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: **20141512.2**
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:
Order received: 2014-07-09
Material received: 2014-07-15

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

10 sample fabric

signed by orderer	color	code for order processing
ZETACOUSTIC 100% PLF CS	81	P1512_14_21
ZETACOUSTIC 100% PLF CS	82	P1512_14_22
ZETACOUSTIC 100% PLF CS	83	P1512_14_23
ZETACOUSTIC 100% PLF CS	84	P1512_14_24
ZETACOUSTIC 100% PLF CS	85	P1512_14_25
ZETACOUSTIC 100% PLF CS	86	P1512_14_26
ZETACOUSTIC 100% PLF CS	87	P1512_14_27
ZETACOUSTIC 100% PLF CS	88	P1512_14_28
ZETACOUSTIC 100% PLF CS	89	P1512_14_29
ZETACOUSTIC 100% PLF CS	90	P1512_14_30

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}
21	0,2243	0,1240	0,6517	0,0293
22	0,2767	0,1373	0,5860	0,0340
23	0,2867	0,1560	0,5573	0,0387
24	0,4747	0,4587	0,0666	0,0683
25	0,5127	0,4443	0,0430	0,0763
26	0,4583	0,4533	0,0884	0,0617
27	0,4470	0,4053	0,1477	0,0573
28	0,3713	0,3580	0,2707	0,0453
29	0,2514	0,1363	0,6123	0,0310
30	0,2840	0,1530	0,5630	0,0337

(2) Global radiation range

Code	solar transmission degree	solar remission degree	solar absorption coefficient
P1512_14	$\tau_{e,B}$	$\rho_{e,B}$	$\alpha_{e,B}$
21	0,3597	0,2827	0,3576
22	0,3917	0,2903	0,3180
23	0,3863	0,2920	0,3217
24	0,4740	0,4467	0,0793
25	0,5003	0,4357	0,0640
26	0,4640	0,4407	0,0953
27	0,4700	0,4083	0,1217
28	0,4233	0,3910	0,1857
29	0,3717	0,2936	0,3347
30	0,3820	0,2943	0,3237

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

Code	g_t	F_c
P1512_14		
21	0,54	0,77
22	0,54	0,77
23	0,54	0,77
24	0,48	0,68
25	0,48	0,69
26	0,48	0,68
27	0,49	0,70
28	0,50	0,71
29	0,54	0,77
30	0,54	0,77

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