Das Kunststoff-Zentrum

SKZ

Test Report

Test Report no.: **202930/19**

Customer: Zhejiang Donsen Environmental Co., Ltd
NO. 1 Zhijiang Road, Lanjiang street, Yuyao
Ningbo, Zhejiang
China

Order: Test according to DIN EN 16421:2014
Method 2: Measured by means of the volume of the biofilm

Product: Donsen PP-R Pipe Ø 25 x 4,2 mm
grey

Letter of: 2019-08-27 **Your reference:** Mr. Zheng Jianjun

Samples received: 2019-10-22 **Sampling:** --

Test period: 2019-11-20 to 2020-02-18

The test report comprises 4 pages.

Würzburg, *15 September 2020*
Sg/wet

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D-PL-19033-01-00
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D-IS-19033-01-00

1. Order

By its letter of 27-08-2019, the company Zhejiang Donsen Environmental Co., Ltd NO. 1 Zhijiang Road, Lanjiang street, Yuyao, Ningbo, Zhejiang, instructed the SKZ - Testing GmbH to evaluate the microbiological characteristics on
Donsen PP-R Pipe Ø 25 x 4,2 mm
grey in contact with drinking water.

2. Test material

On 22.10.2019 the SKZ - Testing GmbH received the following test specimen from Zhejiang Donsen Environmental Co., Ltd:

Quantity	Dimension	Labelling	date of manufacture
PP-R ripe	20 x 1 m pipe Ø 25 x 4.2mm, grey	Donsen PP-R Pipe Ø 25 x 4.2mm	11/10/2019

The SKZ - Testing GmbH had no influence on the choice of the samples.

The detailed formulations of the materials have been submitted to SKZ – Testing GmbH

3. Experiments

The scope of testing is based on the testing standard DIN EN 16421:2014.

The test results relate exclusively to the test specimens submitted for testing and the statutory regulations in force at the time of testing.
Usually we carry out tests according to standards for which we have an accreditation. The list of all standards for which we are accredited is shown on the homepage at www.skz.de. In case of non-accredited procedures they are marked with *.

4. Test results

Microbiological Test

Start of Exposure: 20.11.2019

Two test specimens were tested each time.

1-Monthly Samples

	Biofilm (first value, 800 cm²)	Biofilm (second value, 800 cm²) [ml]	Mean Value [ml]	Result no.	Biofilm of negative control [ml]	Biofilm of positive control [ml]
After 4 weeks	0.01 ml	0.01 ml	0.01 ml	1a	< 0.01 ml	1.5 ml
After 8 weeks	< 0.01 ml	< 0.01 ml	< 0.01 ml	1b	< 0.01 ml	2.0 ml
After 12 weeks	< 0.01 ml	< 0.01 ml	< 0.01 ml	1c	< 0.01 ml	1.9 ml

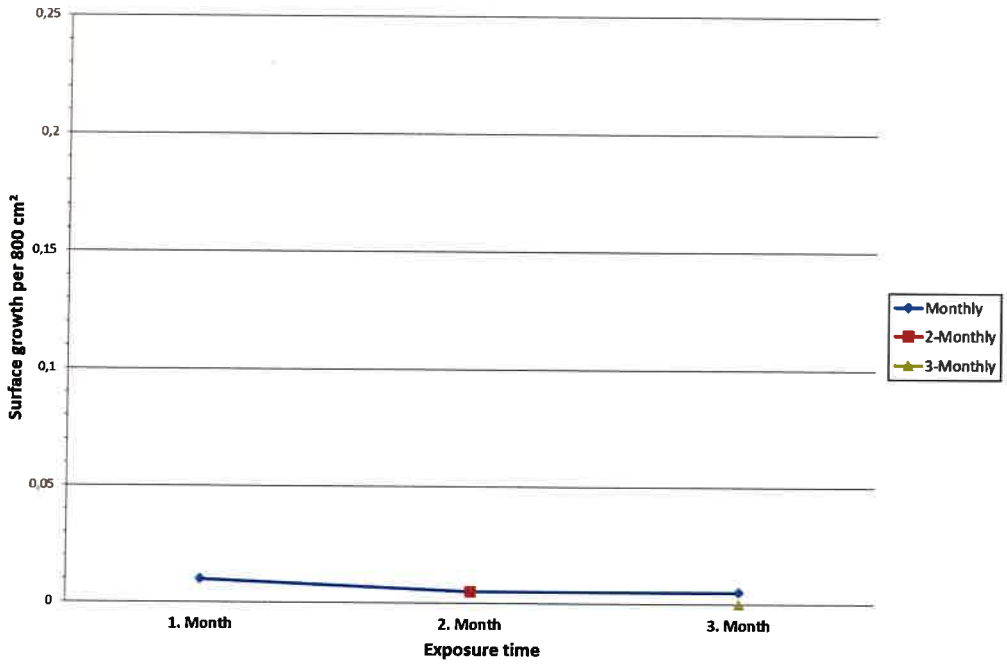
2-Monthly Samples

	Biofilm (first value, 800 cm²)	Biofilm (second value, 800 cm²) [ml]	Mean Value [ml]	Result no.	Biofilm of negative control [ml]	Biofilm of positive control [ml]
After 8 weeks	< 0.01 ml	< 0.01 ml	< 0.01 ml	2a	< 0.01 ml	3.0 ml

3-Monthly Sample

	Biofilm (first value, 800 cm²)	Biofilm (second value, 800 cm²) [ml]	Mean Value [ml]	Result no.	Biofilm of negative control [ml]	Biofilm of positive control [ml]
After 12 weeks	< 0.01 ml	< 0.01 ml	< 0.01 ml	3a	< 0.01 ml	4.0 ml

Chart



5. Evaluation of test results

The positive controls show a proper growth of biofilm of greater or equal to 1.5 ml/800cm² in each test period.

The negative controls showed no significant biofilm growth of higher or equal to 0.01 ml/800cm² in any test period.
Surface colonization could be proven by contact cultures.

It can therefore be assumed that the test was carried out properly.

The contact cultures of the test specimens showed a significant surface colonization by fungi and bacteria for all test periods. The presence of growth-inhibiting substances can therefore be excluded.

The test results refer exclusively to the test specimens submitted for testing and the legal regulations in force at the time of testing. No partial reproduction of the test report is permitted without the written consent of the testing laboratory.

The test results do not represent an evaluation of the material with regard to its microbiological suitability as a contact material for drinking water.
Evaluations and limit values are specified in the corresponding UBA evaluation criteria.