

TFI Report 491505-02

Emission testing

according to the AgBB scheme for VOC from construction products
(August 2018)

Customer

ADOPEN PLASTIK VE INŐAAT SAN. A.Ő.
Antalya organize sanayi b6lgesi 2.kisim Mah. 21.
Cad. No:3
D6Őemealti/Antalya
TURKEY

Product

resilient floor covering
ADOFLOOR SPC Vinyl Product 4mm +1mm IXPE, 0,55mm

This report includes 2 pages and 1 annex(es).

Responsible at TFI

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Aachen, 14 February 2020



Dr. Bayram Aslan

The present document is provided with an advanced electronic signature.

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1 Transaction

Test order	Emission testing according to the AgBB scheme for VOC from construction products (August 2018)
Order date	22 November 2019
Your reference	Ismail Baysal
Product designation	ADOFLOOR SPC Vinyl Product 4mm + 1mm IXPE, 0,55mm
TFI sample number	19-11-0173
Date of sample receipt	29 November 2019
Sampling performed by	customer

2 Product Specification

Cf. Annex Emissions

3 Results

Emission testing requirements of AgBB evaluation scheme fulfilled

4 Annexes

AgBB/DIBt assessment mask ^a ADAM 491505-02

The annexes marked ^a are based on tests accredited in accordance with EN ISO/IEC 17025.

Evaluation according to AgBB 2018

E 491505-02

1. General Information

Testing laboratory	TFI Aachen GmbH
Responsible laboratory staff	Norbert Beckers/Tobias Dyczczak
Number of the test report	E 491505-02
Client/Applicant	ADOPEN PLASTIK VE INS.SAN.A.S
Name of the product and material number	ADOFLOOR SPC Vinyl Product 4mm +1mm IXPE, 0,55mm, TFI Probennummer / TFI sample no. 19-11-0173
Control type	Other
Date of batch production	
Date of receipt of the sample	2019-11-29
Storage of the sample until testing	geschützt vor Kontaminationen / saved for contaminations
Product Group	Other Products

Description of the construction product:

Parameter	Manufacturer	Laboratory
General description of the product	Elastischer Bodenbelag / resilient floor covering	Elastischer Bodenbelag / resilient floor covering
Total thickness	5.0 mm	5.1 mm
Area weight		7620 g/m ²
Additional information		

Comments

2. Test parameter

Date of the completion of the test specimen	2020-01-14
Preparation of the test specimen by	Birgit Hönisch
Used auxiliary materials	Glasplatte, Aluminiumfolie / glassplate, aluminiumfoil
Start of preconditioning	
Placing of the test specimen into the test chamber and start of testing	2020-01-14
Arrangement of the test specimen in the test chamber	mittig auf Gestell / centered on rack
Covering of the edges? Ratio of covered edges to uncovered edges?	Komplett umklebte Kanten / completely covered edges
Use of the break-off criteria	No
Manufacturer/type of the test chamber	TFI Aachen GmbH
Material of the test chamber	Edelstahl / stainless steel
Volume of the test chamber [m³]	0.25
Area of the test specimen [m²]	0.1
Air exchange rate [1/h]	0.5
Area specific air flow rate [m/h]	1.250
Temperature [°C]	23±1
Relative humidity [%]	50±5
Comments on testing	<p>EN 16516:2017 EN ISO 16000-11:2006 EN ISO 16000-9:2006 ISO 16000-6:2011 EN ISO 16017-1:2000 ISO 16000-3:2011</p> <p>VOC Probennahme auf Tenax, ca. 2 l und 5 l, 80 ml/min Thermodesorption / Gaschromatographie / Massenspektrometrie (TD/GC/MS) Gerstel Thermodesorber / Kaltaufgabesystem, Agilent GC/MS, unpolare Kapillarsäule</p> <p>Aldehyde und Ketone Probennahme auf DNPH-Kartuschen, ca. 50 l, 1000 ml/min Lösungsmitteldesorption / Flüssigchromatographie / Dioden Array Detektor (HPLC/DAD) Agilent HP 1200 / DAD, C18-Säule, ternäres Eluentengemisch</p> <p>VOC sampling on Tenax, approx. 2 l and 5 l, 80 ml/min Thermal desorption / gas chromatography / mass spectrometry (TD/GC/MS) Gerstel thermal desorber/ cooled injection system, Agilent GC/MS non-polar capillary column</p> <p>Aldehydes and ketones sampling on DNPH cartridges, approx. 50 l, 1000 ml/min Solvent desorption / liquid chromatography / diode array detector (HPLC/DAD) Agilent HP 1200 / DAD, C18-column, ternary eluent mixture</p>

3. Evaluation for AgBB 2018

Parameter	Day 3					Day 7				Day 28			
	[µg/m³]	[mg/m³]	[mg/m³]	[mg/m³]	[mg/m³]	[µg/m³]	[mg/m³]	[mg/m³]	[mg/m³]	[µg/m³]	[mg/m³]	[mg/m³]	[mg/m³]
TVOC	202	0.2	0.3	10.0	>10.0	-	-	0.5	>0.5	113	0.1	1.0	>1.0
Σ SVOC	0	0.00	0.03	>0.03	-	-	-	0.05	>0.05	0	0.0	0.1	>0.1
R-Value *	0.361	0.4	0.5	>0.5	-	-	-	0.5	>0.5	0.101	0	1	>1
Σ VOC w/o LCI	93	0.09	0.05	>0.05	-	-	-	0.05	>0.05	35	0.0	0.1	>0.1
Σ Carcinogenic	0	0.000	0.001	0.01	>0.01	-	-	0.001	>0.001	0	0.000	0.001	>0.001
Total							-						

DIBt Parameter

Formaldehyde	0	0.000	0.060	>0.060	-	-	-	0.060	>0.060	0	0.000	0.120	>0.120
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Additional Information

Σ VVOC	49	0	-	-	-	-	-	-	-	18	0	-	-
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*) dimension less Pass Continue Fail

4. Measurement

4.1. Day 3

Date of measurement: 2020-01-17

TVOC ISO 16000-6: 186 µg/m³

CAS-No.	Compound name	Ret. Range	RT [min]	C [µg/m ³]	Quantifi- cation	C_tol [µg/m ³]	Identifi- cation	Comment	Ri	LCI Value
78-93-3	Ethylmethylketone	VOC	6.26	28	specific	16	II		0.001	20000
141-78-6	Ethyl acetate	VOC	6.44	7	Tol. equiv.	7	III		-	-(VVOC)
108-88-3	Toluene	VOC	9.031	4	specific	4	I		0.000	2900
	Not identified VOC	VOC	9.207		Tol. equiv.	13	III		-	-
108-65-6	2-Methoxy-1-methylethyl acetate	VOC	11.068	23	specific	13	II		0.009	2700
100-52-7	Benzaldehyde	VOC	13.826	5	specific	4	II		0.056	90
108-95-2	Phenol	VOC	13.942	6	specific	5	II		0.086	70
	Not identified VOC	VOC	14.996		Tol. equiv.	1	III		-	-
104-76-7	2-Ethyl-1-hexanol	VOC	15.364	47	specific	44	II		0.157	300
	Not identified VOC	VOC	16.119		Tol. equiv.	3	III		-	-
98-86-2	Acetophenone	VOC	16.557	3	specific	3	II		0.000	490
112-40-3	n-Dodecane	VOC	19.789	2	specific	1	III		0.000	6000
	Not identified VOC	VOC	21.555		Tol. equiv.	2	III		-	-
	Not identified VOC	VOC	21.972		Tol. equiv.	73	III		-	-
629-59-4	n-Tetradecane	VOC	24.277	1	specific	1	II		0.000	6000
	Other saturated n-alcohols, C7 to C13	VOC	25.704	3	specific	1	II	1-Dodecanol	0.000	1700
544-76-3	n-Hexadecane	VOC	27.881	1	specific	1	II		0.000	6000

CAS-No.	Compound name	Ret. Range	RT [min]	C [$\mu\text{g}/\text{m}^3$]	Quantification	C_tol [$\mu\text{g}/\text{m}^3$]	Identification	Comment	Ri	LCI Value
50-00-0	Formaldehyde	VVOC	1,005.3	0	DNPH		I		0.000	100 (VVOC)
67-64-1	Acetone	VVOC	1,007.3	27	DNPH		I		0.023	1200 (VVOC)
123-38-6	Propanal	VVOC	1,007.8	22	DNPH		I		0.029	750 (VVOC)

4.2. Day 28

Date of measurement: 2020-02-11

TVOC ISO 16000-6: 88 µg/m³

CAS-No.	Compound name	Ret. Range	RT [min]	C [µg/m ³]	Quantification	C_tol [µg/m ³]	Identification	Comment	Ri	LCI Value
78-93-3	Ethylmethylketone	VOC	6.284	22	specific	13	II		0.001	20000
141-78-6	Ethyl acetate	VOC	6.464	5	Tol. equiv.	5	III		-	-(VVOC)
64-19-7	Acetic acid	VOC	6.605	8	specific	1	II		0.007	1200
116-09-6	1-Hydroxyacetone	VOC	7.489	15	specific	4	II		0.007	2100
108-88-3	Toluene	VOC	9.049	3	specific	3	I		0.000	2900
	Not identified VOC	VOC	9.233		Tol. equiv.	6	III		-	-
108-65-6	2-Methoxy-1-methylethyl acetate	VOC	11.077	14	specific	8	II		0.005	2700
100-52-7	Benzaldehyde	VOC	13.83	3	specific	2	II		0.000	90
108-95-2	Phenol	VOC	13.943	3	specific	5	II		0.000	70
104-76-7	2-Ethyl-1-hexanol	VOC	15.354	19	specific	15	II		0.063	300
98-86-2	Acetophenone	VOC	16.554	1	specific	1	II		0.000	490
	Not identified VOC	VOC	17.226		Tol. equiv.	4	III		-	-
65-85-0	Benzoic acid	VOC	18.629		Tol. equiv.	1	III		-	-
112-40-3	n-Dodecane	VOC	19.779	1	specific	1	III		0.000	6000
	Not identified VOC	VOC	21.95		Tol. equiv.	24	III		-	-
	Other saturated n-alcohols, C7 to C13	VOC	25.696	4	specific	1	II	1-Dodecanol	0.000	1700
50-00-0	Formaldehyde	VVOC	1,005.3	0	DNPH		I		0.000	100 (VVOC)

CAS-No.	Compound name	Ret. Range	RT [min]	C [$\mu\text{g}/\text{m}^3$]	Quantification	C_tol [$\mu\text{g}/\text{m}^3$]	Identification	Comment	Ri	LCI Value
67-64-1	Acetone	VVOC	1,007.3	11	DNPH		I		0.009	1200 (VVOC)
123-38-6	Propanal	VVOC	1,007.8	7	DNPH		I		0.009	750 (VVOC)

5. Images

5.1. Specimen image

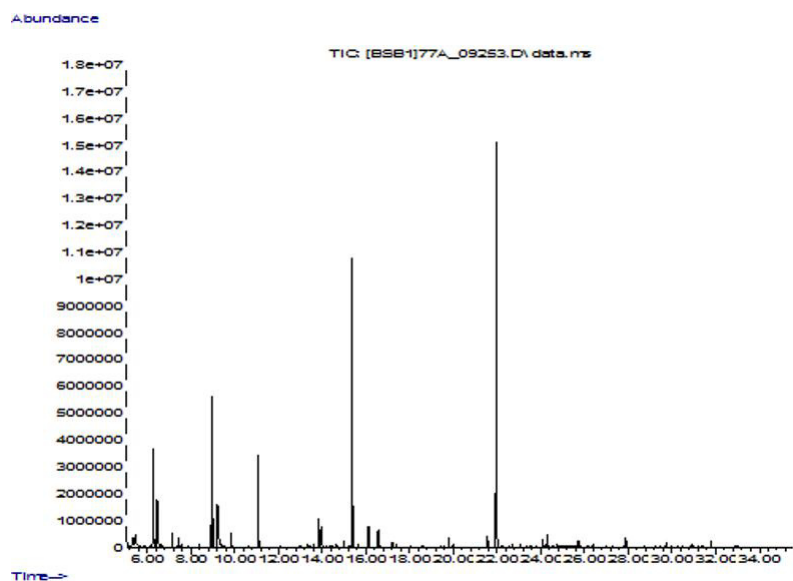


5.2. Product image



6. Chromatograms

6.1. Day 3



6.2. Day 28

