Intertek

TEST REPORT

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EVALUATION CENTER

Intertek Testing Services Ltd., Shanghai Jinqiao Branch
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RENDERED TO

Anhui Guofeng Wood-Plastic Composite Co.,Ltd.
No.2 Dongliu Road, Baohe Industrial Park, Hefei, Anhui, China

PRODUCT EVALUATED
Wood Plastic Composite Board

EVALUATION PROPERTY
Flexural Strength, Flexural Modulus, Impact Strength and Xenon Arc Weathering

Report of Testing wood plastic composite board for compliance with the applicable requirements of the following criteria: *ISO 178:2010, ISO 179-1:2010 and ISO 4892-2:2006*

1 Table of Contents

2 Introduction

Intertek has conducted testing for Anhui Guofeng Wood-Plastic Composite Co.,Ltd, on the wood plastic composite board samples in accordance with recognized ISO test procedures. This evaluation began on July 1, 2011 and was completed on September 26, 2011.

3 Test Samples

3.1. SAMPLE SELECTION

Samples were submitted to Intertek directly from the client. Samples were not independently selected for testing. Samples were received at the Evaluation Center on July 26, 2011.

3.2. SAMPLE AND ASSEMBLY DESCRIPTION

The samples were identified as wood plastic composite board. Photographs of samples were presented in Appendix A. The nominal sizes were summarized in Table 1 below.

Table 1

Table Nominal Dimensions		
Sample ID	Size(Length × Width × Thickness) (mm)	Quantity (pieces)
S1106197.001~S1106197.004	130×65	4
S1106197.005~S1106197.084	80×10×4	80

4 Testing and Evaluation Methods

The test specimens were conditioned for at least 48 hours at a temperature of 23 ± 2°C and relative humidity of 50 ± 5 % unless otherwise specified.

4.1 XENON ARC WEATHERING

The test was conducted in accordance with ISO 4892-2:2006. Used conditions stipulated in cycle 1 (Method A) of the standard. Expose the specimens and the radiometer continuously run. The irradiance was 0.51W/m^{2}nm at 340nm. The weathering cycle consisted of a humidification period of 18 minutes and a drying period of 102 minutes at a black-standard temperature of 63℃. Test cycles were repeated continuously until the total time 2000 hours (required by the applicant) was finished. Then, the flexural strength, impact strength and color change were performed. The value was compared between exposured and non-exposured specimens.

4.1.1. FLEXURAL STRENGTH AND FLEXURAL MODULUS

The test was conducted in accordance with ISO 178:2001. The dimension of the specimens was 80mm × 10mm × 4mm. The test rate was 2 mm/min. The width and thickness were measured to the nearest 0.01 mm at the centre of the test specimens. Then the specimen was placed symmetrically on the two supports. The force was applied at midspan. The load-strain curve was recorded, and the flexural strength and flexural modulus were calculated.

4.1.2. IMPACT STRENGTH

The test was conducted in accordance with ISO 179-1:2010. Ten specimens were tested. The dimensions of the specimens were 80 mm × 10 mm × 4 mm without notch. The width and thickness were measured before testing. After impact, the max load was recorded and the impact strength was calculated.

5 Testing and Evaluation Results

5.1. RESULTS AND OBSERVATIONS

The test results are summarized in Table 2 below.

Table 2. Test Result

Test Method	Test Item	Result	
ISO 4892-2	Xenon Arc Weathering	Non-exposure	2000 h Exposure
ISO 4892-2	• Color Change	-	Gray Scale 3
ISO 178	• Flexural Strength	26.3 MPa	25.0 MPa, decrease 4.9 %
	• Flexural Modulus	2.44 GPa	2.24 GPa, decrease 8.2 %
ISO 179	• Impact Strength	4.86 KJ/m^2	4.66KJ/m^2, decrease 4.1 %

5.1.1. Statement of Measurement Uncertainty

When determining the test result, measurement uncertainty has been considered.

6 Conclusion

The wood plastic composite board samples identified and evaluated in this report have been tested in accordance with ISO 178:2010, ISO 179-1:2010 and ISO 4892-2:2006. The results were presented in Section 5 of this test report.

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

INTERTEK

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7 Appendix A: Sample Photographs

Fig.1 Front View

Fig.2 Back View

Fig.3 Cross Section

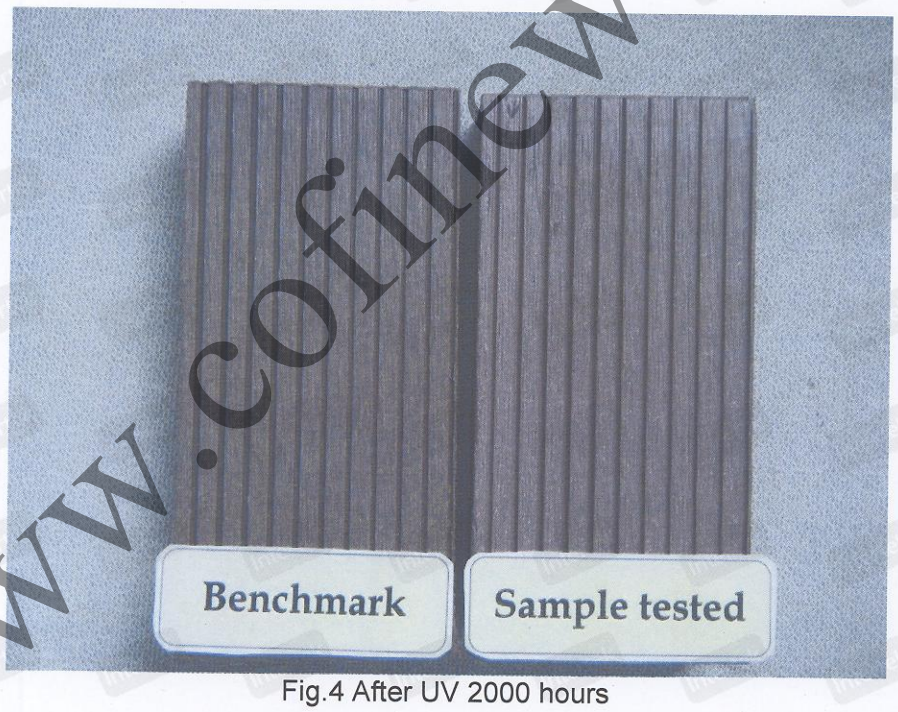

Fig.4 After UV 2000 hours

8 Revision Page

Revision No.	Date	Changes	Author	Reviewer
0	2011-9-26	First issue	Daniel Zhang	Jodie Zhou

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