

Fermacell GmbH Werk Seesen
Industriegebiet Münchehof
38723 Seesen

Test Report No. 50400-005-006 (SUMMARY)

The following summary report 50400-005-006 contains an excerpt of the appraisals with the test report number 50400-005 and 50400-006.

Client:	Fermacell GmbH Werk Seesen, Seesen
Sample description by client:	FERMACELL Powerpanel HD (A005) FERMACELL Powerpanel H2O (A006)
Sampled by:	Dipl.-Architekt Torsten Warnecke
Date of sampling:	23.06.2015
Location of sampling:	FERMACELL Werk Seesen & Heerte
Date of production:	05.06.2015
Date of arrival of sample:	25.06.2015
Date of report:	07.08.2015
Number of pages of report:	8
Testing targets:	VOC (volatile organic compounds) Formaldehyde and Acetaldehyde Odour Organic halogenic compounds (AOX / EOX)* Phthalates **
Testing laboratory:	eco-INSTITUT Germany GmbH, Cologne except * subcontracted # outside accreditation

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Sample view

Internal Sample-no.	Description by customer	Condition upon delivery	Type of sample
A005	Fermacell Powerpanel HD	without objection	Gypsum-Fibreboard
A006	Fermacell Powerpanel H2O	without objection	Gypsum-Fibreboard

A Testing methods

Parameter	Testing method
VOC (volatile organic compounds)	DIN EN ISO 16000-6; TS 16516
Formaldehyde and Acetaldehyde	DIN EN 16000-3
Odour	according to VDA recommendation 270 at 50 % humidity
Organic halogenic compounds (AOX / EOX)	AOX: elution with purest water in soxleth-apparatus, mixing of 50 ml of the elution with 50 mg activated carbon, combustion of organic bound halogens in oxygen flow, micro coulometric determination of halogen content EOX: clean up on silicagel, extraction with ethyl acetate, combustion of extract in oxygen flow, micro coulometric determination of halogen content.
Phthalates	Extraction, analysis with GC/MS

B Testing results and evaluation

1 FERMACELL Powerpanel HD

Test parameter	Result / Emission	Limit value	Within limits [yes/no]
Emission test			
Measurement time: 3 days after test chamber loading			
TVOC (total volatile organic compounds)	5 µg/m ³	≤ 3.000 µg/m ³	yes
VOC (incl. VVOC and SVOC) 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, K2, M1, M2, R1, R2; IARC: Group 1 and 2A; DFG (MAK list): Categories III1, III2	< 1 µg/m ³	≤ 1 µg/m ³	yes
Measurement time: 7 days after test chamber loading			
TVOC (total volatile organic compounds)	1 µg/m ³	≤ 150 µg/m ³	yes
VOC (sum) without NIK	< 1 µg/m ³	≤ 50 µg/m ³	yes
VOC (individual values):			
Sum of bicyclic terpenes	< 1 µg/m ³	≤ 100 µg/m ³	yes
Sum of sensitising materials with the following categorisations: DFG (MAK list): Category IV, German Federal Institute for Risk Assessment lists: Cat A, TRGS 907	< 1 µg/m ³	≤ 50 µg/m ³	yes
Sum of VOC (incl. VVOC and SVOC) with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2; TRGS 905: K3; IARC: Group 2B; DFG (MAK list): Category III3	< 1 µg/m ³	≤ 25 µg/m ³	yes
Sum C9 – C14 Alkanes / Isoalkanes	< 1 µg/m ³	≤ 100 µg/m ³	yes
Sum C4 – C11 Aldehydes, acyclic, aliphatic	< 1 µg/m ³	≤ 50 µg/m ³	yes
Sum C9 – C15 Alkylbenzenes	< 1 µg/m ³	≤ 50 µg/m ³	yes
Sum Cresols	< 1 µg/m ³	≤ 3 µg/m ³	yes
VOC (individual substances):			
Styrene	< 1 µg/m ³	≤ 5 µg/m ³	yes
Methylisothiazolinone (MIT)	< 1 µg/m ³	≤ 1 µg/m ³	yes
Benzaldehyde	< 1 µg/m ³	≤ 10 µg/m ³	yes
2-Ethyl-1-hexanol	< 1 µg/m ³	≤ 50 µg/m ³	yes
Ethylenglykolmonobutylether	< 1 µg/m ³	≤ 50 µg/m ³	yes
2-Hexoxyethanol	< 1 µg/m ³	≤ 50 µg/m ³	yes
Methylisobutylketon	< 1 µg/m ³	≤ 50 µg/m ³	yes
2-Butoxyethylacetat	< 1 µg/m ³	≤ 100 µg/m ³	yes
TSVOC (total semi-volatile organic compounds)	< 1 µg/m ³	≤ 50 µg/m ³	yes
R value	0	≤ 0,5	yes
Formaldehyde	3 µg/m ³	≤ 12 µg/m ³	yes
Acetaldehyde	< 2 µg/m ³	≤ 12 µg/m ³	yes
Odour	1,5	≤ Grade 3 (24 hours after loading of desiccator)	yes

Remark: The test result referred to the submitted test sample exclusively. The validity of the report will end immediately at any alternation of material composition or in manufacturing process. Publishing in parts requires authorisation.

Test parameter	Result	Limit	Within limits [yes/no]
Content analysis			
AOX (adsorbable organic halogenated compounds)	< 0.5 mg/kg	≤ 1.0 mg/kg	yes
EOX (extractable organic halogenated compounds)	< 2.0 mg/kg	≤ 2.0 mg/kg	yes
Phthalates (sum) DMP, DEP, DPrP, DBP, BBP, DEHP, DNOP, DIDP, BMEP, DHP, DPP, DINP, DIDP, DIHP, DHNUP, DEHT	n.d.1)	≤ 500 mg/kg	yes

1) n.d. = not detectable; Determination value: 4 mg/kg except DINP, DIDP (20 mg/kg), DIHP (50 mg/kg), DHNUP (100 mg/kg)

2 FERMACELL Powerpanel H2O

Test parameter	Result / Emission	Limit value	Within limits [yes/no]
Emission test			
Measurement time: 3 days after test chamber loading			
TVOC (total volatile organic compounds)	16 µg/m ³	≤ 3.000 µg/m ³	yes
VOC (incl. VVOC and SVOC) 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, K2, M1, M2, R1, R2; IARC: Group 1 and 2A; DFG (MAK list): Categories III1, III2	< 1 µg/m ³	≤ 1 µg/m ³	yes
Measurement time: 7 days after test chamber loading¹⁾			
TVOC (total volatile organic compounds)	8 µg/m ³	≤ 150 µg/m ³	yes
VOC (sum) without NIK	2 µg/m ³	≤ 50 µg/m ³	yes
VOC (individual values):			
Sum of bicyclic terpenes	< 1 µg/m ³	≤ 100 µg/m ³	yes
Sum of sensitising materials with the following categorisations: DFG (MAK list): Category IV, German Federal Institute for Risk Assessment lists: Cat A, TRGS 907	< 1 µg/m ³	≤ 50 µg/m ³	yes
Sum of VOC (incl. VVOC and SVOC) with the following categorisations: Regulation (EC) No. 1272/2008: Category Carc. 2, Muta. 2, Repr. 2; TRGS 905: K3; IARC: Group 2B; DFG (MAK list): Category III3	4 µg/m ³	≤ 25 µg/m ³	yes
Sum C9 – C14 Alkanes / Isoalkanes	< 1 µg/m ³	≤ 100 µg/m ³	yes
Sum C4 – C11 Aldehydes, acyclic, aliphatic	< 1 µg/m ³	≤ 50 µg/m ³	yes
Sum C9 – C15 Alkylbenzenes	< 1 µg/m ³	≤ 50 µg/m ³	yes
Sum Cresols	< 1 µg/m ³	≤ 3 µg/m ³	yes
VOC (individual substances):			
Styrene	< 1 µg/m ³	≤ 5 µg/m ³	yes
Methylisothiazolinone (MIT)	< 1 µg/m ³	≤ 1µg/m ³	yes
Benzaldehyde	< 1 µg/m ³	≤ 10 µg/m ³	yes
2-Ethyl-1-hexanol	6 µg/m ³	≤ 50 µg/m ³	yes
Ethylenglykolmonobutylether	< 1 µg/m ³	≤ 50 µg/m ³	yes
2-Hexoxyethanol	< 1 µg/m ³	≤ 50 µg/m ³	yes
Methylisobutylketon	< 1 µg/m ³	≤ 50 µg/m ³	yes
2-Butoxyethylacetat	< 1 µg/m ³	≤ 100 µg/m ³	yes
TSVOC (total semi-volatile organic compounds)	< 1 µg/m ³	≤ 50 µg/m ³	yes
R value	0,01	≤ 0,5	yes
Formaldehyde	2 µg/m ³	≤ 12 µg/m ³	yes
Acetaldehyde	4 µg/m ³	≤ 12 µg/m ³	yes
Odour	1,5	≤ Grade 3 (24 hours after loading of desiccator)	yes

1) Abbreviation of the measurements already after 7 days, the limit value is 50% of the limit value after 28 days.

Remark: The test result referred to the submitted test sample exclusively. The validity of the report will end immediately at any alteration of material composition or in manufacturing process. Publishing in parts requires authorisation.

Test parameter	Result / Emission	Limit value	Within limits [yes/no]
Content analysis			
AOX (adsorbable organic halogenated compounds)	< 0.5 mg/kg	≤ 1.0 mg/kg	yes
EOX (extractable organic halogenated compounds)	< 2.0 mg/kg	≤ 2.0 mg/kg	yes
Phthalates (sum) DMP, DEP, DPrP, DBP, BBP, DEHP, DNOP, DIDP, BMEP, DHP, DPP, DINP, DIDP, DIHP, DHNUP, DEHT	n.d.1)	≤ 500 mg/kg	yes

1) n.d. = not detectable; Determination value: 4 mg/kg except DINP, DIDP (20 mg/kg), DIHP (50 mg/kg), DHNUP (100 mg/kg)

C Summary evaluation

The products **FERMACELL Powerpanel HD** and **FERMACELL Powerpanel H2O** were submitted to an ecological product examination on behalf of Fermacell GmbH Werk Seesen for the acquisition of the eco-INSTITUT-Label.

The eco-INSTITUT-Label criteria were successfully fulfilled.

As a result of the successful ecological product examination the

eco-INSTITUT-Label



is awarded
for the product
Fermacell Powerpanel HD
for a period of another two years

Certification number	ID 0609 – 13701 – 010
Test report number	50400-005
Validity	07/2017



and for the product
FERMACELL Powerpanel H2O
for a period of another two years

Certification number	ID 0609 – 13701– 011
Test report number	50400-006
Validity	07/2017

After expiration of two years it is possible to acquire the eco-INSTITUT-Label again for another two year period. For this a laboratory test will be accomplished according to the latest eco-INSTITUT-Label test criteria.

Cologne, 07.08.2015



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