



Test Report

Report Number: 161019101GZU-003

Applicant Name : Huangshan Huasu New Material Science & Technology Co., Ltd
Applicant Address : Chengbei Industrial Zone, Huizhou District, Huangshan, Anhui
Attn : Mr. Chen

Report Date : 2016-11-21

Sample Description:

This report pertains only to the sample models listed in the Product Description section of this report. The evaluated production model was submitted via the client's own courier on October 10, 2016. These samples were received in good condition and were evaluated between October 10, 2016 and November 21, 2016 at the Intertek Guangzhou laboratory located at Block E, No.7-2 Guang Dong Software Science Park, Cai Pin Road, Science city, Guangzhou Economic Development Zone, Guangzhou, P. R. China.

The submitted samples are WPC profile boards, model No.: Type K Taupe Grey, measured size of sample: 145mm*21mm (Width* thickness).

Ref No.: 3663602948827, 3663602948773, 3663602961550, 3663602948810, 3663602948445

Refer to product photos for appearance details.

Conclusion:

The submitted samples were subjected to below test items of EN 15534-1:2014 according to client's requirement.

| Test item | Clause | Test item | Clause |
|-----------------------|---------|-------------------------------|--------|
| Inclination plan test | 6.4.3 | Pull through resistance | 7.7 |
| Impact resistance | 7.1.2.1 | Swelling and water absorption | 8.3.1 |
| Tensile properties | 7.2 | Moisture resistance | 8.3.2 |
| Flexural properties | 7.3.2 | Boiling test | 8.3.3 |
| Brinell hardness | 7.5 | Heat reversion | 9.3 |

Results were listed on Page 2~4.

Should you have any query on this report, you may contact at katrin.le@intertek.com

Approved by:

Jones Zhong
Project Engineer

Prepared by:

Martin Guo
Testing Engineer

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The conclusions of this test report may no be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

TTRF-PERF-02-EN Approved Date: May 5, 2014

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Test Items, Method and Results:

*When determining the test result, measurement uncertainty has been considered.
If related to subcontract, the remark* for the test items conducted by a subcontractor.*

| No. | Test item | Test parameter | Test result | Verdict |
|-----|------------------------|--|--|---------|
| 1 | *Inclination plan test | <p>Test method: Clause 6.4.3 of EN 15534-1:2014</p> <p>A person carrying out the test (test person) moves in an upright position forward and backwards on the surface subjected to the test. The surface is wetted with water containing a wetting agent. The inclination of the test rig is increased starting from the horizontal position until an angle has been reached at which the testing person feels insecure.</p> <p>The test results are expressed according to three rating classes:</p> <ul style="list-style-type: none"> — Class A: 12°: the items with a test result from 12° to 17°; — Class B: 18°: the items with a test result from 18° to 23°; — Class C: 24°: the items with a test result from 24° upwards. <p>Requirement: Class C: $\geq 24^\circ$</p> | <p>Tested on surface with big stripes: 28°, Class C</p> <p>Tested on surface with small stripes: 28°, Class C</p> | Pass |
| 2 | Resistance to impact | <p>When tested in accordance with the test methods as specified in Table 2, using the parameters indicated, the profiles/tiles, as delivered to the customer, shall have characteristic conforming to the requirements given in Table 2.</p> <p>Hollow profiles: None of 10 test specimens shall show a failure with a crack length ≥ 10 mm or a depth of residual indentation $\geq 0,5$ mm. In case of one failure, 10 additional test specimens shall be tested and no failure with a crack length ≥ 10 mm or a depth of residual indentation $\geq 0,5$ mm shall occur. EN 15534-1:2014, 7.1.2.1 H: (700 ± 5) mm Ms: (1 000 ± 5) g</p> | <p>Falling impact on the profile surface: No crack occurred after impact. Average depth of residual indentation: 0.23mm Maximum depth of residual indentation: 0.26mm</p> <p>Falling impact on a longitudinal edge Average depth of residual indentation: 0.27mm Maximum depth of residual indentation: 0.29mm</p> | Pass |

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|-----|-------------------------------|--|---|---------|
| 3 | Tensile properties | The tensile properties shall be determined according to clause 7.2 of EN 15534-1:2014 and EN ISO 527-2:2012, by using specimens Type 1B. Speed: 1mm/min | Average Tensile Strength: 21.45MPa Average modulus of elasticity: 4561MPa Average elongation at break: 0.56% | — |
| 4 | Flexural properties | When tested in accordance with the test methods as specified in Table 3 of EN 15534-4: 2014, using the parameters indicated, the profiles/tiles, as delivered to the customer, shall have characteristics conforming to the requirements given in Table 3. Requirements: - $F_{max} \geq 3\,300\text{ N}$ (arithmetic mean value) - $F_{max} \geq 3\,000\text{ N}$ (individual values) - Deflection under a load of $500\text{ N} \leq 2,0\text{ mm}$ (arithmetic mean value) - Deflection under a load of $500\text{ N} \leq 2,5\text{ mm}$ (individual values) Span in use declared by the manufacturer Test method: EN 15534-1:2014, Annex A | Span: 320mm Average F_{max} : 3547N Minimum F_{max} : 3474N Average deflection under 500N: 1.04mm Maximum deflection under 500N: 1.05mm Average bending strength: 32.56MPa Average modulus of elasticity: 3281MPa | Pass |
| 5 | Brinell Hardness | Test method: Clause 7.5 of EN 15534-1:2014 Client's requirement: $>50\text{N/mm}^2$ | Average : 53.1N/mm^2 Minimum: 52.1N/mm^2 | Pass |
| 6 | Pull through resistance | Test method: Clause 7.7 of EN 15534-1:2014 Diameter of shank of nail: 2,9mm Diameter of shank of staple: 2,2mm Staple width: 12,5mm No requirement. | Average pull through resistance of nails: 15.70N/mm^2 Average pull through resistance of staples: 2.42N/mm^2 | — |
| 7 | Swelling and water absorption | Test method: Clause 8.3.1 of EN 15534-1:2014 Client's requirement: Average dimension change: ΔL (Length) $\leq 0.3\%$ ΔI (Width) $\leq 0.7\%$ Δe (Thickness) $\leq 4\%$ Individual dimension change: ΔL (Length) $\leq 0.6\%$ ΔI (Width) $\leq 1.2\%$ Δe (Thickness) $\leq 5\%$ | Average : Water absorption: 3.28% Length change: 0.18% Width change: 0.17% Thickness change: 1.30% Individual maximum : Water absorption: 3.41% Length change: 0.22% Width change: 0.21% Thickness change: 1.54% | Pass |

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| No. | Test item | Test parameter | Test result | Verdict |
|-----|---------------------|---|--|---------|
| 8 | Moisture resistance | When tested in accordance with clause 8.3.2 of EN 15534-1:2014 Requirement: Mean of decrease of bending strength ≤ 20 % Individual decrease of bending strength ≤ 30 % | Span: 320mm Average bending strength before moisture cycles: 32.56MPa Average bending strength after moisture cycles: 28.05MPa Change: -14% Minimum bending strength before moisture cycles: 32.02MPa Minimum bending strength after moisture cycles: 27.26MPa Change: -14% Average modulus of elasticity before moisture cycles: 3281MPa Average modulus of elasticity after moisture cycles: 2812MPa Change: -14% | Pass |
| 9 | Boiling test | Test method: According to Clause 8.3.3 of EN 15534-1:2014 Client's requirement: Average dimension change: ΔL (Length) ≤ 0.3% Δl (Width) ≤ 0.7% Δe (Thickness) ≤ 4% Individual dimension change: ΔL (Length) ≤ 0.6% Δl (Width) ≤ 1.2% Δe (Thickness) ≤ 5% | Average : Water absorption: 3.29% Length change: 0.10% Width change: 0.13% Thickness change: 3.29% Individual maximum : Water absorption: 3.39% Length change: 0.14% Width change: 0.15% Thickness change: 3.62% | Pass |
| 10 | Heat reversion | Test method: Clause 9.3 of EN 15534-1:2014 Client's requirement: Weight : ≤1%; Dimensions : ≤0.1% | Average : Weight change: 0.25% Length change: 0.10% Width change: 0.08% Thickness change: 0.10% | Pass |

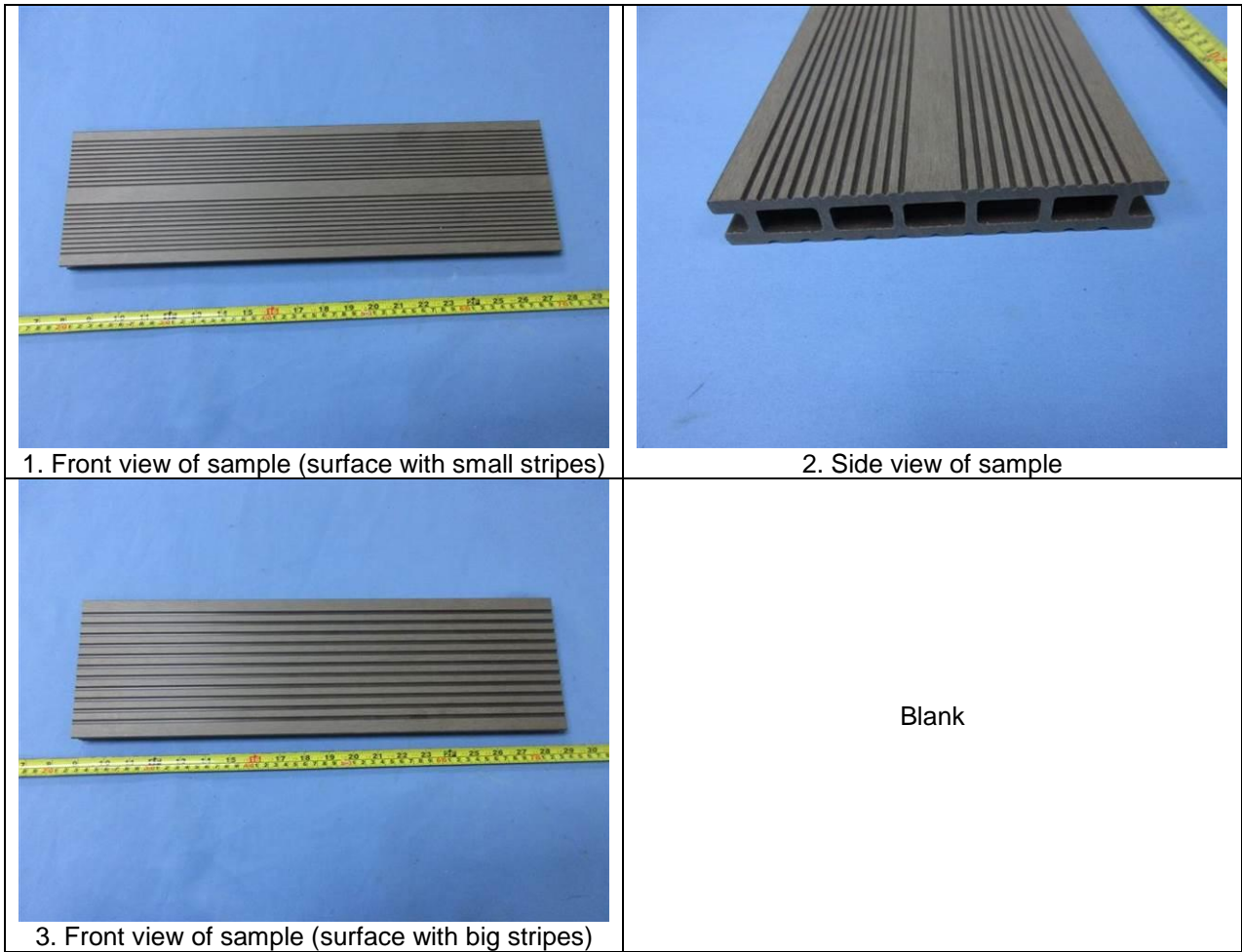
Table 1 Test parameters

| Method A — Exposures using daylight filters (artificial weathering) | | | | | | |
|---|-----------------------------------|--|--|-------------------------------|-------------------------|----------------------|
| Cycle No. | Exposure period | Irradiance | | Black-standard temperature °C | Chamber temperature, °C | Relative humidity, % |
| | | Broadband (300 nm to 400 nm), W/m ² | Narrowband (340 nm) W/(m ² *nm) | | | |
| 1 | 102 min dry 18 min water spray | 60 ± 2 60 ± 2 | 0,51 ± 0,02 0,51 ± 0,02 | 65 ± 3 — | 38 ± 3 — | 50 ± 10 — |

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Sample Photo



Revision Summary

| DD/MM/YYYY | Project Engineer/ Reviewer | Page # | Project No | Reason for revision |
|------------|-------------------------------|--------|--------------|---------------------|
| 21/11/2016 | Martin Guo/ Jones Zhong | 5 | 161019101GZU | First issue |

The End of The Report