



ELECTROTECHNICAL TESTING INSTITUTE
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No. of the Test Report: 500482-01/02

Issued: 26. 3. 2015



TEST REPORT

Name of product: Flexible plastic tubing for air conditioning equipment
Type of product: PE HD with the additive
Ratings: ---
Serial number: Not specified
Manufacturer: MATEICIUC a. s., Ke koupališti 370/15,
74235 Odry, Czech republic
Production site: Not specified
Ordering firm: MATEICIUC a. s., Ke koupališti 370/15,
74235 Odry, Czech republic
Number of tested samples: 1
Samples submitted on: 5. 2. 2015
Location of testing: EZÚ
Tested from 19. 2. 2015 **through** 26. 3. 2015
Other data: ---
The product was tested according to: ČSN EN ISO 846:1998, article. 4.2.1.2.
Method B and method B'

Compiled by: M. Hájková



Approved by: J. Bažant
Testing laboratory technical manager

The test results contained in this report refer to the tested items only. The values presented in this report were measured with the accuracy specified in the testing regulations. All measuring instruments used are properly traceable. Without the written consent of the EZÚ this Report shall not be reproduced except as a whole. If the customers stated in the test record refer to the EZÚ services as an accredited laboratory they must use the following formulation: "Tested by EZÚ, a ČIA accredited laboratory for the specified tests, the registration number of the accredited laboratory is 1056."

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Description of the specimen:

The microbiological test was delivered flexible plastic tubing for air conditioning equipment. Type: material PE HD with the additive.

**Testing:**

Test of Plastic – Evaluation of the action of microorganisms was performed according to ČSN EN ISO 846:1998, article 4.2.1.2. On the sample was carried out method B and B' (determination of fungistatic effects).

For this type of sample and two testing methods, prepare three batches of specimens of five pieces (inoculated, sterile, control). The samples are adjusted to the size of about 30 x 30 x 1 mm. The exposure of test does not clean specimens and do not dried. Test specimens shall be kept in sterile Petri dishes at ambient temperature.

Test **strains of fungi** for method B and B' shall be obtained from the National Collection of Microorganisms:

Aspergillus niger van Tieghem (ATCC 6275)
Penicillium funiculosum Thom (CMI 114933)
Paecilomyces variotii Bainier (ATCC 17502)
Gliocladium virens Miler et al. (ATCC 9645)
Chaetomium globosum Kunze (ATCC 6205)

Method B and B' – determination of fungistatic effects

Test specimens are exposed to a mixed suspension of fungus spores in the presence of complete nutritive medium. Variant B 'method B involves waiting until the medium is fully overgrown, but no visible sporulation, before placing the specimens on the medium. Inoculated and sterile specimens are incubated at a temperature (29 ± 1) °C and relative humidity > 95% for 28 days.

<u>Testing equipment:</u>	Scales DENVER SI-4002A	inv. No. 551150
	Incubator CLIMACELL	inv. No. 110113
	Autoclave VAPOSTERI	inv. No. S 107
	Centrifuge UNIVERSAL 32 R	inv. No. 110052
	Stereoscopic microscope LEICA M80	inv. No. 110264
	Laminar box GELAIRE	inv. No. 4846
	Hot air sterilizer	inv. No. 4244

Evaluation: see also photo-documentation

Method B and B' – determination of fungistatic effects

Method	duration of incubation (days)			
	7	14	21	28
B	0	0	0	1
B'	0	0	0	0

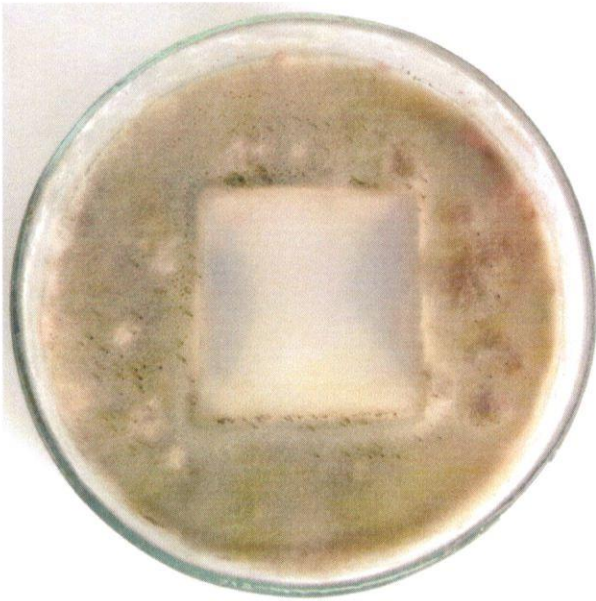
scale assessment of mould growth on the specimens:

- 0 - no growth, or is not visible under the microscope
- 1 - growth visible under the microscope (small scattered colonies mould
- 2 - growth visible to the naked eye covering up to 25 % of the test surface
- 3 - growth visible to the naked eye covering up to 50 % of the test surface
- 4 - significant growth covering more than 50% of the test surface
- 5 - rich growth covering the entire surface to be tested

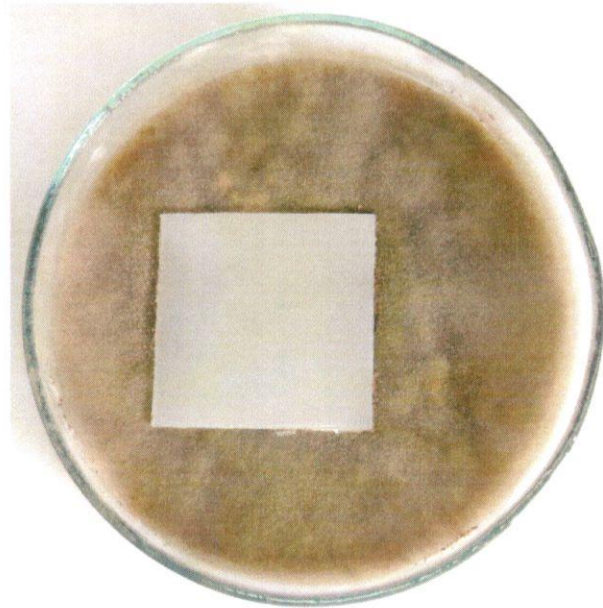
The samples plastic tubing are not nutrient environment for microorganisms (materials are inert or fungicidal). For method B there was a slight growth of fungi, the material contains nutritive substances or is contaminated to such a small degree that it permits only slight growth of microorganisms.

Photo-documentation:

Sample plastic tubing after the test, according to method B and method B'.



method B



method B'

Test Result:

The submitted specimens were subjected to the above-mentioned test. The sample plastic tubing is complies with the standard. Detailed evaluation and functional test will be carried out through the client.

Tested by: M. Hájková

A handwritten signature in blue ink, appearing to read "M. Hájková".