



Universitätsklinikum Jena

Universitätsklinikum Jena · Postfach · 07740 Jena

Smart Fiber AG
Prof.-Hermann-Klare-Str. 23
D-07407 Rudolstadt

Klinik für Dermatologie und dermatologische Allergologie

Qualitäts-zertifiziert nach DIN EN ISO 9001:2000



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Jena, den 16. August 2007

TEST REPORT

Test Report No:	13-2007
Client:	Smart Fiber AG Prof.-Hermann-Klare-Str. 23 D-07407 Rudolstadt
Sample number:	2007-sf-0046 sample 1
Sample description:	knitted fabrics, white
Internal growth control:	reference sample
Receipt of order:	2007-08-06 / 2007-08-07
Examination period:	August 2007

Cotton fabric, washed together with Bluemagicball. Bluemagicball has been used for 100 washing cycles under standard conditions before.

Assessment of the sample

The examined specimen showed a strong antibacterial activity against the test strain *Staphylococcus aureus* ATCC 6538 and a strong antibacterial activity against test strain *Klebsiella pneumoniae* ATCC 4352 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 strain: Staphylococcus aureus ATCC 6538,
Klebsiella pneumoniae ATCC 4352

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 121°C
 Sample number: 2007-sf-0046 sample 1
 Sample description: knitted fabrics, white
 Date of receipt: 2007-08-06 / 2007-08-07

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
knitted fabrics, white	2007-sf-0046 sample 1

Growth value IWK (reference sample)

	Average value (cfu)	Average value (log cfu)	Growth value
St. aureus ATCC 6538			
0 h	1.90E+06	6.28	
18 h	2.87E+07	7.46	1.18
Klebs. pneumoniae ATCC 4352			
0 h	3.61E+05	6.56	
18 h	1.70E+09	9.23	2.67

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 2007-sf-0046 sample 1

	Average (cfu)	Average (log cfu)	Total antibacterial activity (related to IWK)
St.aureus ATCC 6538			
0 h			
18 h	4.13E+03	3.62	3.84
Klebs. pneumoniae ATCC 4352			
0 h			
18 h	5.44+E04	4.74	4.49

Evaluation of the test results

The examined specimen showed a strong antibacterial activity against the test strain *Staphylococcus aureus* ATCC 6538 and a strong antibacterial activity against test strain *Klebsiella pneumoniae* ATCC 4352 under given test conditions.