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Test Report VN735 192423.1

Application

Determination of antibacterial activity on plastics surfaces according to ISO 22196.

Test Material

"mammut B1"

The test material used for testing was made anonymous for laboratory purposes.
A detailed sample list is included in the document.

Issuing

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OETI - Institute for Ecology, Technology and Innovation GmbH

Atena Adineh
Customer Service Officer

1 Application

Date of Order	Scope of Order
26.04.2017	Description Of Specimen - Textile Fabrics - DIN 60000 Antibacterial activity according to ISO 22196

2 Samples

No.	Receipt	Sample Identification
1	12.10.2021	"mammut B1"

(Unless otherwise stated samples are provided by the customer.)

3 Tests Performed / Results

3.1 *Description Of Specimen - Textile Fabrics DIN 60000

Tested sample: **#1 "mammut B1"**

Type of fibre:	100% PVC (declaration by the applicant)
Technological description:	Coated knitted fabric

According to the current version of the relevant European Directives, fibre materials with a mass percentage of < 2 % are not specified.

3.2 Measurement of antibacterial activity on plastics surfaces

Test conditions

According to: ISO 22196

Used bacteria (cultures delivered from Czech collection of Microorganisms):

- CCM 4517 – Escherichia coli
- CCM 2022 – Staphylococcus aureus

Measurement of sample: 50 x 50 mm

Measurement of covering film: 40 x 40 mm

Material of covering film: HDPE

Test inoculum: (2,5 – 10) x 10^5 KbE/ml

Volume of test inoculum applied on test samples: 0,4 ml

Washing-out medium: SCDLP broth

Dilution medium: Tryptone

Temperature and relative humidity for incubation of samples : 35±1°C, ≥ 90 %

Influence time: 24 ± 1 h

Agar: PCA (Plate Count Agar)

Temperature for incubation of Petri dishes: 35±1 °C

Incubation time: 40 – 48 h

Test results

Staphylococcus aureus - CCM 2022			
Concentration of inoculum	2,5 x 10^5 KbE/ml		
Sample	The average of the common logarithm of the number of viable bacteria (in cells/cm²)		Antibacterial activity R
	Time 0 h	Time 24 h	
Untreated test specimen (HDPE film)	U_0 = 3,8	U_t = 5,5	--
Sample 1 (treated sample)	--	A_t < 1	**R ≥ 4,5**

Escherichia coli - CCM 4517			
Concentration of inoculum	2,8 x 10^5 KbE/ml		
Sample	The average of the common logarithm of the number of viable bacteria (in cells/cm²)		Antibacterial activity R
	Time 0 h	Time 24 h	
Untreated test specimen (HDPE film)	U_0 = 3,8	U_t = 6,1	-
Sample 1 (treated sample)	-	A_t = 1,4	**R = 4,7**

Result is the value od antibacterial activity which is obtained according to equation

$R = (U_t - U_0) – (A_t – U_0) = U_t - A_t$

where

- R is the antibacterial activity
- U_0 is the average of the common logarithm of the number of viable bacteria, in cells/cm², recovered from the untreated test specimens immediately after inoculation
- U_t is the average of the common logarithm of the number of viable bacteria, in cells/cm², recovered from the untreated test specimens ager 24 h
- A_t is the average of the common logarithm of the number of viable bacteria, in ells/cm², recovered from the treated test specimens ager 24 h

4 Remarks

Period of Validity

There are no regulations concerning duration of validity in the individual test standards. As the results of the examinations refer only to the submitted and examined samples, the report is valid for these for an unlimited period. A period of validity specified as part of an expert evaluation is in the discretion of the consultant or OETI. The applicability of results and expert evaluations for materials not tested is in the responsibility of the applicant. Whereby an apportionment of results as well as any specified period of validity can only be done for identically constructed products and only as long as the product is produced unchanged. Possible national or international restrictions concerning the terms of usability of test and classification reports have to be considered; this is not the responsibility of the test laboratory.

Sample Material

Results of performed tests only refer to the sample material provided. Without explicit written other agreement testing is destructive and the sample material is transferred to the property of OETI, which is entitled to freely decide on storage and disposal.

Issuing

This test report is only issued as a PDF. Translations will be marked accordingly on the cover sheet.

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All tests and services are performed under a quality management system according to EN ISO/IEC 17025. OETI is accredited as Testing Laboratory and Certification Body for products. It also is a Notified Body (NB0534). (see http://ec.europa.eu/enterprise/newapproach/nando/). Accreditation was provided by Akkreditierung Austria. The scope of accreditation is listed on www.oeti.biz. Due to the system for the mutual recognition of national accreditations (ILAC/IAF), this accreditation is valid worldwide.

Statements of conformity are based on the specifications of the specified standard. The “simple acceptance rule” applies, that means the measurement uncertainty is stated for the statement of conformity, but not taken into account.

In this report individual non-accredited test procedures are marked with *. Nevertheless, the analysis was also carried out for these parameters at the same level of quality as for the accredited parameters.

According to the decree on the use of the accreditation mark (“AkkZV”) the accredited Conformity Assessment Body is the only one to use the accreditation mark. Application of the registration number of the Notified Body: As to personal protective equipment (PPE) the requirements of Regulation (EU) 2016/425 have to be kept. With construction products the application is only permitted within the declaration of performance for CE-marking.

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