

Fermacell GmbH Werk Seesen
Industriegebiet Münchehof
38723 Seesen

Test Report No. 51333-001-007, 51333-015 (SUMMARY)

The following summary report 51333-001-007, 51333-015 contains an excerpt of the appraisals with the test report number 51333-001-004, 51333-005, 51333-006-007 and 51333-015.

Test objective:

Probenbezeichnung laut Auftraggeber:

Sampled by:

Date of sampling:

Location of sampling:

Date of production:

Evaluation according to eco-INSTITUT-Label-criteria

FERMACELL Gypsum-Fibreboard

Plant Seesen (51333-001)

Plant Siglingen (51333-002)

Plant Wijchen (51333-003)

Plant Orejo, Spain (51333-004)

FERMACELL Joint Filler (51333-005)

FERMACELL Jointstik (hardened)

Supplier 3 (51333-006)

Supplier 2 (51333-007)

FERMACELL Fine Surface Treatment (51333-015)

Alexandra Kühn, eco-INSTITUT

21.06.2016

at the client

10.06.2016 (51333-001)

13.05.2016 (51333-002)

19.05.2016 (51333-003, 51333-004)

25.05.2016 (51333-005)

May 2016 (51333-006)

April 2016 (51333-007)

13.04.2016 (51333-015)

| | |
|----------------------------|--|
| Date of arrival of sample: | 22.06.2016 |
| Test period: | 22.06.2016 – 12.08.2016 |
| Date of report: | 07.09.2016 |
| Number of pages of report: | 18 |
| Testing laboratory: | eco-INSTITUT Germany GmbH, Cologne except ‡ subcontracted |
| Test objective fulfilled: | ✓ |

Content

| | |
|---|----|
| Sample view | 3 |
| A Testing methods..... | 4 |
| B Test results and evaluation | 5 |
| 1 FERMACELL Gypsum-Fibreboard..... | 5 |
| 2 FERMACELL Joint Filler | 7 |
| 3 FERMACELL Jointstik (hardened) | 10 |
| 4 FERMACELL Fine Surface Treatment..... | 14 |
| C Summary evaluation..... | 17 |

Sample view

| Internal Sample-no. | Description by customer | Condition upon delivery | Type of sample |
|---------------------|---|-------------------------|-------------------|
| A001 | FERMACELL Gypsum-Fibreboard, 12,5 mm, Plant Seesen; Batch-No.: 10.06.16 Pal. 14-74 | without objection | Gypsum-Fibreboard |
| A002 | FERMACELL Gypsum-Fibreboard, 12,5 mm, Plant Siglingen; Batch-No.: 13.05.16 04:37 | without objection | Gypsum-Fibreboard |
| A003 | FERMACELL Gypsum-Fibreboard, 12,5 mm, Plant Wijchen; Batch-No.: 19.05.16 Schicht III | without objection | Gypsum-Fibreboard |
| A004 | FERMACELL Gypsum-Fibreboard, 12,5 mm, Plant Orejo, Spain; Batch-No.: 19.05.16 23:38 | without objection | Gypsum-Fibreboard |
| A005 | FERMACELL Joint Filler | without objection | Plaster |
| B005 | FERMACELL Joint Filler | without objection | Plaster |
| A006 | FERMACELL Jointstik (hardened); Supplier 3; Chargen-Nr.: PROD.DAT 05.16-3, Charge: 60581025 | without objection | Glue |
| A007 | FERMACELL Jointstik (hardened); Supplier 2; Chargen-Nr.: PROD.DAT 04.16-2, Charge: 1616517 | without objection | Glue |
| A015 | FERMACELL Fine Surface Treatment (Powdered Form) | without objection | Filler |

A Testing methods

| Parameter | Testing method |
|---|--|
| VOC (volatile organic compounds) | DIN EN ISO 16000-6; TS 16516 |
| Formaldehyde and Acetaldehyde | DIN EN 16000-3 |
| Monomeric Isocyanates | The derivatized Isocyanates were desorbed by extraction of the filter with Acetonitrile in an ultrasonic bath and analysed per HPLC and UV-detection afterwards. |
| 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 Test results and evaluation

1 FERMACELL Gypsum-Fibreboard

| 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 including SVOC with LCI) | 50 µg/m ³ | ≤ 3000 µg/m ³ | yes |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Measurement time: 7 days after test chamber loading ¹⁾ | | | |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| CMR 2: 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 (Sum) | 11 µg/m ³ | ≤ 25 µg/m ³ | yes |
| TVOC (total volatile organic compounds including SVOC with LCI) | 29 µg/m ³ | ≤ 150 µg/m ³ | yes |
| TSVOC (total semi-volatile organic compounds) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| VOC (Sum) without LCI | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Sensitising compounds with the following categorisations: DFG (MAK list): Category IV, German Federal Institute for Risk Assessment lists: Cat A, TRGS 907 (Sum) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Bicyclic terpenes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |

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

Hinweis: Die Untersuchungsergebnisse beziehen sich ausschließlich auf den vorgelegten Prüfgegenstand. Der Bericht verliert umgehend seine Gültigkeit bei Änderungen der Zusammensetzung oder des Produktionsverfahrens des Prüfgegenstandes. Eine vollständige oder auszugsweise Veröffentlichung des Prüfberichtes bedarf der Genehmigung.

| Test parameter | Result / Emission | Limit value | Within limits [yes/no] |
|--|-----------------------|---|------------------------|
| C9 – C14 Alkanes / Isoalkanes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| C4 – C11 Aldehydes, acyclic, aliphatic (Sum) | 10 µg/m ³ | ≤ 50 µg/m ³ | yes |
| C6 – C15 Alkyl benzenes (Sum) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Cresols (Sum) | < 1 µg/m ³ | ≤ 2,5 µg/m ³ | yes |
| VOC (individual substances): | | | yes |
| Formaldehyde | 7 µg/m ³ | ≤ 12 µg/m ³ | yes |
| Acetaldehyde | 4 µg/m ³ | ≤ 12 µg/m ³ | yes |
| Styrene | < 1 µg/m ³ | ≤ 5 µg/m ³ | yes |
| Phenole | < 1 µg/m ³ | ≤ 10 µg/m ³ | yes |
| Methylisothiazolinone (MIT) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Benzaldehyde | 3 µg/m ³ | ≤ 10 µg/m ³ | yes |
| 2-Ethyl-1-hexanol | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Ethylen glycol monobutylether | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| 2-Hexoxyethanol | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Methylisobutylketone | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| 2-Butoxyethylacetate | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| R-Value | 0,0 | ≤ 0,5 | yes |
| Odour | Grade 1 | ≤ Grade 3 (24 hours after loading of desiccator) | yes |
| Content analysis | | | |
| AOX (adsorbable organic halogenated compounds) | < 1,0 mg/kg | ≤ 1,0 mg/kg | yes |
| EOX (extractable organic halogenated compounds) | < 2,0 mg/kg | ≤ 2,0 mg/kg | yes |
| Phthalates (Softeners, sum) DMP, DEP, DPtP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP, DEHT | n.d. | ≤ 500 mg/kg | yes |
| Terephthalate DEHT | < 4 mg/kg | ≤ 500 mg/kg | yes |

n.d. not determinable

2 FERMACELL Joint Filler

| 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 including SVOC with LCI) | 3 µg/m ³ | ≤ 3000 µg/m ³ | yes |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Measurement time: 28 days after test chamber loading | | | |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| CMR 2: 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 (Sum) | 6 µg/m ³ | ≤ 50 µg/m ³ | yes |
| TVOC (total volatile organic compounds including SVOC with LCI) | 9 µg/m ³ | ≤ 300 µg/m ³ | yes |
| TSVOC (total semi-volatile organic compounds) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| VOC (Sum) without LCI | 3 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Sensitising compounds with the following categorisations: DFG (MAK list): Category IV, German Federal Institute for Risk Assessment lists: Cat A, TRGS 907 (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Bicyclic terpenes (Sum) | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| C9 – C14 Alkanes / Isoalkanes (Sum) | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| C4 – C11 Aldehydes, acyclic, aliphatic (Sum) | < 2 µg/m ³ | ≤ 100 µg/m ³ | yes |
| C6 – C15 Alkyl benzenes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Cresols (Sum) | < 1 µg/m ³ | ≤ 5 µg/m ³ | yes |

Hinweis: Die Untersuchungsergebnisse beziehen sich ausschließlich auf den vorgelegten Prüfgegenstand. Der Bericht verliert umgehend seine Gültigkeit bei Änderungen der Zusammensetzung oder des Produktionsverfahrens des Prüfgegenstandes. Eine vollständige oder auszugsweise Veröffentlichung des Prüfberichtes bedarf der Genehmigung.

| Test parameter | Result / Emission | Limit value | Within limits [yes/no] |
|--|-----------------------|---|------------------------|
| VOC (individual substances): | | | |
| Formaldehyde | 4 µg/m ³ | ≤ 24 µg/m ³ | yes |
| Acetaldehyde | < 2 µg/m ³ | ≤ 24 µg/m ³ | yes |
| Styrene | < 1 µg/m ³ | ≤ 10 µg/m ³ | yes |
| Phenole | < 1 µg/m ³ | ≤ 20 µg/m ³ | yes |
| Methylisothiazolinone (MIT) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Benzaldehyde | < 1 µg/m ³ | ≤ 20 µg/m ³ | yes |
| 2-Ethyl-1-hexanol | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Ethylen glycol monobutylether | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| 2-Hexoxyethanol | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Methylisobutylketone | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| 2-Butoxyethylacetate | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| R-Value | 0,05 | ≤ 1 | yes |
| Odour | Grade 2,5 | ≤ Grade 3 (24 hours after loading of desiccator) | yes |
| Content analysis | | | |
| AOX (adsorbable organic halogenated compounds) | < 1,0 mg/kg | ≤ 1,0 mg/kg | yes |
| EOX (extractable organic halogenated compounds) | < 2,0 mg/kg | ≤ 2,0 mg/kg | yes |
| Phthalates (Softeners, sum) DMP, DEP, DPiP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP, DEHT | n.d. | ≤ 500 mg/kg | yes |
| Terephthalate DEHT | < 4 mg/kg | ≤ 500 mg/kg | yes |

n.d. not determinable

3 FERMACELL Jointstik (hardened)

| A006: FERMACELL Jointstik (hardened); Supplier 3 | | | | |
|---|--------------------------|-------------------|--|-------------------------------|
| 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 including SVOC with LCI) | 200 | µg/m ³ | ≤ 3000 µg/m ³ | yes |
| CMR 1: 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 (Sum) | < 1 | µg/m ³ | ≤ 1 µg/m ³ | yes |
| Isocyanate monomers (only with the use of appropriate compounds) | < 1 | µg/m ³ | ≤ 1 µg/m ³ (TDI, HDI; 24 Stunden nach Prüfkammerbeladung) | yes |
| Isocyanate monomers (only with the use of appropriate compounds) | < 2 | µg/m ³ | ≤ 2 µg/m ³ (MDI; 24 Stunden nach Prüfkammerbeladung) | yes |
| Measurement time: 28 days after test chamber loading | | | | |
| CMR 1: 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 (Sum) | < 1 | µg/m ³ | ≤ 1 µg/m ³ | yes |
| CMR 2: 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 (Sum) | 2 | µg/m ³ | ≤ 50 µg/m ³ | yes |
| TVOC (total volatile organic compounds including SVOC with LCI) | 15 | µg/m ³ | ≤ 300 µg/m ³ | yes |
| TSVOC (total semi-volatile organic compounds) | < 1 | µg/m ³ | ≤ 100 µg/m ³ | yes |
| VOC (Sum) without LCI | < 1 | µg/m ³ | ≤ 100 µg/m ³ | yes |
| Sensitising compounds with the following categorisations: DFG (MAK list): Category IV, German | < 1 | µg/m ³ | ≤ 100 µg/m ³ | yes |

Hinweis: Die Untersuchungsergebnisse beziehen sich ausschließlich auf den vorgelegten Prüfgegenstand. Der Bericht verliert umgehend seine Gültigkeit bei Änderungen der Zusammensetzung oder des Produktionsverfahrens des Prüfgegenstandes. Eine vollständige oder auszugsweise Veröffentlichung des Prüfberichtes bedarf der Genehmigung.

| Federal Institute for Risk Assessment lists: Cat A, TRGS 907 (Sum) | | | |
|--|-----------------------|--|------------------------|
| Test parameter | Result / Emission | Limit value | Within limits [yes/no] |
| Bicyclic terpenes (Sum) | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| C9 – C14 Alkanes / Isoalkanes (Sum) | 12 µg/m ³ | ≤ 200 µg/m ³ | yes |
| C4 – C11 Aldehydes, acyclic, aliphatic (Sum) | < 2 µg/m ³ | ≤ 100 µg/m ³ | yes |
| C6 – C15 Alkyl benzenes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Cresols (Sum) | < 1 µg/m ³ | ≤ 5 µg/m ³ | yes |
| VOC (individual substances): | | | yes |
| Formaldehyde | 2 µg/m ³ | ≤ 24 µg/m ³ | yes |
| Acetaldehyde | < 2 µg/m ³ | ≤ 24 µg/m ³ | yes |
| Styrene | < 1 µg/m ³ | ≤ 10 µg/m ³ | yes |
| Phenole | < 1 µg/m ³ | ≤ 20 µg/m ³ | yes |
| Methylisothiazolinone (MIT) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Benzaldehyde | < 1 µg/m ³ | ≤ 20 µg/m ³ | yes |
| 2-Ethyl-1-hexanol | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Ethylen glycol monobutylether | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| 2-Hexoxyethanol | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Methylisobutylketone | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| 2-Butoxyethylacetate | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| R-Value | 0,02 | ≤ 1 | yes |
| Odour | A006 Grade 2 | ≤ Grade 3 (24 hours after loading of desiccator) | yes |
| Content analysis | | | |
| AOX (adsorbable organic halogenated compounds) | A006 < 1,0 mg/kg | ≤ 1,0 mg/kg | yes |
| EOX (extractable organic halogenated compounds) | A006 < 2,0 mg/kg | ≤ 2,0 mg/kg | yes |
| Organotin compounds (limit value per single substance) TBT, DBT, TPhT, MBT, MOT, DOT, TCyT, TeBT | A006 n.b. | ≤ 0,05 mg/kg | yes |
| Phthalates (Softeners, sum) DMP, DEP, DPpP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP, DEHT | A006 n.d. | ≤ 500 mg/kg | yes |
| Terephthalate DEHT | A006 < 4,0 mg/kg | ≤ 500 mg/kg | yes |

n.d. not determinable

Hinweis: Die Untersuchungsergebnisse beziehen sich ausschließlich auf den vorgelegten Prüfgegenstand. Der Bericht verliert umgehend seine Gültigkeit bei Änderungen der Zusammensetzung oder des Produktionsverfahrens des Prüfgegenstandes. Eine vollständige oder auszugsweise Veröffentlichung des Prüfberichtes bedarf der Genehmigung.

| A007: FERMACELL Jointstik (hardened); Supplier 2 | | | |
|--|--------------------------|--|-------------------------------|
| 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 including SVOC with LCI) | 530 µg/m ³ | ≤ 3000 µg/m ³ | yes |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Isocyanate monomers (only with the use of appropriate compounds) | < 1 µg/m ³ | ≤ 1 µg/m ³ (TDI, HDI; 24 Stunden nach Prüfkammerbeladung) | yes |
| Isocyanate monomers (only with the use of appropriate compounds) | < 2 µg/m ³ | ≤ 2 µg/m ³ (MDI; 24 Stunden nach Prüfkammerbeladung) | yes |
| Measurement time: 28 days after test chamber loading | | | |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| CMR 2: 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 (Sum) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| TVOC (total volatile organic compounds including SVOC with LCI) | 270 µg/m ³ | ≤ 300 µg/m ³ | yes |
| TSVOC (total semi-volatile organic compounds) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| VOC (Sum) without LCI | 6 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Sensitising compounds with the following categorisations: DFG (MAK list): Category IV, German Federal Institute for Risk Assessment lists: Cat A, TRGS 907 (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Bicyclic terpenes (Sum) | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |

Hinweis: Die Untersuchungsergebnisse beziehen sich ausschließlich auf den vorgelegten Prüfgegenstand. Der Bericht verliert umgehend seine Gültigkeit bei Änderungen der Zusammensetzung oder des Produktionsverfahrens des Prüfgegenstandes. Eine vollständige oder auszugsweise Veröffentlichung des Prüfberichtes bedarf der Genehmigung.

| | | | |
|--|--------------------------|--|-------------------------------|
| C9 – C14 Alkanes / Isoalkanes (Sum) | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| Test parameter | Result / Emission | Limit value | Within limits [yes/no] |
| C4 – C11 Aldehydes, acyclic, aliphatic (Sum) | < 2 µg/m ³ | ≤ 100 µg/m ³ | yes |
| C6 – C15 Alkyl benzenes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Cresols (Sum) | < 1 µg/m ³ | ≤ 5 µg/m ³ | yes |
| VOC (individual substances): | | | yes |
| Formaldehyde | < 2 µg/m ³ | ≤ 24 µg/m ³ | yes |
| Acetaldehyde | < 2 µg/m ³ | ≤ 24 µg/m ³ | yes |
| Styrene | < 1 µg/m ³ | ≤ 10 µg/m ³ | yes |
| Phenole | < 1 µg/m ³ | ≤ 20 µg/m ³ | yes |
| Methylisothiazolinone (MIT) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| Benzaldehyde | < 1 µg/m ³ | ≤ 20 µg/m ³ | yes |
| 2-Ethyl-1-hexanol | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Ethylen glycol monobutylether | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| 2-Hexoxyethanol | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| Methylisobutylketone | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| 2-Butoxyethylacetate | < 1 µg/m ³ | ≤ 200 µg/m ³ | yes |
| R-Value | 0,71 | ≤ 1 | yes |
| Odour | A007 Grade 2,5 | ≤ Grade 3 (24 hours after loading of desiccator) | yes |
| Content analysis | | | |
| AOX (adsorbable organic halogenated compounds) | A007 < 1,0 mg/kg | ≤ 1,0 mg/kg | yes |
| EOX (extractable organic halogenated compounds) | A007 < 2,0 mg/kg | ≤ 2,0 mg/kg | yes |
| Organotin compounds (limit value per single substance) TBT, DBT, TPhT, MBT, MOT, DOT, TCyT, TeBT | A007 n.b. | ≤ 0,05 mg/kg | yes |
| Phthalates (Softeners, sum) DMP, DEP, DPtP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP, DEHT | A007 n.d. | ≤ 500 mg/kg | yes |
| Terephthalate DEHT | A007 < 4,0 mg/kg | ≤ 500 mg/kg | yes |

n.d. not determinable

4 FERMACELL Fine Surface Treatment

| 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 including SVOC with LCI) | 26 µg/m ³ | ≤ 3000 µg/m ³ | yes |
| CMR 1: 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 (Sum) | 2 µg/m ³ | ≤ 1 µg/m ³ | yes*) |
| Measurement time: 7 days after test chamber loading ¹⁾ | | | |
| CMR 1: 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 (Sum) | < 1 µg/m ³ | ≤ 1 µg/m ³ | yes |
| CMR 2: 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 (Sum) | 7 µg/m ³ | ≤ 25 µg/m ³ | yes |
| TVOC (total volatile organic compounds including SVOC with LCI) | 22 µg/m ³ | ≤ 150 µg/m ³ | yes |
| TSVOC (total semi-volatile organic compounds) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| VOC (Sum) without LCI | 2 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Sensitising compounds with the following categorisations: DFG (MAK list): Category IV, German Federal Institute for Risk Assessment lists: Cat A, TRGS 907 (Sum) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Bicyclic terpenes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| C9 – C14 Alkanes / Isoalkanes (Sum) | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| C4 – C11 Aldehydes, acyclic, aliphatic (Sum) | < 2 µg/m ³ | ≤ 50 µg/m ³ | yes |

1) Abbruch der Messungen bereits nach 7 Tagen möglich; der jeweilige Grenzwert liegt bei 50% des Grenzwerts nach 28 Tagen.

Hinweis: Die Untersuchungsergebnisse beziehen sich ausschließlich auf den vorgelegten Prüfgegenstand. Der Bericht verliert umgehend seine Gültigkeit bei Änderungen der Zusammensetzung oder des Produktionsverfahrens des Prüfgegenstandes. Eine vollständige oder auszugsweise Veröffentlichung des Prüfberichtes bedarf der Genehmigung.

| Test parameter | Result / Emission | Limit value | Within limits [yes/no] |
|--|-----------------------|---|------------------------|
| C6 – C15 Alkyl benzenes (Sum) | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Cresols (Sum) | < 1 µg/m ³ | ≤ 2,5 µg/m ³ | yes |
| VOC (individual substances): | | | yes |
| Formaldehyde | 3 µg/m ³ | ≤ 12 µg/m ³ | yes |
| Acetaldehyde | < 2 µg/m ³ | ≤ 12 µg/m ³ | yes |
| Styrene | < 1 µg/m ³ | ≤ 5 µg/m ³ | yes |
| Phenole | < 1 µg/m ³ | ≤ 10 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 |
| Ethylen glycol monobutylether | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| 2-Hexoxyethanol | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| Methylisobutylketone | < 1 µg/m ³ | ≤ 50 µg/m ³ | yes |
| 2-Butoxyethylacetate | < 1 µg/m ³ | ≤ 100 µg/m ³ | yes |
| R-Value | 0,0 | ≤ 0,5 | yes |
| Odour | Grade 2 | ≤ Grade 3 (24 hours after loading of desiccator) | yes |
| Content analysis | | | |
| AOX (adsorbable organic halogenated compounds) | < 1,0 mg/kg | ≤ 1,0 mg/kg | yes |
| EOX (extractable organic halogenated compounds) | < 2,0 mg/kg | ≤ 2,0 mg/kg | yes |
| Phthalates (Softeners, sum) DMP, DEP, DPtP, DBP, BBP, DEHP, DNOP, DIBP, BMEP, DHP, DPP, DIPP, PIPP, DINP, DIDP, DIHP, DHNUP, DEHT | n.d. | ≤ 500 mg/kg | yes |
| Terephthalate DEHT | < 4 mg/kg | ≤ 500 mg/kg | yes |

n.d. not determinable

*) The exceeded limit value (2- Methoxyethanol) is due to the not completed drying of the sample after 3 days. After completed drying, 2- Methoxyethanol is not longer detectable.

C Summary evaluation

The products **FERMACELL Gipsfaser-Platte**, **FERMACELL Fugenspachtel**, **FERMACELL Fugenkleber (ausgehärtet)** und **FERMACELL Gips-Flächenspachtel** wurden im Auftrag von **Fermacell GmbH Werk Seesen** einer ökologischen Produktprüfung zur Erlangung des eco-INSTITUT-Label unterzogen.

Die in den Prüfkriterien festgelegten Grenzwerte werden eingehalten.

Im Ergebnis der erfolgreichen ökologischen Produktprüfung wird das

eco-INSTITUT-Label



is awarded
for the product
FERMACELL Gypsum-Fibreboard
for a period of another two years

| | |
|----------------------|-----------------------|
| Certification number | ID 0907 – 13701 – 001 |
| Test report number | 51333-001-004 |
| Validity | 08/2018 |



and for the product
FERMACELL Joint Filler
for a period of another two years

| | |
|----------------------|-----------------------|
| Certification number | ID 0907 – 13701 – 002 |
| Test report number | 51333-005 |
| Validity | 08/2018 |



and for the product
FERMACELL Jointstik (hardened)
for a period of another two years.

| | |
|----------------------|-----------------------|
| Certification number | ID 0907 – 13701 – 002 |
| Test report number | 51333-006-007 |
| Validity | 08/2018 |



and for the product
FERMACELL Fine Surface Treatment (Powdered Form)
for a period of another two years.

| | |
|----------------------|-----------------------|
| Certification number | ID 1010 – 13701 – 014 |
| Test report number | 51333-015 |
| Validity | 08/2018 |

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, 07.09.2016

A handwritten signature in black ink, appearing to read 'A.Ke'.

Alexandra Kühn
(Project Manager)