



Textilní zkušební ústav  
(Textile Testing Institute)  
Václavská 6, 65841 Brno, Česká republika

ACCREDITED TESTING LABORATORY No. 1001

# TEST REPORT

AZL 14/1121-02

**CUSTOMER:** FabricAir A/S  
Islandsvej 3  
4681 Herfølge  
Denmark

**SAMPLE:** COMBI 80  
(according to the customer order) Fibre composition: 100 % polyester  
Woven fabric + fireproof finish + antibacterial treatment



**SUBJECT OF ASSESSMENT:**

Determination of antibacterial activity - Agar diffusion plate test

**CONDITIONS OF APPLICATION OF THE TEST REPORT:**

Test Report contains result of the tests related to the submitted sample only. Sampling has been done by customer. The Report may not be reproduced in the way other than as a complete set. Reproduction of certain parts of the Report is subject to approval of the test laboratory, which has issued it.

**PREPARED BY:**  
**CHECKED BY:**  
**NUMBER OF PAGES:**

H. Polášková  
L. Švarcová  
2

*Polášková*  
*Švarcová*

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+420 543 426 720  
+420 543 426 742  
<http://www.tzu.cz>  
chz@tzu.cz



Textilní zkušební ústav

Test Report No.: AZL 14/1121-02  
page 2

**PROCEDURE OF ASSESSMENT**

**Determination of antibacterial activity - Agar diffusion plate test**  
was determined according to EN ISO 20645

Used germs (cultures delivered from National institute of public health and Czech collection of Microorganisms):

1) CNCTC 6120	<i>Klebsiella pneumoniae</i>
2) CCM 4516	<i>Staphylococcus aureus</i>

**Conditions of assessment:**

- diameter of test specimen: Ø 25 mm
- temperature in incubator: (37±1) °C
- influence time: 24 h

The bacterial growth in the nutrient medium under the test specimen was assessed according to following table:

Mean value of inhibition zone (mm)	Growth	Assessment
>1	none	good effect
1-0	none	
0	none	
0	slight	limit of efficacy
0	moderate	insufficient effect
0	heavy	

**Result:** assessment of bacterial growth

**TEST RESULTS:**

COMBI 80					
Fibre composition: 100 % polyester					
Woven fabric + fireproof finish + antibacterial treatment					
Characteristics	Test method	Measuring unit	Growth		Assessment
<b>Determination of antibacterial activity - Agar diffusion plate test</b>	EN ISO 20645	Growth	1)	none (IZ = 1 mm)	good effect
			2)	none (IZ = 3 mm)	good effect



Petr Nasadil  
Head of Testing Laboratory



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# TEST REPORT

AZL 14/0690-01

**CUSTOMER:** FabricAir A/S  
Islandsvej 3  
4681 Herfølge  
Denmark

**SAMPLE:** COMBI 80  
(according to the customer order) Fibre composition: 100 % polyester  
Woven fabric + fireproof finish + antibacterial treatment



**SUBJECT OF ASSESSMENT:** Antibacterial Activity Assessment of Textile Materials

**CONDITIONS OF APPLICATION OF THE TEST REPORT:**

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H. Polášková  
L. Švarcová  
2

*Polášková*  
*Švarcová*

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+420 543 426 720  
+420 543 426 742  
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chz@tzu.cz



Textilní zkušební ústav

Test Report No.: AZL 14/ 0690-01

page 2

**PROCEDURE OF ASSESSMENT**

**Antibacterial finishes on Textile Materials: Assessment of**  
was determined according to AATCC Test method 100-2012.

Used bacteria (cultures delivered from National institute of public health and Czech collection of Microorganisms):

CNCTC 6120	<i>Klebsiella pneumoniae</i>
CCM 4516	<i>Staphylococcus aureus</i>

**Conditions of assessment:**

- mass of samples: (2,0±0,2) g
- number of samples for each used germ: six treated samples (antibacterial), six untreated (reference)
- sterilization of test samples: autoclave (120 °C, 15 min)
- neutralizing solution: tryptone
- dilution medium: tryptone
- temperature in incubator: (37±2) °C
- influence time: 24 h

**Results:**

Result is percent reduction of bacteria calculated by following formula:

$$R = (C-A)/C \cdot 100,$$

where

R ... % reduction

A ... arithmetic average of three numbers of bacteria recovered from the inoculated treated test specimen incubated over desired contact period (24 h)

C ... arithmetic average of three numbers of bacteria recovered from the inoculated untreated test specimen immediately after inoculation (0 h)

**TEST RESULTS:**

<b>COMBI 80</b> Fibre composition: 100 % polyester Woven fabric + fireproof finish + antibacterial treatment			
Test Bacteria	Test method	Bacterial reduction R (%)	Uncertainty of the measurement (%)
<i>Klebsiella pneumoniae</i> CNCTC 6120	AATCC 100	> 99,91	0,02
<i>Staphylococcus aureus</i> CCM 4516		> 99,91	0,03

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Head of Testing Laboratory





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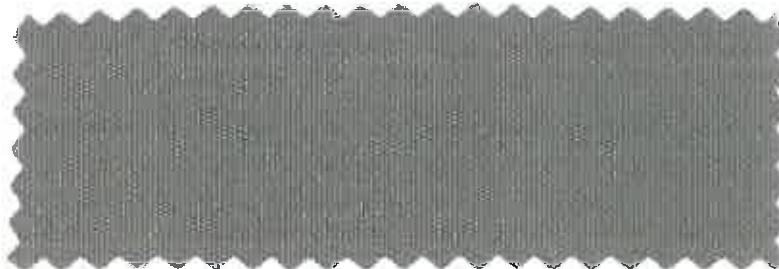
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# TEST REPORT

AZL 14/1121-01

**CUSTOMER:** FabricAir A/S  
Islandsvej 3  
4681 Herfølge  
Denmark

**SAMPLE:** COMBI 90  
(according to the customer order) Fibre composition: 100 % polyester  
Woven fabric + fireproof finish + antibacterial treatment +  
polyurethane finish



**SUBJECT OF ASSESSMENT:**

Determination of antibacterial activity - Agar diffusion plate test

**CONDITIONS OF  
APPLICATION OF THE TEST  
REPORT:**

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**CHECKED BY:** L. Švarcová *Švarcová*  
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Test Report No.: AZL 14/1121-01  
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**PROCEDURE OF ASSESSMENT**

**Determination of antibacterial activity - Agar diffusion plate test**  
was determined according to EN ISO 20645

Used germs (cultures delivered from National institute of public health and Czech collection of Microorganisms):

1) CNCTC 6120	<i>Klebsiella pneumoniae</i>
2) CCM 4516	<i>Staphylococcus aureus</i>

**Conditions of assessment:**

- diameter of test specimen: Ø 25 mm
- temperature in incubator: (37±1) °C
- influence time: 24 h

The bacterial growth in the nutrient medium under the test specimen was assessed according to following table:

Mean value of inhibition zone (mm)	Growth	Assessment
>1	none	good effect
1-0	none	
0	none	
0	slight	limit of efficacy
0	moderate	insufficient effect
0	heavy	

**Result:** assessment of bacterial growth

**TEST RESULTS:**

COMBI 90					
Fibre composition: 100 % polyester					
Woven fabric + fireproof finish + antibacterial treatment + polyurethane finish					
Characteristics	Test method	Measuring unit	Growth		Assessment
<b>Determination of antibacterial activity - Agar diffusion plate test</b>	EN ISO 20645	Growth	1)	none (IZ = 0 mm)	good effect
			2)	none (IZ = 1 mm)	good effect

Petr Nasadil  
Head of Testing Laboratory







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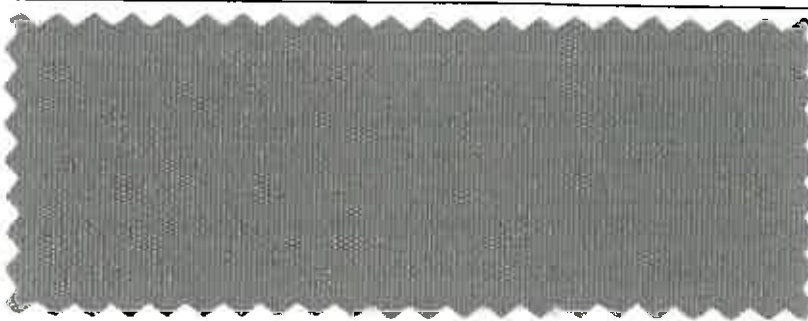
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# TEST REPORT

AZL 14/0985-01

**CUSTOMER:** FabricAir A/S  
Islandsvej 3  
4681 Herfølge  
Denmark

**SAMPLE:** COMBI 90  
(according to the customer order) Fibre composition: 100 % polyester  
Woven fabric + fireproof finish + antibacterial treatment +  
polyurethane finish



**SUBJECT OF ASSESSMENT:**

Antibacterial Activity Assessment of Textile Materials

**CONDITIONS OF APPLICATION OF THE TEST REPORT:**

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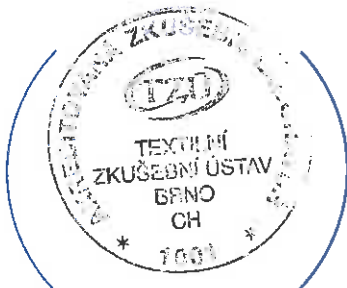
H. Polášková  
L. Švarcová  
2

*Polášková*  
*Švarcová*

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+420 543 426 720  
+420 543 426 742  
<http://www.tzu.cz>  
chz@tzu.cz



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Test Report No.: AZL 14/ 0985-01  
page 2

**PROCEDURE OF ASSESSMENT**

**Antibacterial finishes on Textile Materials: Assessment of**  
was determined according to AATCC Test method 100-2012.

Used bacteria (cultures delivered from National institute of public health and Czech collection of Microorganisms):

CNCTC 6120	<i>Klebsiella pneumoniae</i>
CCM 4516	<i>Staphylococcus aureus</i>

**Conditions of assessment:**

- mass of samples: (2,0±0,2) g
- number of samples for each used germ: six treated samples (antibacterial), six untreated (reference)
- sterilization of test samples: dry heat sterilization (124 °C, 3 h)
- neutralizing solution: tryptone
- dilution medium: tryptone
- temperature in incubator: (37±2) °C
- influence time: 24 h

**Results:**

Result is percent reduction of bacteria calculated by following formula:

$$R = (C-A)/C \cdot 100,$$

where

R ... % reduction

A ... arithmetic average of three numbers of bacteria recovered from the inoculated treated test specimen incubated over desired contact period (24 h)

C ... arithmetic average of three numbers of bacteria recovered from the inoculated untreated test specimen immediately after inoculation (0 h)

**TEST RESULTS:**

COMBI 90			
Fibre composition: 100 % polyester			
Woven fabric + fireproof finish + antibacterial treatment + polyurethane finish			
Test Bacteria	Test method	Bacterial reduction R (%)	Uncertainty of the measurement (%)
<i>Klebsiella pneumoniae</i> CNCTC 6120	AATCC 100	> 99,99	0,07
<i>Staphylococcus aureus</i> CCM 4516		> 99,98	0,07

Petr Nasadil  
Head of Testing Laboratory

