federation Internationale de L´Automobile (FIA) Paris zugelassene Stelle zur Prüfung von hitze- und flammresistenter Schutzkleidung für Auto-Rennfahrer gemäß Standard FIA 8856-2000

UNTERSUCHUNGSBERICHT | TESTREPORT

Order number STFI:	**20141512.1**
PO. No	
Report date:	2014-07-21
Person responsible:	Mehlhorn
Orderer:	Création Baumann AG Simone Hürzeler Bern-Zürich-Str.23 4901 Langenthal Schweiz
Test order:	
Date:	2014-07-09
Order received:	2014-07-09
Material received:	2014-07-15

Vorstandsvorsitzender Prof. Dr.-Ing. Hilmar Fuchs
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Material to analyse:

17 sample fabric

signed by orderer	Color	code for order processing
DELTACOUSTIC 100% PLF CS	61	P1512_14_4
DELTACOUSTIC 100% PLF CS	62	P1512_14_5
DELTACOUSTIC 100% PLF CS	63	P1512_14_6
DELTACOUSTIC 100% PLF CS	64	P1512_14_7
DELTACOUSTIC 100% PLF CS	65	P1512_14_8
DELTACOUSTIC 100% PLF CS	66	P1512_14_9
DELTACOUSTIC 100% PLF CS	67	P1512_14_10
DELTACOUSTIC 100% PLF CS	68	P1512_14_11
DELTACOUSTIC 100% PLF CS	69	P1512_14_12
DELTACOUSTIC 100% PLF CS	70	P1512_14_13
DELTACOUSTIC 100% PLF CS	71	P1512_14_14
DELTACOUSTIC 100% PLF CS	72	P1512_14_15
DELTACOUSTIC 100% PLF CS	73	P1512_14_16
DELTACOUSTIC 100% PLF CS	74	P1512_14_17
DELTACOUSTIC 100% PLF CS	75	P1512_14_18
DELTACOUSTIC 100% PLF CS	76	P1512_14_19
DELTACOUSTIC 100% PLF CS	77	P1512_14_20

The samples had been extracted by the orderer, concerning this no information is existing in the test department

Analysis content:

(1) Remission and transmission in the visible light range in accordance with DIN EN 410: April 2011

(2) Remission and transmission in the global radiation range in accordance with DIN EN 410: April 2011.

(3) calculation of total energy permeability degree g_t of window system, following DIN EN 13363-1 October 2007 and approximated calculation of reduce factor Fc following DIN EN 14501 February 2006

Conditions for optical tests:

test parameter	symbol	range of radiation
light transmission degree	$\tau_{v,B}$	380...780 nm (standard light D65)
light remission degree	$\rho_{v,B}$	380...780 nm (standard light D65)
UV- transmission degree	τ_{uv}	280...380 nm (UV-radiation)
solar transmission degree	$\tau_{e,B}$	280...2500 nm (global radiation)
solar remission degree	$\rho_{e,B}$	280...2500 nm (global radiation)

Equipment: spectral photometer Lambda 900, PERKIN - ELMER Corp., USA
150 mm sphere

Test results:

(1) Light range **UV-range**

Code	light transmission degree	light remission degree	light absorption coefficient	UV-transmission degree
P1512_14	$\tau_{v,B}$	$\rho_{v,B}$	$\alpha_{v,B}$	τ_{UV}
4	0,2703	0,2214	0,5083	0,0317
5	0,1990	0,1767	0,6243	0,0290
6	0,2274	0,1963	0,5763	0,0210
7	0,1870	0,1773	0,6357	0,0160
8	0,2380	0,2077	0,5543	0,0333
9	0,2383	0,2133	0,5484	0,0183
10	0,2370	0,2063	0,5567	0,0160
11	0,3937	0,4413	0,1650	0,0223
12	0,3767	0,4073	0,2160	0,0500
13	0,3750	0,4263	0,1987	0,0347
14	0,4673	0,5110	0,0217	0,0433
15	0,4773	0,5020	0,0207	0,0513
16	0,4617	0,4936	0,0447	0,0380
17	0,3880	0,4683	0,1437	0,0287
18	0,3523	0,4147	0,2330	0,0293
19	0,2340	0,1920	0,5740	0,0190
20	0,1813	0,1654	0,6533	0,0153

(2) Global radiation range

Code	solar transmission degree	solar remission degree	solar absorption coefficient
P1512_14	$\tau_{e,B}$	$\rho_{e,B}$	$\alpha_{e,B}$
4	0,3593	0,3420	0,2987
5	0,3290	0,3277	0,3433
6	0,3377	0,3283	0,3340
7	0,3197	0,3226	0,3577
8	0,3390	0,3393	0,3217
9	0,3343	0,3407	0,3250
10	0,3307	0,3293	0,3400
11	0,3983	0,4280	0,1737
12	0,4217	0,4303	0,1480
13	0,4160	0,4453	0,1387
14	0,4523	0,4820	0,0657
15	0,4630	0,4737	0,0633
16	0,4507	0,4777	0,0716
17	0,4080	0,4720	0,1200
18	0,3980	0,4423	0,1597
19	0,3457	0,3283	0,3260
20	0,3187	0,3273	0,3540

(3)Total energy permeability degree g_t and reduce factor Fc

Code	g_t	F_c
P1512_14		
4	0,52	0,74
5	0,52	0,74
6	0,52	0,74
7	0,52	0,74
8	0,52	0,74
9	0,51	0,73
10	0,52	0,74
11	0,48	0,69
12	0,48	0,69
13	0,47	0,68
14	0,46	0,66
15	0,46	0,66
16	0,46	0,66
17	0,46	0,66
18	0,47	0,68
19	0,52	0,74
20	0,52	0,74

Fc and g_t results are valid for the following presumptions in accordance with DIN EN 13363-1:

- Double glass with thermal protective covering , thermal permeability degree U = 1,6 W/m²K and total energy permeability degree g = 0,70
- sun protective material inside, closed.

The results are mean values from three measurements; spectrograms are kept in the test department.

less otherwise agreed, all materials we received within this order will be kept for a maximum time of 6 month. Materials which are not stored because of technical or safety reasons are excluded from that.

The testing period is defined as timeframe between receipt of samples and issue date of test report.

The test results are referring to the submitted samples. These test report is not allowed to copy in parts.

Dr. Matthias Mägel
head of test department

stfi geprüft

Dipl.-Phys. Heidrun Mehlhorn
field responsible collaborator