Zhejiang Xinhaiye Bamboo Technology Co., Ltd.
Xikou Industrial Zone, Longyou County
Zhejiang, China

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Dresden, 7 August, 2018

Test Report
Order no. 2218002, Pos. 8

Client:	Zhejiang Xinhaiye Bamboo Technology Co., Ltd.
	Xikou Industrial Zone, Longyou County
	Zhejiang, China
Date of order:	7 March, 2018
Order position:	Resistance to indentation (Brinell hardness)
Contractor:	EPH – Entwicklungs- und Prueflabor Holztechnologie GmbH
	Laboratory Unit Material and Product Testing
Engineer in charge:	Dipl.-Ing. J. Gecks

i. V.

Dipl.-Ing. J. Gecks
Head of Laboratory Material and Product Testing

The test report contains 3 pages. Any duplication, even in part, requires written permission of EPH. These test results are exclusively related to the tested material.

1 Terms of Reference

The Entwicklungs- und Prueflabor Holztechnologie GmbH (EPH) was ordered by
Zhejiang Xinhaiye Bamboo Technology Co., Ltd. to carry out the test below:
- Determination of resistance to indentation (Brinell hardness) acc. to DIN EN 1534.

2 Test Material

The test material was sent to the Contractor by the Client and got to the laboratory on 7 March, 2018.

Product name: **DASSO** DassoCTECH exterior strand woven bamboo decking

Producer: Fujian Dasso Industry Co., Ltd.
Zhuhai trading mall, Jianou city, Fujian province, China

Cross-section: 100 mm x 20 mm

The test material was conditioned at a temperature of 23 °C and a relative humidity of 50 % after cutting of the test pieces.

3 Realisation of Test

The test for determination of resistance to indentation (Brinell hardness) was carried out according to DIN EN 1534 at 50 measuring points.

A buffed steal sphere (D = 10 mm, diameter) was impressed into the surface of test specimens with a force F of 1000 N within 15 seconds. After 25 seconds of load holding, the sphere was got off. After 3 minutes waiting, the diameter (d) of impression was measured with a measuring magnifier (0.1 mm scale gradations).

The calculation of the resistance of indentation was carried out according to the following formula:

$$HB = \frac{2\,F}{g\,\pi\,D\,(D - \sqrt{D^2 - d^2})}\ [\text{N/mm}^2]$$

The test was carried out on 27 June, 2018.

4 Results

Table 1: Brinell hardness

No. of test specimen	Brinell hardness in N/mm²
1	59.5
2	58.1
3	58.1
4	74.3
5	63.9
6	76.3
7	70.6
8	97.7
9	74.3
10	67.1
11	70.6
12	70.6
13	76.3
14	74.3
15	89.7
16	68.8
17	78.3
18	78.3
19	62.4
20	76.3
21	87.2
22	82.6
23	72.4
24	92.3
25	82.6
26	78.3
27	78.3
28	76.3
29	78.3
30	82.6
31	84.9
32	78.3
33	82.6
34	87.2
35	82.6
36	103.7
37	92.3
38	121.1
39	84.9
40	84.9
41	84.9
42	78.3
43	80.4
44	67.1
45	78.3
46	76.3
47	82.6
48	82.6
49	76.3
50	95.0
Mean value of Brinell hardness	**79.2**
Standard deviation	11.4
Coefficient of variation (COV)	*14 %*

Dipl.-Ing. J. Gecks
engineer in charge