

Work Order	2353.1
Setup-Code	160315-10229-22196-01



Test Report

ISO 22196 (Mod)

Measurement of antibacterial activity on plastics surfaces

Test Object:

PVC Folien against Staphylococcus aureus

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Report on Findings

Client: ASPHALT ART INTERNATIONAL AG
Address: Bahnhof-Park 3
 CH-6340 Baar

Work order no.: 2353.1

Test object: PVC Folien against Staphylococcus aureus

Sample description: PVC Folien

Date of receipt of sample: Mar-07-2016

Type of test: ISO 22196-07: Plastics — Measurement of antibacterial activity on plastics surfaces

Test Germ: Staphylococcus aureus DSM 799/ATCC 6538

Test laboratory: QualityLabs BT GmbH

Address: Neumeyerstrasse 46a
 90411 Nuremberg, Germany

Setup-Code: 160315-10229-22196-01

Sample material: Vinyzene/PVC

No. of pages in report: 6

Report on findings to the client: Place and date of preparation: Nuremberg, Mar-21-20165
 Recipient: ASPHALT ART INTERNATIONAL AG

Laboratory Director:

 Harald Gerauer, Laboratory Director
 QualityLabs BT GmbH

Released:

 Dr. Jörg Brünke, Managing Director
 QualityLabs BT GmbH

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Declaration on Quality Assurance

This investigation was performed and supervised according to the standard operating procedure "SOP zu ISO 22196 (Mod)" by QualityLabs BT GmbH. The laboratory and process are continually monitored by independent, external authorities, as well as by internal audits.

Archiving

A copy of the test report, a protocol of the measurement as well as the accompanying correspondence and business records are archived by QualityLabs BT GmbH. The retention period is at least 10 years.

Test description

Anti-bacterial activity is determined in accordance with a modified version of ISO 22196.

During the test, a thin liquid-film containing the bacteria (1.25×10^4 CFU / cm²) is applied directly to the test sample (5 cm x 5 cm). To avoid desiccation a foil (4cm x 4cm, Stomacher Bags) is applied. Immediately after inoculation, the bacteria from the reference sample are separated from the sample and the enveloping foil surfaces using ultrasound and vortex devices and the number of viable germs (CFU – colony-forming units) is determined (t_0 value). A further set of reference samples and samples given anti-microbial treatment is incubated with bacteria in a liquid-film and the enveloping foil in a damp environment at 37°C. After a minimum of 24 hours, the bacteria are separated from the sample surfaces using ultrasound and vortex devices and the number of viable germs is determined (t_{24} value).

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References to Testconditions

Testconditions		
Sample size	25	cm ²
Foil size	16	cm ²
Volume Inoculum	400	µl
Sample cleaning	-	-

References to deviations, preincubations, special test conditions

NONE

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Test Results

Sample Name	Sample Code	t ₀ (cells/cm ²)			t ₂₄ (cells/cm ²)			Reduction [%]	Log Reduction
1 Referenz (intern) blank	102291503160001	6,40 x 10 ³	5,95 x 10 ³	6,86 x 10 ³	3,55 x 10 ⁴	6,98 x 10 ⁴	2,05 x 10 ⁴	-	-
2 Clear Walk	102291503160002				<1 x 10 ¹	<1 x 10 ¹	<1 x 10 ¹	>99.99	>4
3 Sport Walk	102291503160003				<1 x 10 ¹	<1 x 10 ¹	<1 x 10 ¹	>99.99	>4
4 Cat Walk	102291503160004				<1 x 10 ¹	<1 x 10 ¹	<1 x 10 ¹	>99.99	>4

*see "Interpretation of Results", page 6

Test strain	<i>Staphylococcus aureus</i> DSM 799/ATCC 6538
Initial cell count inoculum / cm ²	1.25 x 10 ⁴
Initials of the editor	SH
Measurement ended on	Mar-17-2016

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Comments on test objects

NONE

Interpretation of the results based on the measurements

NONE

Editor: Mrs. Hischenko _____

Crosschecked: Mr. Gerauer_____

References

ISO 22196-07: Plastics — Measurement of antibacterial activity on plastics surfaces