



SIA Silk Plaster Group
Balta iela 27
1055 Riga

Test Report No. 42012-001

Client:	SIA Silk Plaster Group Riga
Sample description by client:	Silk Plaster, Prestige Article-No. 408
Sampling by:	Client
Date of arrival of sample:	09.10.2013
Date of report:	25.11.2013
Number of pages of report:	24
Testing parameter:	see table of contents
Testing laboratory:	eco-INSTITUT GmbH, Cologne except * subcontracted

outside accreditation

Nach DIN EN ISO/IEC 17025 akkreditiertes Prüflabor



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Sample view

Internal Sample-no.	Description by customer	Condition upon delivery	Type of sample
A001	Silk Plaster, Prestige	without objection	Wall covering

Test Report

1 Emission test

1.1 Volatile Organic Compounds (VOC)

Definition of terms:

VOC (volatile organic compounds)	All individual materials with a concentration $\geq 0,001 \text{ mg/m}^3$ in retention range C_6 (n-Hexane) to C_{16} (n-Hexadecane) Substances refer to LCI lists / AgBB (DIBt)
TVOC (Total volatile organic compounds)	Sum of all individual substances in retention range C_6 to C_{16} .
CMR-VOC (carcinogenic, mutagenic, reproduction-toxic VOC, VVOC and SVOC)	All individual substances with the following categories: Regulation (EC) No. 1272/2008: Category Car.1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B TRGS 905: K1 and K2, M1 and M2, R1 and R2 IARC: Group 1 and 2A DFG (MAK lists): Category III1 and III2
VVOC (very volatile organic compounds)	All individual substances with concentration $\geq 0,001 \text{ mg/m}^3$ in retention range $< C_6$
TVVOC (Total very volatile organic compounds)	Sum of all VVOC in retention range $< C_6$
SVOC (semi volatile organic compounds)	All individual materials $\geq 0,001 \text{ mg/m}^3$ in retention range $> C_{16}$ (n-Hexadecane) to C_{22} (Docosane)
TSVOC (Total semi volatile organic compounds)	Sum of all SVOC in retention range $> C_{16}$ to C_{22} .
Identified and calibrated substances ($C_{id \text{ sub}}$), substance specific calculated	Spectrum and retention time are concordant with the calibrated comparison substance
Not identified substances calculated as toluene equivalent ($C_{ni \text{ tol}}$)	Suggestion from the spectrum library with high probability and/or allocation to a group of substances
SER	Specific emission rate (see appendix)
LCI value	Lowest Concentration of Interest; calculated value for the evaluation of VOC, established by the Committee for Health-related Evaluation of Building Products (Ausschuss zur gesundheitlichen Bewertung von Bauprodukten - AgBB)
R value	The quotient of the concentration and the LCI value is generated for every substance which is detected in the test chamber air. The sum of the calculated quotients results in the R value.

List of analysed VOCs:

Aromatic hydrocarbons

Toluene
Ethylbenzene
p-Xylene
m-Xylene
o-Xylene
Isopropylbenzene
n-Propylbenzene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,2,3-Trimethylbenzene
2-Ethyltoluene
1-Isopropyl-4-methylbenzene
1,2,4,5-Tetramethylbenzene
n-Butylbenzene
1,3-Diisopropylbenzene
1,4-Diisopropylbenzene
Phenyl octane
1-Phenyl decane²
1-Phenyl undecane²
4-Phenylcyclohexene
Styrene
Phenyl acetylene
2-Phenyl propene
Vinyl toluene
Naphthalene
Indene
Benzene
Cresol

Saturated aliphatic substances

Hydrocarbons
2-Methyl pentane¹
3-Methyl pentane¹
n-Hexane
Cyclohexane
Methylcyclohexane
n-Heptane
n-Octane
n-Nonane
n-Decane
n-Undecane
n-Dodecane
n-Tridecane
n-Tetradecane
n-Pentadecane
n-Hexadecane
Methylcyclopentane
1,4-Dimethylcyclohexane

Terpenes

δ-3-Carene
α-Pinene
β-Pinene
Limonene
Longifolene
Caryophyllene
Isolongifolene
alpha-Phellandrene
Myrcene
Camphene
alpha-Terpinend
Longipinene
beta-Caryophyllene
beta-Farnesen
alpha-Bisabolen

Aliphatic alcohols and ether

1-Propanol¹
2-Propanol¹
tert-Butanol
2-Methyl-1-propanol

1-Butanol
1-Pentanol
1-Hexanol
Cyclohexanol
2-Ethyl-1-hexanol
1-Octanol
4-Hydroxy-4-methyl-pentan-2-one
1-Heptanol
1-Nonanol
1-Decanol

Aromatic alcohols (phenols)

Phenol
BHT (2,6-di-tert-butyl-4-methylphenol)
Benzylalcohol

Glycols, Glycol ether, Glycol ester

Propylenglycol (1,2-Dihydroxypropane)
Ethylene glycol (Ethandiol)
Ethylene glycol monobutyl ether
Diethylene glycol
Diethylene glycol-monobutyl ether
2-Phenoxyethanol
Ethylene carbonate
1-Methoxy-2-propanol
Glycolic acid butyl ester
Texanol
Butyldiglycol acetate
Dipropylenglycol mono-methyl ether
2-Methoxyethanol
2-Ethoxyethanol
2-Propoxyethanol
2-Methylethoxyethanol
2-Hexoxyethanol
1,2-Dimethoxyethane
1,2-Diethoxyethane
2-Methoxyethyl acetate
2-Ethoxyethyl acetate
2-Butoxyethyl acetate
2-(2-Hexoxyethoxy)-ethanol
1-Methoxy-2-(2-methoxy-ethoxy)-ethane
Propylene glycol di-acetate
Dipropylene glycol
Dipropylene glycol
monomethylether acetate
Dipropylene glycol mono-n-propylether
1,4-Butanediol
Tripropylene glycol monomethyl ether
Triethylene glycol dimethyl ether
1,2-Propylene glycol dimethyl ether
TXIB
Ethylidiglycol
Dipropylene glycol-dimethyl ether
Propylene carbonate
Hexylene glycol
3-Methyl-1-butanol
1,2-Propylene glycol n-propyl ether
1,2-Propylene glycol n-butyl ether
Diethylglycol phenyl ether
Neopentyl glycol

Aldehydes

Butanal^{1,3}
Pentanal³
Hexanal
Heptanal
2-Ethylhexanal
Octanal
Nonanal
Decanal
2-Butenal³

2-Pentenal³
2-Hexenal
2-Heptenal
2-Octenal
2-Nonenal
2-Decenal
2-Undecenal
Furfural
Glutaraldehyde
Benzaldehyde
Acetaldehyde^{1,3}
Propanal^{1,3}
Propenal^{1,3}
Isobutenal
3-Methyl-2-propanol
Methylisobutylketone
Cyclopentanone
Cyclohexanone

Ketones

Ethylmethylketone³
3-Methyl-2-propanol
Methylisobutylketone
Cyclopentanone
Cyclohexanone
Acetone^{1,3}
2-Methylcyclopentanone
2-Methylcyclohexanone
Acetophenone
1-Hydroxyacetone

Acids

Acetic acid
Propionic acid
Isobutyric acid
Butyric acid
Pivalic acid
n-Valeric acid
n-Hexanoic acid
n-Heptanoic acid
n-Octanoic acid
2-Ethylhexanoic acid

Esters and Lactones

Methylacetate¹
Ethyl acetate¹
Vinyl acetate¹
Isopropyl acetate
Propyl acetate
2-Methoxy-1-methylethyl acetate
n-Butyl formate
Methylmethacrylate
Isobutylacetate
1-Butyl acetate
2-Ethylhexyl acetate
Methyl acrylate
Ethyl acrylate
n-Butyl acrylate
2-Ethylhexyl acrylate
Adipic acid dimethyl ester
Fumaric acid dibutyl ester
Succinic acid dimethyl ester
Hexandioldiacrylate
Maleic acid dibutyl ester
Butyrolactone
Dibutyl glutarate
Dibutyl succinate
Dimethylphthalate
Texanol
Dipropylene glycol diacrylate

Chlorinated hydrocarbons

Tetrachlorethene
1,1,1-Trichlorethane
Trichlorethene
1,4-Dichlorbenzene

Others

1,4-Dioxane
Caprolactam
N-Methyl-2-pyrrolidone
Octamethylcyclotetrasiloxane
Methenamine
2-Butanonoxime
Triethyl phosphate
5-Chlor-2-methyl-4-isothiazolin-3-one
2-Methyl-4-isothiazolin-3-one (MIT)
Triethylamine
Decamethylcyclopentasiloxane
Dodecamethylcyclopentasiloxane
Tetrahydrofuran (THF)
1-Decene
1-Octene
2-Pentylfuran
Tetramethyl succinonitrile
Propylencarbonate
Isophorone
Dimethylformamide (DMF)
Tributyl phosphate

1 VVOC

2 SVOC

3 Analysis after DIN ISO 16000-3

Explanation of the Specific Emission Rate SER

Emission measurements are accomplished in test chambers under defined physical conditions (temperature, relative humidity, room loading, air change rate etc.).

Test chamber measurement results are directly comparable only if the investigations were accomplished under the same basic conditions.

If the differences of the physical conditions refer only to the change of air rate and/or the loading, the "SER" or "specific emission rate" can be used for comparability of the measurement results. The SER indicates how many volatile organic compounds (VOC) are released by the sample for each material unit and hour (h). The SER can be calculated using the formula below for each proven individual component of the VOC from the data in the test report.

As material units the following are applicable:

l = unit of length (m)	relation between emission and length
a = unit area (m ²)	relation between emission and surface
v = unit volume (m ³)	relation between emission and volume
u = piece unit (unit = piece)	relation between emission and complete unit

From this the different dimensions for SER result:

length-specific	SER _l in µg/m h
surface-specific	SER _a in µg/m ² h
volume-specific	SER _v in µg/m ³ h
unit specific	SER _u in µg/u h

SER thus represents a product specific rate, which describes the mass of the volatile organic compound, which is emitted by the product per time unit at a certain time after beginning of the examination.

$$\boxed{\text{SER} = q \cdot C}$$

q specific air flow rate (quotient from change of air rate and loading)
C Concentration of the measured substance(s)

The result can be indicated in milligrams (mg) in place of micro grams (µg), whereby 1 mg = 1000 µg.

Test method

Preparation of test sample:	DIN EN ISO 16000-11		
	Date:	21.10.2013	
	Pre-treatment:	Product was mixed with water (6 liters for 1kg); after half a day it was applied to a glass plate (thickness: 2 mm); drying time: 24 hours	
	Masking of backside:	not applicable	
	Masking of edges:	not applicable	
	Relationship of unmasked edges to surface:	not applicable	
	Charging:	related to area	
	Dimensions:	2 x [25 cm x 25 cm] + 1 x [25 cm x 20 cm]	
	Test chamber conditions::	Chamber volume:	0,125 m ³
		Temperature:	23 °C
Relative humidity:		100 % (determined by the wet sample)	
Air pressure:		normal	
Air:		cleaned	
Air change rate:		0.5 h ⁻¹	
Air velocity:		0,3 m/s	
Loading:		1.41 m ² /m ³	
Specific air flow rate:		0,355 m ³ /m ² · h	
Air sampling:		3 and 28 days after test chamber loading	
Analytics:	DIN ISO 16000-3		
	DIN ISO 16000-6		
	Detection limit:	1 µg/m ³	

Measurement time 3 days after test chamber loading

1.1.1 CMR-VOC_{3d}

Test parameter:

Carcinogenic, mutagenic and reproduction-toxic volatile organic compounds (CMR VOC), test chamber, air sampling 3 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS No.	Concentration (Test chamber air) [µg/m ³]	CMR classifica- tion*)
VOC_{3d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})				
-	-	-	-	n.d.
VOC_{3d}: Further identified and calibrated CMR substances in addition to LCI list/AgBB, substance specific calculated(c_{id sub})				
-	-	-	-	n.d.
VOC_{3d}: Further identified, not calibrated CMR substances, calculated as toluene equivalent (c_{ni tol})				
-	-	-	-	n.d.

*) Classification acc. to Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B, TRGS 905: K1 and K2, M1 and M2, R1 and R2, IARC: Group 1 and 2A, DFG (MAK list): Category III1 and III2

	Concentration (Test chamber air) [µg/m ³]	SERa [µg/m ² h]
Sum of VOC with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B TRGS 905: K1 and K2, M1 and M2, R1 and R2 IARC: Group 1 and 2A DFG (MAK list): Category III1 and III2	n.d.	n.n.

n.d. = not detectable

1.1.2 VOC / TVOC_{3d}

Test parameter:

Volatile organic compounds (VOC), test chamber, air sampling 3 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS No.	Concentration (Test chamber air) [µg/m ³]
VOC_{3d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})			
2	Saturated aliphatic hydrocarbons		
2-2	n-Hexane	110-54-3	3
2-8	n-Heptane	142-82-5	1
4-13.3	1-Decanol	112-30-1	
6	Glycols, Glycol ethers, Glycol esters		
6-44	1,2-Propylene glycol n-butyl ether	5131-66-8	3
7	Aldehydes		
7-8	Decanal	112-31-2	1
9	Acids		
9-1	Acetic acid	64-19-7	3
VOC_{3d}: Further identified and calibrated substances in addition with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
VOC_{3d}: Not calibrated substances calculated as toluene equivalent (c_{ni tol})			
-	not identified substance	-	1
-	not identified substance	-	1
-	not identified substance, probably Glycol	-	4
-	not identified substance, probably Glycol	-	9

Total volatile organic compounds	Concentration (test chamber air) [µg/m ³]	SE _a [µg/m ² h]
TVOC_{3d}	26	9

Further VOC sums	Concentration (test chamber air) [µg/m³]	SER_a [µg/m²h]
Sum VOC without LCI	15	5
Sum of bicyclic terpenes	n.d.	n.d.
Sum of sensitising materials with the following categorisations: DFG (MAK lists): Category IV German Federal Institute for Risk Assessment lists: Cat A TRGS 907	n.d.	n.d.
Sum of VOC with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2 TRGS 905: K3, M3, R3 IARC: Group 2B DFG (MAK list): Category III3	3	1
C₉ - C₁₄ - Alkanes / Isoalkanes	n.d.	n.d.
Sum C₄-C₁₁ Aldehydes, acyclic, aliphatic	1	0

R-Value (without dimension)_{3d}	0,05
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n.d. = not detectable

1.1.3 SVOC_{3d}

Test parameter:

Semivolatile organic compounds (SVOC), test chamber, air sampling 3 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS No.	Concentration (test chamber air) [µg/m ³]
SVOC_{3d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
SVOC_{3d}: Further identified and calibrated substances in addition to LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
SVOC_{3d}: Not calibrated substances calculated as toluene equivalent (c_{ni tol})			
-	-	-	n.d.

Total semivolatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TSVOC_{3d}	n.d.	n.d.

n.d. = not detectable

1.1.4 **VVOC_{3d}**

Test Parameter:

Very volatile organic compounds (VVOC), test chamber, air sampling 3 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS-No.	Concentration (test chamber air) [µg/m ³]
VVOC_{3d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (C_{id sub})			
4	Aliphatic alcohols and ethers		
4-3	2-Propanol	67-63-0	5
VVOC_{3d}: Further identified and calibrated substances in addition to LCI list/AgBB, substance specific calculated (C_{id sub})			
-	-	-	n.d.
2	Saturated aliphatic hydrocarbons		
VVOC_{3d}: Not calibrated, identified substances calculated as toluene equivalent (C_{ni tol})			
-	-	-	n.d.

Total very volatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TVVOC_{3d}	5	2

n.d. = not detectable

1.1.4.1 Formaldehyde_{3d} and Acetaldehyde_{3d}

Test parameter:

Formaldehyde and Acetaldehyde, test chamber, air sampling 3 days after test chamber loading

Test method:

Preparation of test sample:	according to DIN EN 717-1 see Volatile organic compounds
Test chamber conditions:	DIN EN 717-1 with the following deviations: <ul style="list-style-type: none">- No determination of the equilibrium concentration; the formaldehyde emission is indicated at a measuring point as determined above.- Chamber volume: see Volatile organic compounds- Relative humidity: 50%- Air change rate and loading: see Volatile organic compounds Emission chamber parameters: see volatile organic compounds
Air sampling:	3 days after test chamber loading
Analytcs:	DIN ISO 16000-3
Detection limit:	3 µg/m ³ ≈ 0,003 ppm

Test result:

Sample:	A001: Silk Plaster, Prestige
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Substance	Concentration (Test chamber air) [µg/m ³]	Concentration (Test chamber air) [ppm]
Formaldehyde	3	< 0,003
Acetaldehyde	< 3	-

Measurement time 28 days after test chamber loading

1.1.5 CMR-VOC_{28d}

Test parameter:

Carcinogenic, mutagenic and reproduction-toxic volatile organic compounds (CMR VOC), test chamber, air sampling 28 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS No.	Concentration (Test chamber air) [µg/m ³]	CMR classifica- tion*)
VOC_{28d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})				
-	-	-	-	n.d.
VOC_{28d}: Further identified and calibrated CMR substances in addition to LCI list/AgBB, substance specific calculated (c_{id sub})				
-	-	-	-	n.d.
VOC_{28d}: Further identified, not calibrated CMR substances, calculated as toluene equivalent (c_{ni tol})				
-	-	-	-	n.d.

*) Classification acc. to Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B, TRGS 905: K1 and K2, M1 and M2, R1 and R2, IARC: Group 1 and 2A, DFG (MAK list): Category III1 and III2

	Concentration (Test chamber air) [µg/m ³]	SERa [µg/m ² h]
Sum of VOC with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 1A and 1B, Muta. 1A and 1B, Repr. 1A and 1B TRGS 905: K1 and K2, M1 and M2, R1 and R2 IARC: Group 1 and 2A DFG (MAK list): Category III1 and III2	n.d.	n.n.

n.d. = not detectable

1.1.6 VOC / TVOC_{28d}

Test parameter:

Volatile organic compounds (VOC), test chamber, air sampling 28 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS No.	Concentration (Test chamber air) [µg/m ³]
VOC_{28d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
VOC_{28d}: Further identified and calibrated substances in addition with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
VOC_{28d}: Not calibrated substances calculated as toluene equivalent (c_{ni tol})			
-	-	-	n.d.

Total volatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TVOC_{28d}	n.d.	n.d.

Further VOC sums	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
Sum VOC without LCI	n.d.	n.d.
Sum of bicyclic terpenes	n.d.	n.d.
Sum of sensitising materials with the following categorisations: DFG (MAK lists): Category IV German Federal Institute for Risk Assessment lists: Cat A TRGS 907	n.d.	n.d.
Sum of VOC with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2 TRGS 905: K3, M3, R3 IARC: Group 2B DFG (MAK list): Category III3	n.d.	n.d.
C₉ - C₁₄ - Alkanes / Isoalkanes		n.d.
Sum C₄-C₁₁ Aldehydes, acyclic, aliphatic	n.d.	n.d.

R-Value (without dimension)_{28d}	0
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n.d. = not detectable

1.1.7 SVOC_{28d}

Test parameter:

Semivolatile organic compounds (SVOC), test chamber, air sampling 28 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS No.	Concentration (test chamber air) [µg/m ³]
SVOC_{28d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
SVOC_{28d}: Further identified and calibrated substances in addition to LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
SVOC_{28d}: Not calibrated substances calculated as toluene equivalent (c_{ni tol})			
-	-	-	n.d.

Total semivolatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TSVOC_{28d}	n.d.	n.d.

n.d. = not detectable

1.1.8 VVOC_{28d}

Test Parameter:

Very volatile organic compounds (VVOC), test chamber, air sampling 28 days after test chamber loading

Test result:

Sample: A001: Silk Plaster, Prestige

No.	Substance	CAS-No.	Concentration (test chamber air) [µg/m ³]
VVOC_{28d}: Identified and calibrated substances in accordance with LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
VVOC_{28d}: Further identified and calibrated substances in addition to LCI list/AgBB, substance specific calculated (c_{id sub})			
-	-	-	n.d.
VVOC_{28d}: Not calibrated, identified substances calculated as toluene equivalent (c_{ni tol})			
-	-	-	n.d.

Total very volatile organic compounds	Concentration (test chamber air) [µg/m ³]	SER _a [µg/m ² h]
TVVOC_{28d}	n.d.	n.d.

n.d. = not detectable

1.1.8.1 Formaldehyde_{28d} and Acetaldehyde_{28d}

Test parameter:

Formaldehyde and Acetaldehyde, test chamber, air sampling 28 days after test chamber loading

Test method:

Preparation of test sample:	according to DIN EN 717-1 see Volatile organic compounds
Test chamber conditions:	DIN EN 717-1 with the following deviations: <ul style="list-style-type: none">- No determination of the equilibrium concentration; the formaldehyde emission is indicated at a measuring point as determined above.- Chamber volume: see Volatile organic compounds- Relative humidity: 50%- Air change rate and loading: see Volatile organic compounds Emission chamber parameters: see volatile organic compounds
	Air sampling: 28 days after test chamber loading
Analytcs:	DIN ISO 16000-3
	Detection limit: 3 µg/m ³ ≈ 0,003 ppm

Test result:

Sample:	A001: Silk Plaster, Prestige
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Substance	Concentration (Test chamber air) [µg/m ³]	Concentration (Test chamber air) [ppm]
Formaldehyde	< 3	< 0,003
Acetaldehyde	< 3	-

2 Ammonia[#]

Test parameter:

Ammonia

Test method:

Analytics:

UV/VIS Spectrometric analysis, Method of DIBt (German Institute for Structural Engineering)

Detection limit:

30 µg/m³

Test result:

Sample-no.:	Measurement after [days]	Content (Material) [µg/m³]
A001: Silk Plaster, Prestige	28	< 30

3 Odour[#]

Test parameter:

Odour, test collective, odour test 2 days after test chamber loading

Test method:

Preparation of test sample:	see 1.1. Volatile organic compounds
Test chamber conditions:	see 1.1. Volatile organic compounds
	Air sampling: 2 days after test chamber loading
Analytcs:	following DIN EN ISO 16000-28
Evaluation:	Scale from +1 (clearly acceptable) to +0,1 (just acetable) and from -0,1 (just unacceptable) to -1 (clearly unacceptable)

Test result:

Sample:	A001: Silk Plaster, Prestige
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Evaluation (Acceptability / Average)	Description of odour
+0,3	satisfactory woody dry

Individual sensory evaluation results:

Test person	Evaluation (Acceptability)		Description of odour
	First assessment	Second assessment	
Test person 1	+0,2	+0,2	satisfactory woody dry
Test person 2	+0,4	+0,4	satisfactory odourless dry
Test person 3	+0,3	+0,3	pleasant woody dry
Test person 4	+0,2	+0,2	satisfactory woody dry
Test person 5	+0,3	+0,3	satisfactory woody dry

Cologne, 25.11.2013



Dr. rer.-nat. Tobias Schulz
(Technical Manager Representative)

Expert evaluation (AgBB-scheme)

The product **Silk Plaster, Prestige** has been product tested on behalf of SIA Silk Plaster Group, Riga.

This evaluation bases on the test criteria of the scheme Health-related Evaluation of Emissions of Volatile Organic Compounds (VOC and SVOC) from Building Products (Issued: 2012).

The results documented in the test report were evaluated as follows.

Emission analysis	Concentration (Test chamber air)		Concentration (Test chamber air)	
	after 3 days		after 28 days	
Substance	Result [mg/m ³]	Requirement [mg/m ³]	Result [mg/m ³]	Requirement [mg/m ³]
TVOC (C ₆ -C ₁₆)	0,026	≤ 10	< 0,001	≤ 1,0
TSVOC (C ₁₆ -C ₂₂)	< 0,001	-	< 0,001	≤ 0,1
R (dimensionless)	0,05	-	0	≤ 1
Sum VOC without NIK	0,015	-	< 0,001	≤ 0,1
Sum Cancerogenes (EU-Cat 1 und 2)	< 0,001	≤ 0,01	< 0,001	≤ 0,001

3 days emissionsfulfilled

28 days emissionsfulfilled

Summary evaluation

The product **Silk Plaster, Prestige** meets the requirements of AgBB-scheme.

Cologne, 25.11.2013



Karin Roth, Dipl.-Geogr.
(Projekt Manager)

Expert evaluation (M1)

The **Silk Plaster, Prestige** has been tested on behalf of SIA Silk Plaster Group, Riga.

This evaluation is based on the test criteria of the Building Information Foundation RTS.

The test results documented in the test report were evaluated as follows. The results of the emission analysis are stated as Specific Emission Rate (SER).

Test parameter	Result	Limit value Emission Class M1	Within limits [yes/no]
Emission analysis			
Measurement time 28 days after test chamber loading			
TVOC (Total volatile organic compounds)	< 0,001 mg/m ² h	< 0,2 mg/m ² h	yes
Formaldehyde	< 0,001 mg/m ² h	< 0,05 mg/m ² h	yes
Ammonia	< 0,01 mg/m ² h	< 0,03 mg/m ² h	yes
VOC (incl. VVOC and SVOC) with the following categories: IARC Group 1	< 0,001 mg/m ² h	< 0,005 mg/m ² h	yes
Odour test			
Measurement time 2 days after test chamber loading			
Odour	Acceptability +0,3	Acceptability > + 0,1	yes
	Description satisfactory woody dry	without evaluation	not applicable

Summary evaluation

The product **Silk Plaster, Prestige** fulfills the requirements of the **Emission Class M1**.

Cologne, 25.11.2013



Karin Roth, Dipl.-Geogr.
 (Projekt Manager)

Expert evaluation (VOC regulation)

The product **Silk Plaster, Prestige** has been tested on behalf of SIA Silk Plaster Group, Riga.

This evaluation bases on the test criteria of the decree no. 2011-321 of March 23rd, 2011 (VOC) of the French Ministry of Ecology, Sustainable Development, Transport and Housing.

The results documented in the test report were evaluated as follows:

1 VOC regulation

Emission analysis	Concentration (Test chamber air) [µg/m ³] after 28 days	Class			
		C	B	A	A+
Formaldehyde (ALK02)	< 3	>120	<120	<60	<10
Acetaldehyde (ALK03)	< 3	>400	<400	<300	<200
Toluene (1-1)	< 1	>600	<600	<450	<300
Tetrachloroethylene (11-1)	< 1	>500	<500	<350	<250
Xylene (1-4, 1-5, 1-6)	< 1	>400	<400	<300	<200
1,2,4-Trimethylbenzene (1-11)	< 1	>2000	<2000	<1500	<1000
1,4-Dichlorobenzene (VOC w/o LCI)	< 1	>120	<120	<90	<60
Ethylbenzene (1-2)	< 1	>1500	<1500	<1000	<750
2-Butoxyethanol (6-3)	< 1	>2000	<2000	<1500	<1000
Styrene (1-25)	< 1	>500	<500	<350	<250
TVOC	5	>2000	<2000	<1500	<1000

2 Summary evaluation

The product **Silk Plaster, Prestige** meets the requirements of the **Class A+** of the decree no. 2011-321 of March 23, 2011 of the French Ministry of Ecology, Sustainable Development, Transport and Housing.

Cologne, 25.11.2013



Karin Roth, Dipl.-Geogr.
(Projekt Manager)

Evaluation d'expert (COV décret)

Le produit **Silk Plaster, Prestige** a été testé sous la responsabilité du producteur SIA Silk Plaster Group, Riga.

Cette évaluation est basée sur les critères du décret n°2011-321 du 23 mars 2011 (COV décret) par le Ministère de l'écologie, du développement durable, des transports et du logement.

Les résultats documentés dans le rapport du test sont évalués comme suit.

1 COV décret

Analyse des émissions	Concentration (air de la chambre d'essai) [$\mu\text{g}/\text{m}^3$] au bout de 28 jours	Classe			
		C	B	A	A+
Formaldéhyde (ALK02)	< 3	>120	<120	<60	<10
Acétaldéhyde (ALK03)	< 3	>400	<400	<300	<200
Toluène (1-1)	< 1	>600	<600	<450	<300
Tétrachloréthylène (11-1)	< 1	>500	<500	<350	<250
Xylène (1-4, 1-5, 1-6)	< 1	>400	<400	<300	<200
1,2,4-Triméthylbenzène (1-11)	< 1	>2 000	<2 000	<1 500	<1 000
1,4-Dichlorobenzène (VOC sans LCI)	< 1	>120	<120	<90	<60
Ethylbenzène (1-2)	< 1	>1 500	<1 500	<1 000	<750
2-Butoxyéthanol (6-3)	< 1	>2 000	<2 000	<1 500	<1 000
Styrène (1-25)	< 1	>500	<500	<350	<250
COVT	5	>2 000	<2 000	<1 500	<1 000

2 Résumé d'évaluation

Le produit **Silk Plaster, Prestige** correspond aux exigences de la **classification A+** sur les critères du décret n° 2011-321 du 23 mars 2011 (COV décret) par le Ministère de l'écologie, du développement durable, des transports et du logement.

Cologne, 25.11.2013



Karin Roth, Dipl.-Geogr.
(Chef de projet)