

Notified Body number: 2018

BANDYMAI
ISO/IEC 17025

Nr. LA.01.031

TEST REPORT No. 139/22 en
14th of July 2022

Page (pages)
1 (4)

Wet-scrub resistance and cleanability of coatings; resistance to liquids

(designation of the test)

Test methods: LST EN ISO 11998:2006 Paints and varnishes - Determination of wet-scrub resistance and cleanability of coatings.
LST EN 13300:2002/ AC:2004 Paints and varnishes - Water-borne coating materials and coating systems for interior walls and ceilings - Classification.
LST EN ISO 2812-1:2018 Paints and varnishes - Determination of resistance to liquids - Part 1: Immersion in liquids other than water
LST EN ISO 4628-1:2016 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 1: General introduction and designation system.
LST EN ISO 4628-2:2016 Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 2: Assessment of degree of blistering

(number of normative document)

Specimen
description:

Paint Argentum Plus 7 Sample Batch number 710016508, 0.9 l

(name, description and identification details of a specimen; information submitted by the customer)

Customer:

AS TIKKURILA, Liimi 5, 10621, Tallinn, the Republic of Estonia

(the name and address)

Manufacturer:

TIKKURILA OYJ, P.O. Box 53 FI-01300 Vantaa, Finland

(the name and address)

Results of test (continuation of the table on the next (2) page):

Name of the indicator and unit	Method reference no.	Test result
The loss in dry-film thickness after 200 wet-scrub cycles, μm	LST EN ISO 11998:2006	2.72
Note. 1) Wet-scrub resistance according standard LST EN 13300+AC:2004 corresponds to 1 st class; 2) Conformity of test results is evaluated using the decision rule in accordance with ILAC-G8: 09/2019 point 4.2.1.		

Place of
test:

Laboratory of Building Physics, Institute of Architecture and Construction of Kaunas
University of Technology

(name of the test laboratory)

Specimen delivery date:

14/06/2022

Date of test:

15/06/2022 - 13/07/2022

Sampling: The test specimen sampled by customer

Additions information: Application 14/06/2022

(other deviations, other tests and any information related to the test)

Annex: 1 – Results of determination of loss in dry-film thickness, 2 – Results of determination of resistance to liquids

(the numbers of the annexes should be pointed out)

Head of Laboratory:

(approving test results)

LIETUVOS RESPUBLIKA

Banionis
(signature)

K. Banionis

(n., surname)

Test performed by:

(person responsible for a test)

DOKUMENTAI

S.P.

[Signature]
(signature)

V. Dobilaitė

(n., surname)

Validity – the named data and results refer exclusively to the tested and described specimens.

Notes on publication – no part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the Laboratory of Building Physics.

Results of test (continuation of the table from the first (1) sheet):

Name of the indicator and unit	Method reference no.	Test result
Resistance to resistance to liquids	LST EN ISO 2812-1:2018, A method	
Degree of blistering, quantity Sodium bicarbonate ~5 % solution	LST EN ISO 4628-2:2016; LST EN ISO 4628-1:2016	0(S0) after 24 h no changes
Mikrobac 0,25%		0(S0) after 24 h no changes
Isopropyl Alcohol		0(S0) after 24 h no changes
Micro Quat 1%		0(S0) after 24 h no changes
Sodium Hypochlorite 5%		0(S0) after 24 h no changes
Suma Bac D10		0(S0) after 24 h no changes
Dodecyldimethylammonium chloride 1%		0(S0) after 24 h no changes
Ethanol 96%		0(S0) after 24 h no changes
Hydrogen Peroxide 5 %		4(S5) after 24 h 2(S3)
Note.		

Head of Laboratory:

(approving test results)

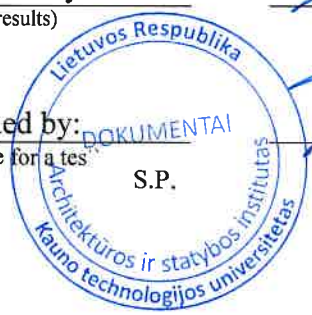

(signature)

K. Banionis

(n., surname)

Test performed by:

(person responsible for a test)




(signature)

V. Dobilaitė

(n., surname)

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1 Annex. Results of determination of loss in dry-film thickness

The loss in dry-film thickness after 200 wet-scrub cycles, μm (LST EN ISO 11998:2006):

Sample No.	The mass of sample before wet-scrub, g	The mass of sample after wet-scrub, g	Traversed area A, m^2	The density of the dry-film of coating ρ_{df} , g/cm^3	The loss in dry-film thickness L, μm
1	14.019	13.958	0.0152	1.54	2.61
2	13,780	13.713	0.0152	1.54	2.86
3	15.137	15.074	0.0152	1.54	2.69
Average:					2.72

The density of the dry-film of coating ρ_{df} (LST EN ISO 11998:2006, Annex A), g/cm^3 :

Sample No.	The mass of the dry-film m, mg	The dry-film thickness d, μm	The sample area A, mm^2	The density of the dry-film of coating ρ_{df} , g/cm^3
1	1029	89	7500	1.54
2	1007	87	7500	1.54
Average:				1.54

Samples were conditioned for 28 days in standard conditions temperature (23 ± 2) $^{\circ}\text{C}$ and relative humidity (50 ± 2) %.

The thickness of PVC test panel is 0.25 mm.

For wet-scrub resistance use a 2.5 g/l solution of sodium n-dodecylbenzenesulfonate in water.

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2 Annex. Results of determination of resistance to liquids

Determination of resistance to liquids was carried out according to LST EN ISO 2812-1:2018, A method. The test panels were coated with the product under test. Coating was applied to the concrete base with a single coat layer with a brush. The test pieces were conditioned for 7 days under standard conditions, i.e. (23 ± 2) °C temperature and (50 ± 5) % relative humidity. Dry film thickness is ~40 - 50 µm (measured according LST EN ISO 2808:2019, 4A method).

The test pieces (2 pieces for one liquid) were immersed vertically into test liquids (sodium bicarbonate ~5 % solution; mikrobac 0,25 %; isopropyl alcohol; Micro Quat 1 %; sodium hypochlorite 5 %; Suma Bac D10; dodecyldimethylammonium chloride 1 %; ethanol 96 %, hydrogen peroxide 5 %). Immersion depth was 75 mm.

After 24 h of soaking the test pieces were assessed (in 1 min) for blistering as specified in LST EN ISO 4628-2:2016 and LST EN ISO 4628-1:2016.

After evaluation, the test pieces were allowed to equilibrate in dry conditions for 24 and the exposed area was reassessed.

Test liquid	Assessment	
	after 24 h of immersion	after 24 h conditioning in dry conditions
Sodium bicarbonate ~5 % solution	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Mikrobac 0,25%	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Isopropyl alcohol	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Micro Quat 1%	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Sodium hypochlorite 5%	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Suma Bac D10	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Dodecyldimethylammonium chloride 1%	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Ethanol 96%	Blistering 0(S0)	Blistering 0(S0) No changes in panel
Hydrogen peroxide 5 %	Blistering 4(S5)	Blistering 2(S3)

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