

TFI-Report 22-000996-01

Emission Testing
according to the AgBB scheme for VOC from construction products
(August 2021)

Customer Dutch Design Group B.V.
Bachstraat 11
1077 GD Amsterdam

Product Beschichtungen/Coatings
Senso Sustainable Floor

This report includes 19 pages.



Aachen, 29.11.2022

Dr. Andreas Zoëga
Head of Testing Laboratory



The present document is provided with an advanced electronic signature.

This report only applies to the tested samples and has been established to the best of our knowledge. Only the entire report shall be reproduced. Under no circumstances, extracts shall be used. Furthermore, we apply the "General Terms and Conditions for the Execution of Contracts" of the TFI Aachen GmbH, also with regard to the order execution.

The test result does not include any addition or deduction for uncertainties due to measurement, sample preparation, sample collection and production tolerances.

1 Transaction

Order date	14.10.2022
Your reference	Joost Versteeg
Product designation	Senso Sustainable Floor
Batch	-
Article number	-
TFI sample number	2201768
Date of manufacture	04.10.2022 to 28.10.2022
Date of sample receipt	18.10.2022
Sampling performed by	Auftraggeber /Customer

Test order:

Emission testing according to the AgBB scheme for VOC from construction products (August 2021)

Responsible at TFI:



Sezer Yildiz
+49 241 9679143
s.yildiz@tfi-aachen.de



2 Product description

Thickness in mm:	*keine Angabe/not specified
Area density in g/m ² :	*keine Angabe/not specified
Type of delivery:	*keine Angabe/not specified
	*Angabe des Auftraggebers/Customer Information

Cf. annex TFI-Assessment mask

3 Results

Emission testing according to the AgBB scheme for VOC from construction products (August 2021)
Requirements according to AgBB: fulfilled

The measurement results are evaluated without consideration of the measurement uncertainty with reference to compliance with limit values, unless otherwise specified by the test standard.

4 Annexes

Preparation of test specimen

TFI-Assessment mask ^{a, b}

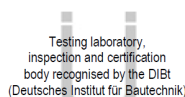
Sampling report

Test Method ^c

a ... Die mit a gekennzeichneten Ergebnisse basieren auf nach EN ISO/IEC 17025 akkreditierten Prüfungen./The reports marked a are based on tests accredited in accordance with EN ISO/IEC 17025.

b ... Die mit b gekennzeichneten Prüfmethode beinhaltet die Bestimmung der Emissionen./The test method marked b includes the determination of the emissions.

c ... Beschreibung der Prüfmethode zur Bestimmung der Emissionen./Description of the test method for determining emissions.





Annex HP – Preparation of test specimen

1 Individual Components

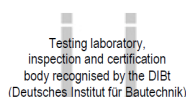
Product designation	Senso Sustainable Floor
TFI sample number	2201753
Area of the specimen	0.1 m ² , approx. 38 cm x 26.5 cm
Packaging	aluminium foil

Component 1

TFI sample number	2201755
Product name	TT25M Comp. A
Product description	sealing
Article number	84257783
Batch no.	22080656
Date of manufacture	--
Colour	colourless
Sample quantity	--
Packaging	Plastic container

Component 2

TFI sample number	2201754
Product designation	TT25M Comp. B
Product description	curing agent
Article number	--
Batch no.	22060928
Date of manufacture	--
Colour	colourless
Sample quantity	--
Packaging	Plastic bottle





2 Production

Production period 28 October 2022
 Produced by testing laboratory/TFI Aachen GmbH, last layer (sealing)
 Specimen Floor coating on metal plate
 Area of the specimen 0.1 m², approx. 38 cm x 26.5 cm

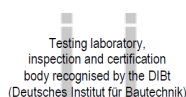
1st Layer

Sealing: TT25M
 Nominal quantity to be applied 75 g/m²
 Actual quantity applied 75 g/m²
 Mixing ratio component A : component B = 90:10
 Mixing stirring and repotting
 Application technique brush
 Date of application 28 October 2022, 8:18 a.m.

Deviation - none -

3 Conditioning

Conditioning period 28 October 2022 - 31 October 2022 (3 days)
 Temperature 23 °C ± 2 °C
 Relative air humidity 50 % rH ± 5 % rH
 Deviation - none -



Evaluation according to AgBB 2021

1. General Information

Testing laboratory	TFI Aachen GmbH
Responsible laboratory staff	Norbert Beckers / Tobias Dyczczak
TFI sample number	2201768
Control type	Sonstige / Other
Date of batch production	04.10.2022 - 06.10.2022
Storage of the sample until testing	geschützt vor Kontaminationen / saved for contaminations
Product group	Fußbodenbeschichtung / floor coating

Description of the construction product

Parameter	Manufacturer	Laboratory
General description of the product	Fußbodenbeschichtung / floor coating	Fußbodenbeschichtung / floor coating
Total thickness [mm]		
Area weight [g/m ²]		
Additional information	keine / no	keine / no

Comments:

None

2. Test parameter

Date of the completion of the test specimen	28.10.2022
Preparation of the test specimen by	Norbert Beckers
Used auxiliary materials	Glasplatte, Aluminiumfolie / glassplate, aluminiumfoil
Start of preconditioning	28.10.2022
Placing test specimen into the test chamber and start of testing	31.10.2022
Arrangement of the test specimen in the test chamber	mittig auf Gestell / centered on rack
Covering of the edges	Kanten abgedeckt / Edges covered
Ratio of covered edges to uncovered edges	-
Use of the break-off criteria	Nein / 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]	1.25
Air velocity above the sample [m/s]	0.1 up to 0.3
Temperature [°C]	23 ± 1
Relative humidity [%]	50 ± 5

Test method / Requirements

DIN EN 16516:2020-10	Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air
DIN EN ISO 16000-11:2006-06	Indoor air - Part 11: Determination of the emission of volatile organic compounds from building products and furnishing - Sampling, storage of samples and preparation of test specimens
DIN EN ISO 16000-9:2008-04	Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method
DIN ISO 16000-6:2022-03	Indoor air - Part 6: Determination of organic compounds (VOC, VOC, SVOC) in indoor and test chamber air by active sampling on sorbent tubes, thermal desorption and gas chromatography using MS or MS FID
DIN EN ISO 16017-1:2001-10	Indoor, ambient and workplace air - Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography - Part 1: Pumped sampling
DIN ISO 16000-3:2013-01	Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air - Active sampling method
DIN ISO 16000-28:2021-11	Indoor air - Part 28: Determination of odour emissions from building products using test chambers
ISO 7150-1:1984-06	Water quality; Determination of ammonium; Part 1 : Manual spectrometric method

VOC

Sampling on Tenax, sample volume approx. 2 l and 5 l, sampling with 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

Aldehydes and ketones

Sampling on DNPH cartridges, sample volume approx. 50 l, sampling with 1000 ml/min
 Solvent desorption / liquid chromatography / diode array detector (HPLC/DAD)
 Agilent HP 1200 / DAD, C18-column, ternary eluent mixture

Ammonia

Air sampling using an impinger with diluted sulfuric acid, sampling volume approx. 100 L, sampling with 1 L/min, neutralization, color reaction, photometric determination

Odour according to ISO 16000-28 (acceptance and intensity)

Passive sampling in Nalophan sample container, evaluation of the odor by at least 15 or 10 testers

Nitrosamines

Sampling using ThermoSorb-N adsorbers, active sampling, sample volume approx. 200 L, sampling with 1 L/min



3. Evaluation according to AgBB 2021

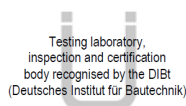
Parameter	Requirements after 3 days [mg/m³]	Results after 3 days [mg/m³]	Requirements after 7 days [mg/m³]	Results after 7 days [mg/m³]	Requirements after 28 days [mg/m³]	Results after 28 days [mg/m³]
TVOC (AgBB)	≤ 10	2.509	≤ 0.5	1.655	≤ 1.0	0.368
TSVOC		< 0.005	≤ 0.05	< 0.005	≤ 0.1	< 0.005
Total VOC without LCI		0.044	≤ 0.05	0.032	≤ 0.1	0.006
R-Value *		2.929	≤ 0.5	2.184	≤ 1	0.659
Formaldehyde		< 0.002	≤ 0.06	< 0.002	≤ 0.12	< 0.002
Carcinogenic	total ≤ 0.01	< 0.001	each ≤ 0.001	< 0.001	each ≤ 0.001	< 0.001

* dimensionless

Remarks to results



Notified Body
No. 1656



Testing laboratory,
inspection and certification
body recognised by the DIBt
(Deutsches Institut für Bautechnik)



Accredited for the methods indicated in
the partial reports to the DAKKS certificate

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HRB 8157 Aachen
UST-IdNr. DE209411312
Managing Director
Dr.-Ing. Bayram Aslan

4. List of emitting components

On the 3rd day

Date of measurement

03.11.2022

CAS-No.	Compound	Ret. Range	RT [min]	c [$\mu\text{g}/\text{m}^3$]	Quantification	c Tol. eq. [$\mu\text{g}/\text{m}^3$]	Identification	R-Value	LCI-Value
1	not identified VOC	VOC	6,31	2	c	2	3	-	without LCI
2-9	other saturated aliphatic hydrocarbons, C6-C8	VOC	6,38	23	c	23	3	0,002	14000
2-9	other saturated aliphatic hydrocarbons, C6-C8	VOC	6,431	5	c	5	3	0,000	14000
121-44-8	Triethylamine	VOC	7,043	110	a	75	1	1,833	60
2004-67-3	4-Penten-2-ol, 4-methyl-	VOC	8,345	13	c	13	3	-	without LCI
108-65-6	1-Methoxy-2-propyl acetate	VOC	10,635	2	a	1	1	0,000	650
1	not identified VOC	VOC	11,133	3	c	3	3	-	without LCI
106-42-3	p-Xylene	VOC	11,545	1	a	1	1	0,000	500
108-94-1	Cyclohexanone	VOC	11,615	3	a	2	1	0,000	410
111-76-2	Ethanol, 2-butoxy-	VOC	11,708	27	a	14	1	0,017	1600
107-41-5	Hexylene glycol	VOC	12.38-12.526	1600	a	860	1	0,457	3500
1	not identified VOC	VOC	13,75	5	c	5	3	-	without LCI
1	not identified VOC	VOC	13,824	26	c	26	3	-	without LCI
1	not identified VOC	VOC	14,178	3	c	3	3	-	without LCI
111109-77-4	Dipropylenglycol dimethylether	VOC	14.39 - 14.75	670	a	630	1	0,515	1300
104-76-7	1-Hexanol, 2-ethyl-	VOC	14,902	8	a	5	1	0,027	300
872-50-4	2-Pyrrolidinone, 1-methyl-	VOC	15,266	15	a	6	1	0,008	1800
1	not identified VOC	VOC	16,916	3	c	3	3	-	without LCI
1	not identified VOC	VOC	19,224	2	c	2	3	-	without LCI
128-37-0	Butylated Hydroxytoluene	VOC	25,907	7	a	9	1	0,070	100
106-79-6	Decanedioic acid, dimethyl ester	SVOC	28,142	1	c	1	3	-	without LCI
2	not identified SVOC	SVOC	30,169	2	c	2	3	-	without LCI
50-00-0	Formaldehyde	0	1005,3	0	0	-	0	0,000	100

On the 7th day

Date of measurement

07.11.2022

CAS-No.	Compound	Ret. Range	RT [min]	c [$\mu\text{g}/\text{m}^3$]	Quantification	c Tol. eq. [$\mu\text{g}/\text{m}^3$]	Identification	R-Value	LCI-Value
96-37-7	Cyclopentane, methyl-	VOC	6,304	1	c	1	3	-	without LCI
2-9	other saturated aliphatic hydrocarbons, C6-C8	VOC	6,372	23	c	23	3	0,002	14000
2-9	other saturated aliphatic hydrocarbons, C6-C8	VOC	6,422	6	c	6	3	0,000	14000
121-44-8	Triethylamine	VOC	7,037	85	a	53	1	1,417	60
2004-67-3	4-Penten-2-ol, 4-methyl-	VOC	8,335	12	c	12	3	-	without LCI
1	not identified VOC	VOC	11,144	2	c	2	3	-	without LCI
108-94-1	Cyclohexanone	VOC	11,623	3	a	1	1	0,000	410
111-76-2	Ethanol, 2-butoxy-	VOC	11,708	22	a	7	1	0,014	1600
107-41-5	Hexylene glycol	VOC	12.34-12.42	1000	a	710	1	0,286	3500
108-83-8	4-Heptanone, 2,6-dimethyl-	VOC	13,397	4	c	4	3	-	without LCI
1	not identified VOC	VOC	13,752	3	c	3	3	-	without LCI
1	not identified VOC	VOC	13,825	13	c	13	3	-	without LCI
1	not identified VOC	VOC	14,18	1	c	1	3	-	without LCI
1	not identified VOC	VOC	14,28	7	c	7	3	-	without LCI
111109-77-4	Dipropylenglycol dimethylether	VOC	14.38 - 14.75	460	a	420	1	0,354	1300
104-76-7	1-Hexanol, 2-ethyl-	VOC	14,908	8	a	3	1	0,027	300
872-50-4	2-Pyrrolidinone, 1-methyl-	VOC	15,261	11	a	3	1	0,006	1800
1	not identified VOC	VOC	19,165	1	c	1	3	-	without LCI
128-37-0	Butylated Hydroxytoluene	VOC	25,9	8	a	8	1	0,080	100
106-79-6	Decanedioic acid, dimethyl ester	SVOC	28,139	1	c	1	3	-	without LCI
2	not identified SVOC	SVOC	30,166	2	c	2	3	-	without LCI
50-00-0	Formaldehyde	VVOC	1005,3	0	d	-	1	0,000	100

On the 28th day

Date of measurement

28.11.2022

CAS-No.	Compound	Ret. Range	RT [min]	c [$\mu\text{g}/\text{m}^3$]	Quantification	c Tol. eq. [$\mu\text{g}/\text{m}^3$]	Identification	R-Value	LCI-Value
2-9	other saturated aliphatic hydrocarbons, C6-C8	VOC	6,343	17	c	17	3	0,001	14000
2-9	other saturated aliphatic hydrocarbons, C6-C8	VOC	6,393	5	c	5	3	0,000	14000
121-44-8	Triethylamine	VOC	7,004	27	a	16	1	0,450	60
2004-67-3	4-Penten-2-ol, 4-methyl-	VOC	8,286	6	c	6	3	-	without LCI
1	not identified VOC	VOC	10,811	3	c	3	3	-	without LCI
108-94-1	Cyclohexanone	VOC	11,537	2	a	1	1	0,000	410
111-76-2	Ethanol, 2-butoxy-	VOC	11,621	8	a	1	1	0,005	1600
107-41-5	Hexylene glycol	VOC	12,171	160	a	130	1	0,046	3500
1	not identified VOC	VOC	13,729	1	c	1	3	-	without LCI
111109-77-4	Dipropylenglycol dimethylether	VOC	14,28 - 14,64	140	a	120	1	0,108	1300
104-76-7	2-Ethyl-1-hexanol	VOC	14,799	1	a	1	1	0,000	300
128-37-0	Butylated Hydroxytoluene	VOC	25,821	5	a	7	1	0,050	100

5. Images

5.1 Specimen image in test chamber

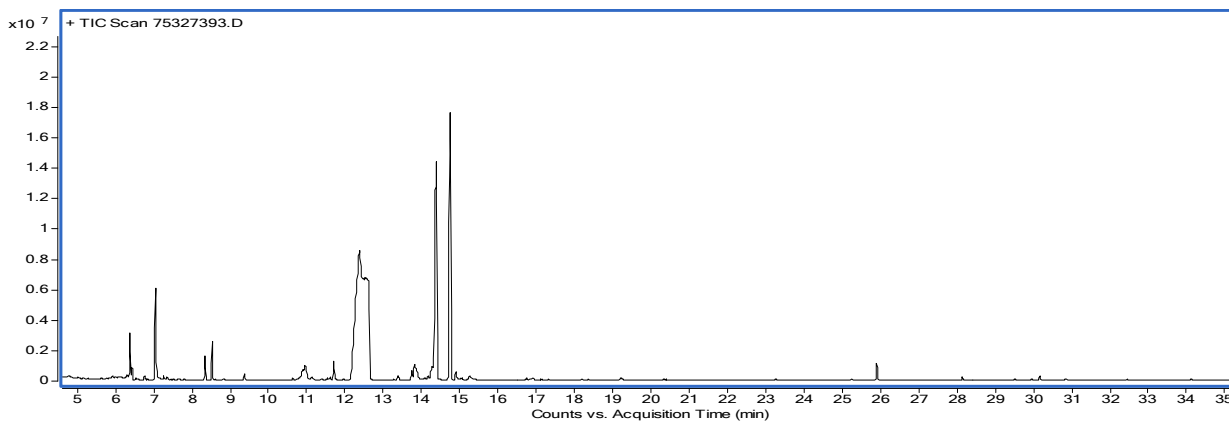


5.2 Product image after testing

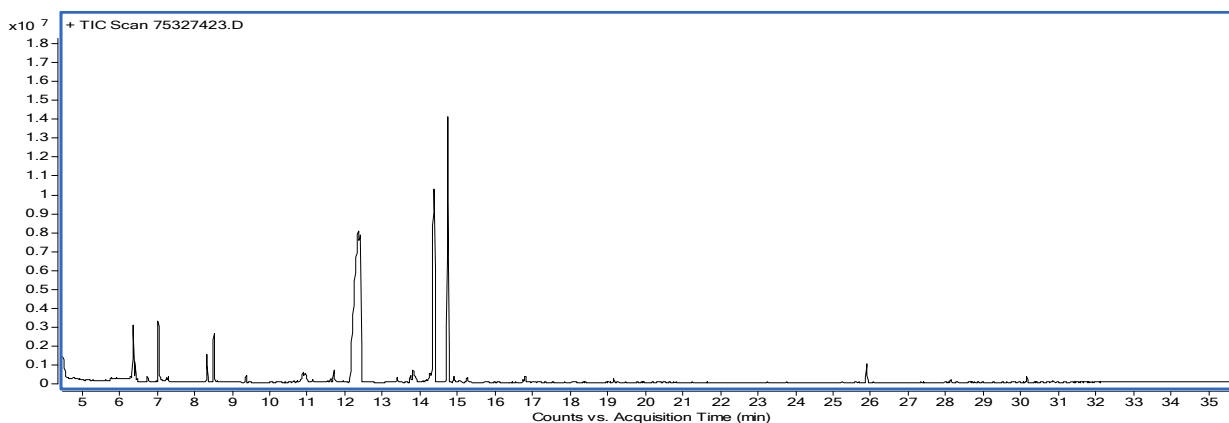


6. Chromatograms

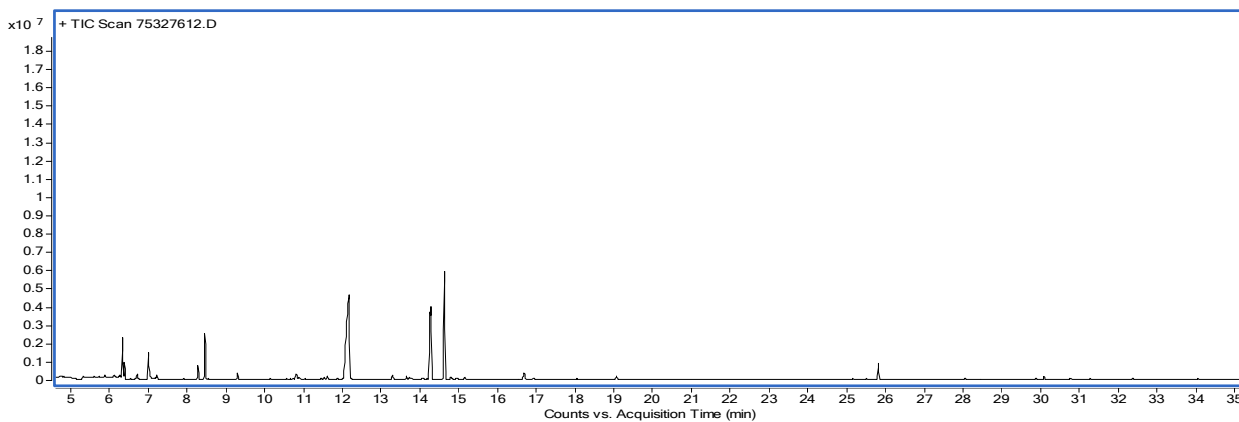
3rd day



7th day



28th day



Herstellprotokoll Systemaufbauten (Auftrag Nr.)

Prüfabor:	TFI Aachen GmbH	Probennehmer: <small>(Organisation und Name des Probennehmers)</small>	
Name des Herstellers / Händlers am Probenahmeort:	Senso	ProduktHersteller: <small>(falls abweichend vom Firmennamen am Probenahmeort)</small>	Senso
Produktname: <small>(bindend für Prüfbericht)</small>	Senso Sustainable Floor	Artikel-Nr. / Gruppe, Serie:	
Gruppe/Serie	<input type="checkbox"/> CE: 1658-CPR- <input type="checkbox"/> DIBt: <input type="checkbox"/> TÜV-Interior: 70 710	Probearart:	<input type="checkbox"/> Sportbodensystem punkt-/mischelastisch <input type="checkbox"/> Sportbodensystem mit elastischer Schicht (flächen-/kombielastisch) <input type="checkbox"/> Sportbodensystem mit elastischer Konstruktion (flächen-/kombielastisch)
Chargen-Nr. bzw. Kennung der Probe:		Produktionszeitraum der Probe:	vom 3-10-2022 bis 6-10-2022
Datum der Probenahme / Uhrzeit:		Lagerort:	
Probe gezogen:	<input checked="" type="checkbox"/> aus laufender Produktion <input checked="" type="checkbox"/> aus Lagerbeständen <input type="checkbox"/> aus Rückstellproben	Art der Lagerung vor Entnahme:	<input type="checkbox"/> offen <input checked="" type="checkbox"/> verpackt
Besonderheiten: <small>(mögliche negative Einflüsse durch Emissionen am Probenahmeort, Unklarheiten, Fragen, etc.)</small>		Entnahme als Rückstellprobe	<input type="checkbox"/> Gasbetriebene Gabelstapler
Flammschutzmittel (Pflichtangabe):	Enthalten eine oder mehrere Komponenten ein Flammschutzmittel?		<input checked="" type="checkbox"/> ja <input type="checkbox"/> nein
Vorgesehene Prüfungen:	<input type="checkbox"/> Emissionsprüfung nach DIBt (Erstprüfung) <input type="checkbox"/> Bestimmung der Brandklasse (RP) <input type="checkbox"/> TÜV-Interior Zulassungs-Erstprüfung <input type="checkbox"/> TÜV-Interior Überwachung Qualität	<input checked="" type="checkbox"/> Emissionsprüfung nach DIBt (Fremdüberwachung) <input type="checkbox"/> RP red. Probenzahl <input type="checkbox"/> Konstruktionsmerkmale <input type="checkbox"/> Standard	<input type="checkbox"/> Kleinbrenner (KB) <input type="checkbox"/> Sonstiges: <input type="checkbox"/> Premium <input type="checkbox"/> Vergabekriterien V
schematische Darstellung des Aufbaus (Pflichtangabe)	<input checked="" type="checkbox"/> liegt bei	<input type="checkbox"/> wird innerhalb von drei Tagen nachgereicht	
Aufbauanleitung:	<input type="checkbox"/> liegt bei	<input type="checkbox"/> wird innerhalb von drei Tagen nachgereicht	

Hiermit bestätigen die Unterzeichner die Richtigkeit der oben gemachten Angaben. Die Probe wurde eigenhändig gemäß Probenahmeanleitung ausgewählt, entnommen und verpackt.

Unterschrift Probennehmer (bei Probenahme durch Dritte)

Unterschrift Unternehmen



Prüfkörperaufbau: - Nennung der verwendeten Materialien von unten beginnend, eine Zelle je verwendetem Material - Probengröße # für Emissionsmessungen 305 x 420 mm # für Radiant-Panel-Test: 105 x 23 cm # für Small flame test: 9 x 25 cm - Achtung bei PUR-Beschichtungen für Emissionsprüfungen: Die letzte Schicht muss im Labor der Prüfstelle aufgetragen werden! * bei flüssigen oder pastösen Materialien									
Materialbezeichnung	Artikelnummer	Produktspezifikation (abZ, GEV, Norm, ...)	Charge	Herstellungsdatum bzw. Mindesthaltbarkeit * + Art der Verpackung	Schichtdicke/ Auftragsmenge*	Mischungs- verhältnis*	Applikation mit *	Trocknungs- zeit*	
XT One	88847983		22060724 ?		300 gram/m ²	60:40	Kelle	4 Stunden	
PP40	80804083		21050116. ?		1500 gram/m ²	83,2:16,8	Kelle	13 Stunden	
PR4000	80824083		22020711 22100025 ?		2800 gram/m ²	77:23	Kelle	16 Stunden	
TT25M (wet sample for TFII)	84257783		22080282 22080636 ?		75 gram/m ²	90:10	Rolle	nach 6 St. trocken, nach 48 begehbar	

Description of the test method for determining emissions

1 General information

1.1 Laboratory-specific sampling and analysis

Procudure	Method	Quantification limit	Sampling volume ¹	Analytical principle
Emission test chamber	DIN ISO 16000-9; DIN EN 16516	-	-	-
Sampling VOC	DIN ISO 16000-6; DIN EN 16516	-	2 L und 5 L	Tenax TA
Analysis VOC	DIN ISO 16000-6; DIN EN 16516	1 µg/m ³ (Phenol 5 µg/m ³)	-	GC-MS
Sampling aldehydes	DIN ISO 16000-3; DIN EN 16516	-	50 L	DNPH
Analysis aldehydes	DIN ISO 16000-3; DIN EN 16516	3 - 5 µg/m ³	-	HPLC
Sampling ammonia	DIN EN 16516		100 L	Impinger with dil. H ₂ SO ₄
Analysis ammonia	ISO 7150-1	24 µg/m ³		Photometer

1.2 Emission test chamber - loading

Before loading the cleaned stainless steel test chamber, the background concentration of the empty, clean-air purged, test chamber is checked. The chamber operating parameters are described under the test parameters in the report.

The test pieces are placed in the centre of the test chamber in a suitable size. Sampling is usually carried out 72 h after the test specimens have been placed in the test chamber. The time of sampling depends on the specifications of the respective requirements.

Based on the reference room size (3 m x 4 m x 2.5 m), the test pieces must be tested with the following loading factors depending on the product type:

- 1,0 m²/m³ for walls;
- 0,4 m²/m³ for floor or ceiling;
- 0,05 m²/m³ for small surfaces, e.g. a door, window;
- 0,007 m²/m³ for very small surfaces, e.g. sealants.

If applicable, sums of the loading factors can also be applied.

¹ Other sampling volumes are possible according to the requirements

2 Sampling

Sampling for the determination of VOC, VVOC and SVOC by means of Tenax TA is done by active sampling with a sampling flow of 50 - 100 ml/min. Sampling for the determination of aldehydes and ketones in the VVOC range using cartridges with 2,4-dinitrophenylhydrazine (DNPH) coated silica gel is done via active sampling with a sampling flow of 1000 ml/min. Sampling for the determination of ammonia using an impinger with diluted sulphuric acid is carried out via active sampling with a sampling flow of 1000 ml/min.

3 Testing

3.1 VOCs, SVOCs and VVOCs by gas chromatography and mass spectroscopy (GC-MS)

The analysis of the substances absorbed on Tenax TA is carried out by GC-MS (automated thermodesorption coupled with gas chromatography and mass spectroscopy) using a non-polar 60 m column with 0.25 mm ID and 0.25 µm film, according to the specifications from EN 16516, ISO 16000 -6.

To identify individual VOCs, the samples are analysed with the MS in scan mode. The identification of individual VOCs in the sample is done using the total ion chromatogram (TIC) of the mass spectrometer and the retention time of the compound. As many compounds as possible are identified, especially with regard to target compounds with a LCI value. The compound-specific quantification is carried out via a multi-point calibration with the aid of an internal standard of the corresponding target components.

Identified carcinogenic VOCs are listed. If a carcinogenic VOC is not listed, it has not been detected.

All substances (including non-target or unidentified compounds) are quantified as toluene equivalent.

The results of the individual substances are divided into three groups depending on their retention time when analysed with a non-polar column:

- VOCs are defined as: All substances eluting between and including n-hexane and n-hexadecane.
- SVOC are defined as: All substances eluting after n-hexadecane and before and including n-docosane.
- VVOC are defined as: All substances eluting before n-hexane

The sum of volatile organic compounds (TVOC) is formed by adding all individual VOCs with a concentration of mostly $\geq 5 \mu\text{g}/\text{m}^3$. Depending on the test specification, the TVOC value is given either as toluene equivalent and/or as substance-specific..

5 Quality assurance

The test chambers are checked according to the requirements of the standards for e.g. chamber recovery, leakproofness, background concentration, compliance with temperature and humidity specifications and air velocity.

Sampling and analytics are monitored in accordance with the requirements from the standards by e.g. the following quality assurance measures:

- Sampling is carried out as double sampling, partly with different sampling volumes, taking into account the breakthrough volume.
- As a rule, 5-point calibration is carried out in a suitable concentration range.
- Before loading the test chamber, the background concentration is checked and taken into account in the sample result.
- Field blank sampling is performed on sampling days.
- Instrument qualification is carried out according to standard requirements. For example, in terms of sensitivity, chromatographic resolution, linearity, desorption efficiency and stability of the system (keeping control charts).

6 Uncertainty of the test method

The uncertainties for all target components from the overall procedure can be provided on request.