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smartfiber AG
Breitscheidstr. 154

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Jena, 1. Februar 2012

TEST REPORT

Test Report No:	03-2012
Client:	smartfiber AG Breitscheidstr. 154 D-07407 Rudolstadt
Sample number:	1201003
Sample description:	woven fabric, ecru
Internal growth control:	polyester
Receipt of order:	2012-01-27
Examination period:	January 2012

Assessment of the sample

The examined specimen showed a strong antibacterial activity against the test strain *Staphylococcus aureus* (MRSA) DSM 11729 and as well as a strong antibacterial activity against test strain *Staphylococcus aureus* (MRSA) ATCC 33591 under given test conditions.

Seal and Sign

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Examination task

Evaluation of textile 3 D structures regarding their antibacterial activity

Methods

The examination is carried out according to JIS Japanese Industrial Standard, JIS L 1902: 2002 "Testing method for antibacterial activity and efficacy on textile products".

Test strains: Staphylococcus aureus (MRSA) DSM 11729
Staphylococcus aureus (MRSA) ATCC 33591

Following examination was carried out:

Sample weight:	400 mg
Calculation:	only S value, not L value
Preincubation C:	Columbia Blood agar
Preincubation D:	CASO broth
Dilute agent for inoculation:	physiologic salt solution
Incubation:	37°C
Specimen preparation:	Incubation 15 min at 134°C
Sample number:	1201003
Sample description:	woven fabric, ecru
Date of receipt:	2012-01-27

Calculation of the total antibacterial activity

$\log \text{cfu (IWK)}_{18\text{h}} - \log \text{cfu}(\text{sample})_{18\text{h}} = \text{total antibacterial activity}$
IWK= Interne Wachstumskontrolle (internal growth control)

Criteria of evaluation

Antibacterial activity	Total antibacterial activity
slight	0.5 bis 1
significant	>1 bis < 3
strong	≥ 3


Specimen

Sample description	Sample number
Woven fabric, ecru	1201003

Growth value IWK (polyester)

	Average value (cfu)	Average value (log cfu)	Growth value
St. aureus (MRSA) DSM 11729			
0 h	1,78E+05	5,25	
18 h	6,37E+07	7,80	2,55
St. aureus (MRSA) ATCC 33591			
0 h	1,31E+05	5,12	
18 h	3,79E+07	7,58	2,46

The growth value was calculated from the difference between the common logarithm of the number of colony forming units (cfu) after 18 h and the start time 0 h.


Total antibacterial activity of sample No. 1201003

	Average (cfu)	Average (log cfu)	Total antibacterial activity (related to IWK)
St. aureus (MRSA) DSM 11729			
0 h			
18 h	0,00E+00	0,00	7,80
St. aureus (MRSA) ATCC 33591			
0 h			
18 h	0,00E+00	0,00	7,58

Evaluation of the test results

The examined specimen showed a strong antibacterial activity against the test strain *Staphylococcus aureus* (MRSA) DSM 11729 and as well as a strong antibacterial activity against test strain *Staphylococcus aureus* (MRSA) ATCC 33591 under given test conditions.