



Produktprüfung
Zertifizierung
Qualitätssicherung

eco
INSTITUT

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Akkreditiert ISO/IEC 17025

 **AKS** Akkreditierung: AKS-PL-20708
Verzeichnis: www.aks-hannover.de
Staatliche Akkreditierungsstelle Hannover



TEST REPORT N r. 19828-2

Description of sample

Sulink LC06

Type of sample

Cork floating floor

Client

Xi'an Linkcork Co. LTD, Xian, 710077 China

Sampling

by client

Date of sample receipt

15 October 2008

Date of test report

3 November 2008

Page

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Number of pages of test report

8

Test parameters

Emission test following the "Principles for the Health Assessment of Construction Products", published by the "German Institute of Structural Engineering (Deutsches Institut für Bautechnik DIBt)", 4th August 2004

- CMT-VOC after 24 hours
- Volatile Organic Compounds (VOC) after 3 and 7 days
- Formaldehyde after 3 and 7 days

Test performed by

eco-Institut GmbH, Köln

a) General data

| | |
|------------------------------|--|
| Submitted by | Client |
| Product name | Sulink LC06 |
| Description | Cork floating floor |
| General specification | Not documented |
| Date of sample receipt | 15 October 2008 |
| Storage of sample until test | Standardized climatic conditions in original package |
| Test period | 17 October 2008 to 31 October 2008 |

b) Characterization of the tested product

| | |
|-------------------------|---------------------|
| Description | Cork floating floor |
| Dimensions | 915 x 305 x 11 mm |
| Impact noise insulation | Not documented |
| Varnishing | Not documented |
| Additional finish | Not documented |

c) Legal basis of emission test

The emission tests have been performed in accordance with the “Principles for the Health Assessment of Construction Products”, published by German Institute of Structural Engineering (Deutsches Institut für Bautechnik DIBt), 4th August 2004. The analysis is based on the LCI-list, issued 2005.

d) Sampling report

Unavailable

e) Special remarks

Not applicable

f) Photo of test specimen



g) Emission test

| | | | |
|--------------------------------|--|---|--------|
| Sample preparation | according to DIN EN ISO 16000-11 and DIN EN ISO 717-1 | | |
| Date of preparation | 17 October 2008 | | |
| Dimensions | 30.5 cm cm x 16.4 cm | | |
| Sample sealing | back and edges sealed | | |
| Details of additional material | Alu-Band selbstklebend, Hersteller Praktikus techn.-chem. Erzeugnisse GmbH | | |
| Test | Start of preconditioning | Not applicable | |
| | Date of chamber loading | 17 October 2008 | |
| | Configuration of sample | Horizontal on tripod | |
| | Date of first sampling | 20 October 2008 | |
| | Date of second sampling | 24 October 2008 | |
| | Date of third sampling | Not applicable | |
| Test chamber | Break off after | 7 days | |
| | Type | Emission chamber | |
| | Producer | eco-INSTITUT GmbH, Cologne | |
| | Material and dimensions | Glass, 0.125 m ³ | |
| | Details of climate and other conditions | Temperature: | 23°C |
| | | Relative humidity: | 50 % |
| | | Air pressure: | Normal |
| Air: | | Cleaned | |
| | Air exchange rate: | 0.5 h ⁻¹ | |
| | Inflow velocity: | 0.3 m/s | |
| | Loading: | 0.4 m ² /m ³ | |
| Analytics | Analytical system | Specific air flow rate: 1.25 m ³ /m ² *h | |
| | | <p>The emission tests have been performed in accordance with the "Principles for the Health Assessment of Construction Products", published by German Institute of Structural Engineering (Deutsches Institut für Bautechnik DIBt), 4 August 2004 considering additional decisions and cited test methods:</p> <ul style="list-style-type: none"> • test chamber following DIN ISO 16000-9 (former DIN V ENV 13419-1) • VOC-analysis following DIN ISO 16000-6 • Aldehyde/Ketone analysis following DIN ISO 16000-3 <p>The emission test of the volatile organic compounds has been performed under realistic conditions in a testing chamber under standardized testing conditions for loading, air exchange rate, humidity, temperature and air flow velocity of the chamber air.</p> <p>Air samples were collected after 3 and 7/28 days under continuous testing conditions. Samples volumes were 5 l chamber air with 100 ml/min on Tenax and 100 l with 200 ml/min on DNPH. Tenax samples have been analyzed with GC/MS. Assessment limit was 5 µg/m³. The collected aldehydes and ketones on DNPH were analyzed with liquid desorbition / HPLC. Assessment limit was 5 µg/m³.</p> | |

Special remarks

Quality assurance system

- Thermodesorber (ATD or Turbomatrix)
- GC/MS-system with constant pressure programm and Quadrupol-analyser
- Column: Methylsilicon-phase with 5 % Phenylsilicon, length 60 m, inner diameter 0.25 mm, film thickness 1.0 μ

The test took place without special remarks.

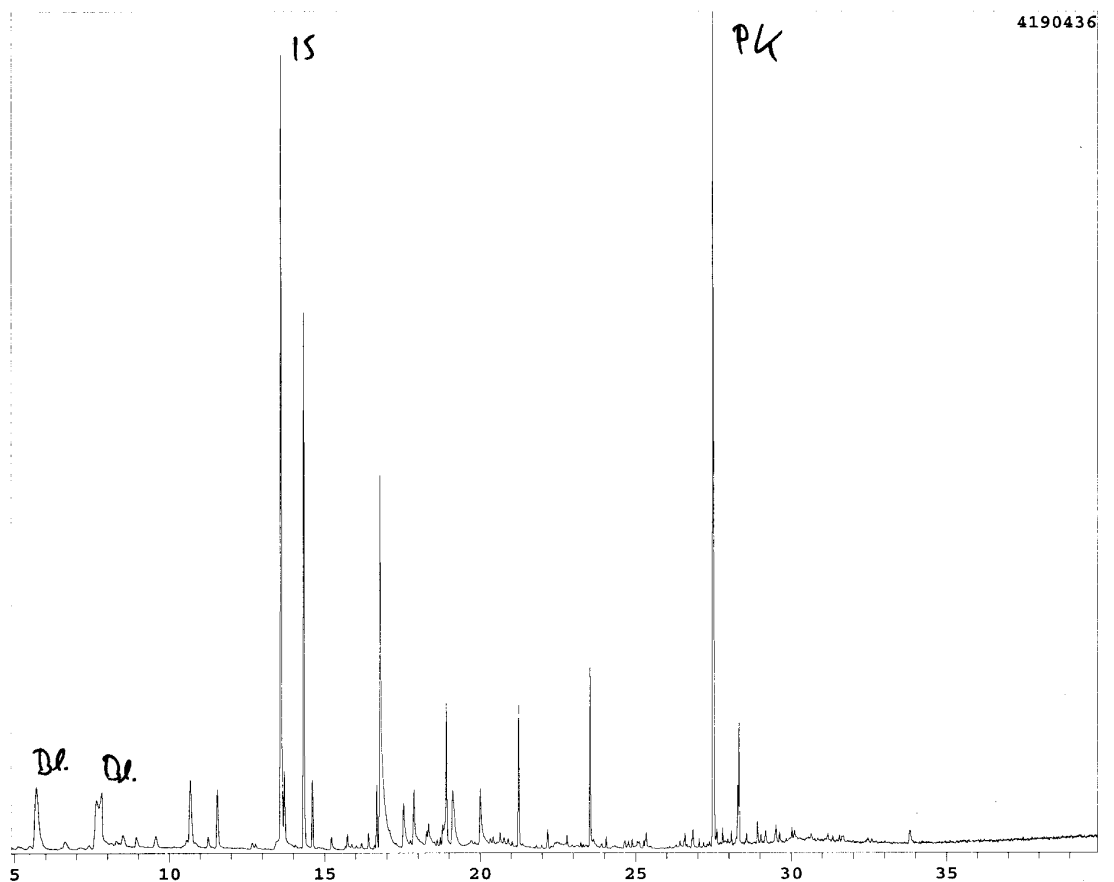
- Accredited for chamber tests and VOC-analysis by thermodesorption-GC/MS
- Participation in robin round tests
- Participation in experience exchange
- Application of internal standards
- Validation of test chamber with permeators
- Thermo desorber validation with test mixture
- Control charts

h) Results

Evaluation, emission after 3 days

| Emissionen nach 3 Tagen Emission after 3 days | | | | Retention range | Quantifizierung | Identification | C _i [µg/m³] | SER _i [µg/m²h] | Zuordnung Classification [canc./NIK/no.NIK] [canc./LCI/no LCI] | R _i | Ifd. Nr Serial number | ADAM 2008: 04 Division | Legende Legend VVOC = < C6 VOC = C6 - C16 SVOC = C16 - C22 a = substanzspezifisch substance-specific b = substanzähnlich substance-like c = Toluoläquivalent toluene equivalent d = DNPH 1 = Klasse 1 class 1 2 = Klasse 2 class 2 3 = Klasse 3 class 3 |
|--|----------------------|----------|----------|---|-----------------|----------------|---------------------------|------------------------------|---|----------------|-----------------------------|---------------------------|--|
| Sulink LC06 | Kommentar Comment | CAS-No. | RT [min] | | | | | | | | | | |
| gerundene Substanzen Detected substances | | | | Daten nur über den Button "Messergebnisse eingeben/löschen" in diese Tabelle eintragen Data to be entered only via the button "enter/delete results" | | | | | | | | | |
| Formaldehyd | | 50-00-0 | 1,00 | VVOC | d | 1 | 6,00 | 7,500 | ohne NIK | | | | 0 |
| Acetaldehyd | | 75-07-0 | 1,00 | VVOC | d | 1 | 6,00 | 7,500 | ohne NIK | | | | 0 |
| Essigsäure | | 64-19-7 | 7,82 | VOC | a | 1 | 15,00 | 18,750 | 500 | 0,030 | 9-1 | | 1 |
| Hexanal | | 66-25-1 | 14,32 | VOC | a | 1 | 16,00 | 20,000 | 890 | 0,018 | 7-3 | | 1 |
| Ethylenglykol-monobutylether | | 111-76-2 | 16,78 | VOC | a | 1 | 30,00 | 37,500 | 980 | 0,031 | 6-3 | | 1 |
| n-Capronsäure | | 142-62-1 | 17,87 | VOC | a | 1 | 6,00 | 7,500 | 490 | 0,012 | 9-7 | | 1 |
| N.i., verm. Glykolether | | | 19,12 | VOC | c | 3 | 6,00 | 7,500 | ohne NIK | | | | 0 |
| N-Methyl-2-pyrrolidon | | 872-50-4 | 20,00 | VOC | a | 1 | 6,00 | 7,500 | 820 | 0,007 | 12-3 | | 1 |
| N.i., verm. unges. cycl. KW | | | 27,52 | VOC | c | 3 | 8,00 | 10,000 | ohne NIK | | | | 0 |

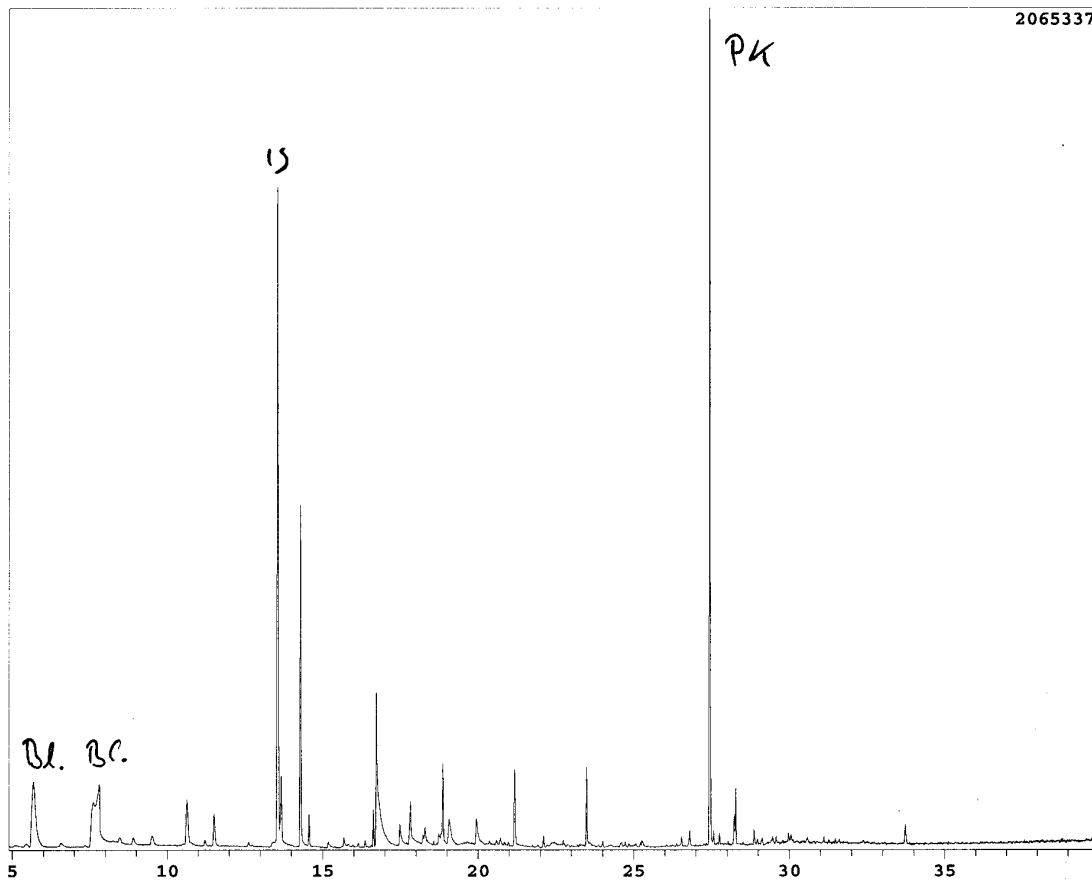
Chromatogram, emission after 3 days



Evaluation, emission after 7 days

| Emissionen nach 7 Tagen Emission after 7 days | | | | Retentionbereich Retention range | Quantifizierung Quantification | Identifikation Identification | C _i | SER _i | Zuordnung Classification | R _i | lfd. Nr | Legend |
|---|----------------------|----------|----------|-------------------------------------|-----------------------------------|----------------------------------|----------------|------------------|---|------------------|---------|--------|
| Sulink LC06 | Kommentar Comment | CAS-No. | RT [min] | | | | [µg/m³] | [µg/m²h] | [canc./NfK/o.NfK] [carc./LCI/no LCI] | Serial number | | |
| gefundene Substanzen Detected substances | | | | | | | | | | | | |
| Daten nur über den Button "Messergebnisse eingeben/löschen" in diese Tabelle eintragen Data to be entered only via the button "enter/delete results" | | | | | | | | | | | | |
| Formaldehyd | | 50-00-0 | 1,00 | VVOC | d | 1 | 6,00 | 7,500 | ohne NfK | | | 0 |
| Acetaldehyd | | 75-07-0 | 1,00 | VVOC | d | 1 | 5,00 | 6,250 | ohne NfK | | | 0 |
| Essigsäure | | 64-19-7 | 7,81 | VOC | a | 1 | 21,00 | 26,250 | 500,00 | 0,042 | 9-1 | 1 |
| Hexanal | | 66-25-1 | 14,28 | VOC | a | 1 | 12,00 | 15,000 | 890,00 | 0,013 | 7-3 | 1 |
| Ethylenglykol-monobutylether | | 111-76-2 | 16,73 | VOC | a | 1 | 17,00 | 21,250 | 980,00 | 0,017 | 6-3 | 1 |


Chromatogram, emission after 7 days



Evaluation template

| | | | | | | | | | |
|---|---------------------------------------|---|--|---|--|---|--|--|--|
| Probenbezeichnung Marking of the sample | Sulink LC06 | | | | | | | | |
| Aktenzeichen beim DIBt File number of DIBt | 0 | | | | | | | | |
| Prüfinstitut Testing laboratory | eco-Institut GmbH, Cologne | | | | | | | | |
| Ergebnisüberblick General view of the results <small>ADAM_2008_04_Untersuchung</small> | 3 Tage (days) | | | 7 Tage (days) | | | 28 Tage (days) <small>Keine Daten vorhanden - No data available</small> | | |
| | <small>Ergebnisse results</small> | <small>AgBB Anforderungen requirements</small> | <small>Abbruchkriterien break-off criteria</small> | <small>Ergebnisse results</small> | <small>Abbruchkriterien break-off criteria</small> | <small>Ergebnisse results</small> | <small>AgBB Anforderungen requirements</small> | | |
| | <small>µg/m³</small> | <small>mg/m³</small> | <small>mg/m³</small> | <small>µg/m³</small> | <small>mg/m³</small> | <small>µg/m³</small> | <small>mg/m³</small> | | |
| [A] TVOC (C ₆ - C ₁₆) | 87 | 0 ≤ 10 mg/m³ | 0,1 ≤ 0,3 mg/m³ | 50 | 0,1 ≤ 0,5 mg/m³ | 0 | 0,0 ≤ 1,0 mg/m³ | | |
| [B] Σ SVOC (C ₁₆ - C ₂₂) | 0 | keine none | 0,00 ≤ 0,03 mg/m³ | 0 | 0,00 ≤ 0,05 mg/m³ | 0 | 0,0 ≤ 0,1 mg/m³ | | |
| [C] R (dimensionslos/dimensionless) | 0,098 | keine none | 0,1 ≤ 0,5 | 0,072 | 0,1 ≤ 0,5 | 0,000 | 0 ≤ 1 | | |
| [D] Σ VOC o. NIK without LCI | 14 | keine none | 0,01 ≤ 0,05 mg/m³ | 0 | 0,00 ≤ 0,05 mg/m³ | 0 | 0,0 ≤ 0,1 mg/m³ | | |
| [E] Σ Cancerogene | 0 | 0,00 ≤ 0,01 mg/m³ | 0,000 ≤ 0,001 mg/m³ | 0 | 0,000 ≤ 0,001 mg/m³ | 0 | 0,000 ≤ 0,001 mg/m³ | | |
| Dieser Block liefert zusätzliche Information <small>This part gives some additional information</small> | | | | | | | | | |
| [F] VVOC (< C ₆) | 12 | | | 11 | | 0 | | | |
| [G] VOC (C ₆ - C ₁₆) als Toluoläquivalent as toluolequivalent | | Wert manuell eingeben! <small>Enter value manually!</small> | | Wert manuell eingeben! <small>Enter value manually!</small> | | Wert manuell eingeben! <small>Enter value manually!</small> | | | |

Cologne, 3 November 2008



Dr. H.-U. Krieg
(Technical Manager)

Assessment of the emission test following the “Principles for the Health Assessment of Construction Products”, published of the “German Institute of Structural Engineering (Deutsches Institut für Bautechnik DIBt)”, 4th August 2004

This test report does not replace a general technical approval by DIBt.

3 day emissioncomplied
7 day emissioncomplied
28 day emissionNot applicable

This assessment is subject to the confirmation by the “German Institute of Structural Engineering (Deutsches Institut für Bautechnik DIBt)”.

Cologne, 3 November 2008



Dr. Frank Kuebart
(Project Manager)