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TEST REPORT 93/21 Pie 02/03/2021

Customer: Ms Oda Nimmer
Assignment from: 18/02/2021
Received: 19/02/2021

Assignment:
1. Determination of specific thermal conductivity λ, temperature difference 10 K, contact pressure of the plunger 10 cN/cm², Alambeta method, n = 5, right side and reverse side
2. Determination of the thermal resistance r, temperature difference 10 K, contact pressure of the plunger 10 cN/cm², Alambeta method, n =5, right side and reverse side
3. Determination of specific heat capacity c_v, temperature difference 10 K, contact pressure of the plunger 10 cN/cm², Alambeta method, n = 5, right side and reverse side
4. Determination of light transmittance according to DIN EN 410, sample 2 n = 3

Samples:
Sample 1, 1 piece of fabric, article 1014 (col. Green)
Sample 2, 1 piece of fabric, article 1304 (col. Grey)

Sampling: The samples were taken by the customer.

Realisation of the test: The samples were taken und were tested by the prescriptions mentioned above.

Test results:
1. Specific thermal conductivity λ

λ = Quantity of heat, which is passing a material with 1 m² surface and 1 m thickness per second, if there is a temperature difference of 1K between both sides.

λ in $\frac{mW}{m \quad K}$

mW Milliwatt
m meter
K Kelvin

Amtsgericht Greiz VR 206
Gerichtsstand Greiz
Ust-Id-Nr.: DE151887921
Steuer-Nr.: 161/142/21434

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	Sample 1 right side	reverse side	Sample 2 right side	reverse side
$\bar{x}_1$	29.4	29.4	53.8	53.2
x_{max}	29.9	30.1	54.7	55.5
x_{min}	28.8	28.5	52.9	49.7

The lower the value of the specific thermal conductivity, the less heat is transported and dissipated, the better the thermal insulation.

2. Thermal resistance r

r = Temperature difference between the upper side and the reverse side of a material with a surface area of 1 m² and a given thickness, if a heat flux of 1 Watt is passing through.

r in $\frac{mK\ m^2}{W}$

mK	Millikelvin
m^2	square meter
W	Watt

	Sample 1 right side	reverse side	Sample 2 right side	reverse side
$\bar{x}_1$	37.3	36.8	10.6	10.4
x_{max}	38.0	38.7	10.8	10.7
x_{min}	36.7	35.5	10.2	10.0

The higher the value of the heat resistance, the poorer the heat is transported and dissipated.

3. Specific heat capacity

c_v = volumic heat storage capacity of a material

c_v in $\frac{mW\ s}{K\ m^3}\ 10^3$

mW	Milliwatt
s	seconds
K	Kelvin
m^3	cubic meter

	Sample 1 right side	reverse side	Sample 2 right side	reverse side
$\bar{x}_1$	109.0	114.0	472.2	489.7
x_{max}	117.9	120.1	526.9	534.9
x_{min}	100.1	107.0	422.1	467.7

The higher the value of the heat capacity, the more heat can be stored in volume.

<u>4. Light transmittance</u>	**Sample 2**
Light transmittance [%]	0.1

In the enclosure you get the measurement report. There you can find the single values.

The testing results are exclusively related to the sample under conditions as received.

Without written permission of the testing laboratory it is inhibited to copy this report partially.

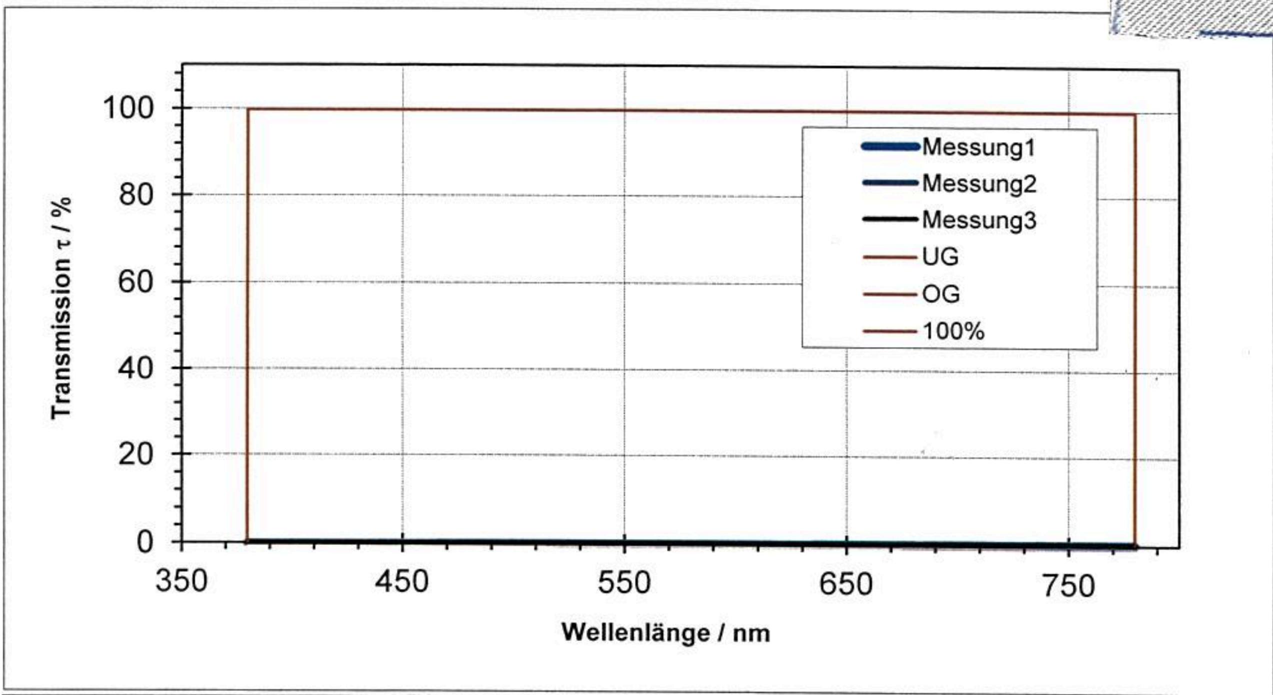
Dr. Klobes
Head of the Testing Centre

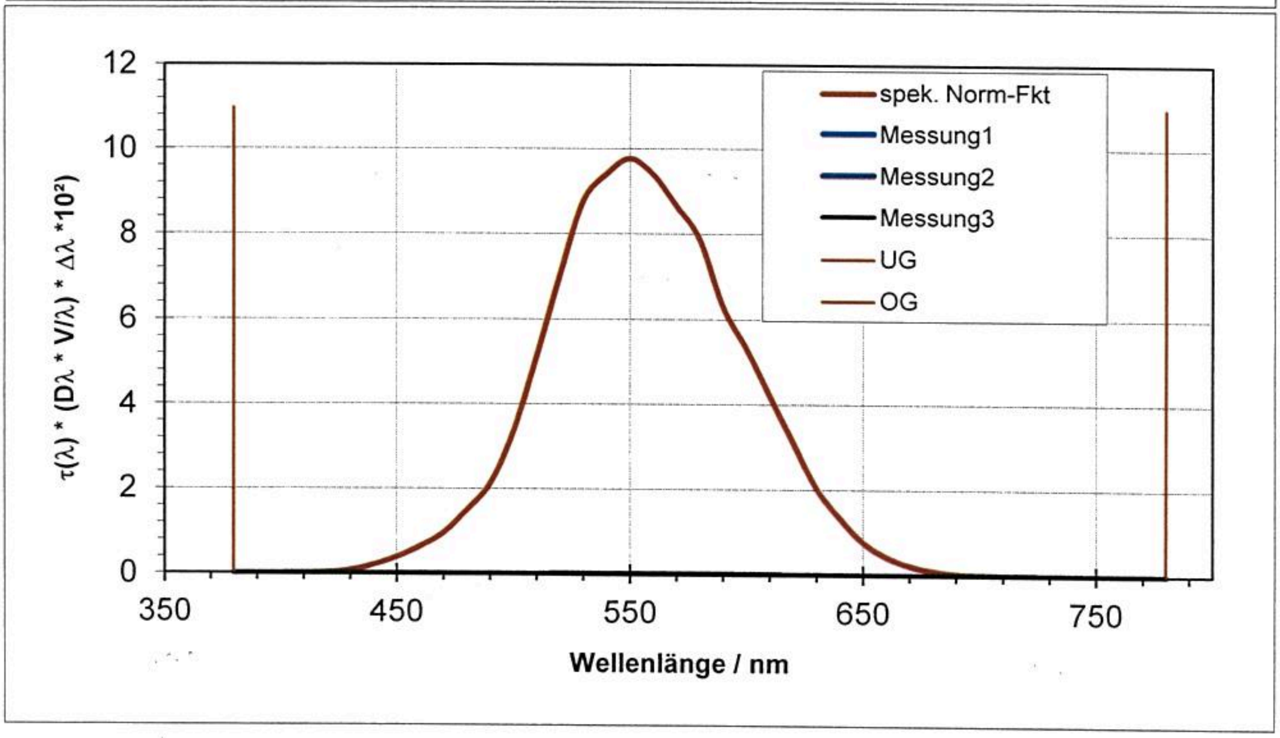
<u>Enclosure</u>: 1 measurement report

Licht-Transmissionsgrad nach DIN EN 410

Gemessen am UV-2450PC mit interner Ulbrichtkugel

Prüfnummer:	93/21	Datum:	2. März 2021
Muster:	1304	Bearbeiter:	Metzner





	Transmissionsgrad / %		
Messung 1	0,1	Mittelwert	0,1
Messung 2	0,1	STABW	0,0113
Messung 3	0,1		

Der Transmissionsgrad der Probe: **0,0008 bzw.** **0,1 %**