



Bremer Umweltinstitut[⊕]

Gesellschaft für Schadstoffanalysen und Begutachtung mbH

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AZ: H 8845 FM II

02.06.2014



Moso International BV
att. Mr van der Vegte
De Marowijne 43

NL-1689 AR Zwaag

Dear Mr. van der Vegte,

Please find attached the analysis report of the chamber emission test for the determination and evaluation of the formaldehyde emission of your product

Moso Pure Bamboo, BF-DS110 – High Density

The tested product BF-DS110 is chosen as the supposed worst product of the whole product range of Moso Pure Bamboo. Higher test-results probably may not be expected for other products in the range of Moso Pure Bamboo. The following results refer to the tested samples only.

The formaldehyde emission test was carried out according to „DIBt-Grundsätze für die gesundheitliche Bewertung von Bauprodukten“ in conjunction with DIN EN ISO 16000 series.

The following table shows the **converted concentrations according to EN 717-1** in consideration of different area specific air flow rates and correction by Andersen.

H 8845 FM	Calculated concentration after 3 days [mg/m ³]	Calculated concentration after 28 days [mg/m ³]	Maximum allowable concentration (EN 13986, E1) [mg/m ³]	Specification observed?
Formaldehyde	n.d.	n.d.	0,124	Yes

n.d. = not detected

For further questions do not hesitate to contact us.

Kind regards

Ulrike Siemers,
Grad. Engineer Chemical Technics

Enclosure: ANALYSIS REPORT



Deutsche
Akkreditierungsstelle
D-PL-18812-01-00

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Geschäftsführung:
Dr. Norbert Weis, Ulrike Siemers
Amtsgericht Bremen HRB 14617
Steueridentnummer DE 154288898
Es gelten unsere Geschäftsbedingungen,
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ANALYSIS REPORT

1 Order description


Client:	Moso International BV Herr van der Vegte De Marowijne 43 NL-1689 AR Zwaag
Date of order:	28.03.2014
Agent:	Bremer Umweltinstitut Gesellschaft für Schadstoffanalysen und Begutachtung mbH Fahrenheitstraße 1 28359 Bremen
Number of report:	H 8845 FM
Sample receipt:	31.03.2014
Test period:	04.04.2014 bis 14.05.2014
Order description of client:	Moso Pure Bambo, BF-DS110 – High Density (Moso Solid Strip), Batch N ^o .: QC292 The tested product BF-DS110 is chosen as the supposed worst product of the whole product range of Moso Pure Bamboo. Higher test-results probably may not be expected for other products in the range of Moso Pure Plain Pressed Bamboo. The following results refer to the tested samples only.
Sampling:	Sampling of material was made by the client. Preparation of test specimen and sampling at the test chamber were made by Lars Röhrs and Jutta Mertens, both Bremer Umweltinstitut

1.1 Sample description

Sample number	Description	Sample amount	Aim
H 8845 FM - 1	<i>Material sample</i> Moso Pure Bamboo, BF-DS110	surface: 0,1 m ²	Emission test in the 0,25m ³ -test chamber
H 8845 FM - 1.4	<i>Air Sample:</i> chamber air after 3 days	68 liter	Aldehydes and ketones
H 8845 FM - 1.8	<i>Air Sample:</i> chamber air after 28 days	30 liter	Aldehydes and ketones

2 Test methods

2.1 Information about test specimen and testing procedure

Test specimen	
General description	Moso Pure Bamboo, BF-DS110 – High Density (Moso Solid Strip), Batch N°.: QC292
Sampling at the store	Arjan van der Vegte Moso International BV
Date of sampling	28.03.2014
Place of sampling	Moso International BV De Marowjine 43 1689 AR Zwaag The Netherlands
Date of production	14.01.2014
packing at sample receipt	carton box with plastic foil
State of sample	intact
Storage of sample until testing	4 days
Making of test specimen and testing procedure	
Date of making	04.04.2014
Preparation of test specimen	Glas plate used as sample carrier, masking of angles with aluminium tape.
Start of emission test	04.04.2014, 4.00 p.m.
Sampling after 3 days	07.04.2014, 3.10 p.m.
Sampling after 28 days	02.05.2014, 9.50 a.m.
	
<p>Fig. 1: test specimen in the 0,25 m³ test chamber</p>	

2.2 Test method for emission testing of material samples by test chamber

- Emission test according to DIN EN ISO 16000-9:2008-04.
- sampling and analysis of volatile organic compounds according to DIN EN ISO 16000-6:2004-12, period of sampling ca. 10 min, volume flow 0,2 l/min
- sampling and analysis of aldehydes and ketones according to DIN EN ISO 16000-3:2002-08, period of sampling ca. 60 min, volume flow 1,5 l/min

Test chamber parameters:	H 8845 FM - 1
surface	0,1 m ²
Open angles	none
Chamber air volume	0,25 m ³
Temperature	23 °C
Humidity	50 %
Sample loading coefficient	0,4 m ² /m ³
Air exchange rate	0,5 h ⁻¹
Area specific air flow rate	1,25 m ³ /m ² /h

Quality of climate parameters: Normally the following climate parameters are maintained:

temperature: 23°C +- 1°C

relative humidity: 50%rh +- 3 %points. resp. 45 %rh +- 3 %points

air exchange rate: 0,5 1/h +-3%

air velocity: 0,1-0,3 m/s +- 0,1 m/s

3 Results

Parameters	H 8845 FM – 1.4 chamber air after 3 days [µg/m ³]	H 8845 FM – 1.8 chamber air after 28 days [µg/m ³]	dl [µg/m ³]
Methanal (Formaldehyde)	n.d.	n.d.	6 (0,005 ppm)

dl = detection limit

µg = Microgram

n.d. = not detected

µg/m³ = Microgram per cubic metre

- End of ANALYSIS REPORT -

The test results refer to the tested samples only. The analysis report may only be reported completely or – with permission of the Bremer Umweltinstitut – in parts.

With kind regards
Bremer Umweltinstitut

Ulrike Siemers,
Grad. Engineer Chemical Technics, test director