



Alwernia, 15.05.2023 r.

Report of analysis

no. 05/2023

Analysis of antimicrobial activity CPE ANTIBAC

according to EN 22196

Analysis was conducted
on product:

Fiberlab S.A.

Brzezie 387, 32-014 Brzezie

Data of made: 08 – 15.05.2023 r.



Materials and Methods

The antimicrobial activity was conducted according to ISO 22196: Plastic – Measurement of antibacterial activity on plastics surfaces.

Materials:

The treated and untreated test material of surface area 25 cm²:

- CPE HT – **control sample**
- CPE ANTIBAC filament - **test sample 1**
- CPE ANTIBAC print - **test sample 2**

Cover film:

- Polyethylene films (Stomacher bags) of surface area 16 cm² and 0,070 mm thick

Microorganisms:

Escherichia coli ATCC 8739

Staphylococcus aureus ATCC 6538

The volume of test inoculum:

- 0,4 cm³

Bacterial concentration:

- *Escherichia coli* – $8,3 \times 10^5$ cfu/cm³
- *Staphylococcus aureus* – $7,7 \times 10^5$ cfu/cm³



Results

Table 1. The number of viable bacteria *Escherichia coli* recovered from the control and the test sample

	Results for the untreated and treated test specimen			
	The control sample immediately after inoculation	The control sample after incubation for 24 hour	The test sample 1 after incubation for 24 hour	The test sample 2 after incubation for 24 hour
The average number of viable bacteria [cfu/cm ²]	1,3×10 ⁴	1,3×10 ⁶	0	0
The logarithmic value of the average number of viable bacteria [log]	4,1	6,1	0	0

Table 2. The number of viable bacteria *Staphylococcus aureus* recovered from the control and the test sample

	Results for the untreated and treated test specimen			
	The control sample immediately after inoculation	The control sample after incubation for 24 hour	The test sample 1 after incubation for 24 hour	The test sample 2 after incubation for 24 hour
The average number of viable bacteria [cfu/cm ²]	1,9×10 ⁴	8,8×10 ⁴	0	2,3×10 ³
The logarithmic value of the average number of viable bacteria [log]	4,3	4,9	0	3,4



Table 3. The antibacterial activity and percent of bacteria reduce in test specimen

The test sample	<i>E. coli</i>		<i>S. aureus</i>	
	The antibacterial activity [log]	The percentage of bacteria reduction [%]	The antibacterial activity [log]	The percentage of bacteria reduction [%]
1	6,1	100	4,9	100
2	6,1	100	1,5	97,4