

# LEADVISION INTERNATIONAL LTD

## TEST REPORT

**REPORT NUMBER**

180611002SHF-BP-2

**ISSUE DATE**

2018-07-05

**PAGES**

11

**DOCUMENT CONTROL NUMBER**

LFT-APAC-SHF-OP-10a

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## Test Report

Issue Date: 2018-07-05 Intertek Report No. 180611002SHF-BP-2

Applicant: LEADVISION INTERNATIONAL LTD

Applicant Address: 348/4 Moo 1, Changphueak, Chiang Mai, Thailand, 50300

Attn: Grace

Applicant: LEADVISION INTERNATIONAL LTD

Applicant Address: 348/4 Moo 1, Changphueak, Chiang Mai, Thailand, 50300

Attn: Marc D'Amico

**SUBJECT:** Performance testing  
WPC CLADDING

Dear Sir,

This test report represents the results of our evaluation of the above referenced product(s) to the requirements contained in the following standards:

| TEST METHODS AND STANDARDS         |  |  |
|------------------------------------|--|--|
| Refer to the next following Pages. |  |  |

| SAMPLE ID             | MODEL       | SPECIFICATION |
|-----------------------|-------------|---------------|
| S180611002SHF.001~008 | YZS14814A-G | 3660*148*14mm |
|                       |             |               |

SAMPLE RECEIVED: 2018-06-04  
TESTED FROM: 2018-06-11 TO 2018-07-05

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## Test Report

Issue Date: 2018-07-05

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### Test Items, Method and Results:

Test Item: Flexural properties

Sample Condition: 40 hours at a temperature of  $23\pm 2^{\circ}\text{C}$  and relative humidity of  $50\pm 5\%$

Test Span: 120mm, required by applicant

| Test Items          | Test Method               | Test Results              |      |     |
|---------------------|---------------------------|---------------------------|------|-----|
| Flexural Properties | ASTM D7031-11 Section 5.5 | Flexural strength (MOR):  | 22.3 | MPa |
|                     | ASTM D6109-13             | Flexural Stiffness (MOE): | 2613 | MPa |

## Test Report

Issue Date: 2018-07-05

Intertek Report No. 180611002SHF-BP-2

### Test Items, Method and Results:

Test Item: Creep recovery

Sample Condition: 40 hours at a temperature of  $23\pm 2^{\circ}\text{C}$  and relative humidity of  $50\pm 5\%$

Test Span: 120mm, required by applicant

| Test Items     | Test Method                | Test Results         |
|----------------|----------------------------|----------------------|
| Creep recovery | ASTM D7031-11 Section 5.10 | Creep recovery: 96 % |

## Test Report

Issue Date: 2018-07-05

Intertek Report No. 180611002SHF-BP-2

### Test Items, Method and Results:

Test Item: Freeze-thaw resistance  
Sample Condition: Three cycles of water submersion, freezing and thawing.  
Test Span: 120mm, required by applicant

| Test Items             | Test Method                | Test Results              |      |     |
|------------------------|----------------------------|---------------------------|------|-----|
| Freeze-thaw Resistance | ASTM D7031-11 Section 5.20 | Flexural strength (MOR):  | 14.1 | MPa |
|                        | ASTM D6109-13              | Flexural Stiffness (MOE): | 1982 | MPa |

### Note:

Exposure cycle condition:

- 1) Submerge underwater for 24 hours
- 2) Place in a freezer at -29°C for 24 hours
- 3) Return to room temperature for 24 hours

## Test Report

Issue Date: 2018-07-05

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### Test Items, Method and Results:

Test Item: Resistance to artificial weathering - Fluorescent UV lamps

Test Sample: WPC CLADDING

Test Method: ASTM G154-16 Cycle 1

Light Source: UVA-340

The Exposure cycle:

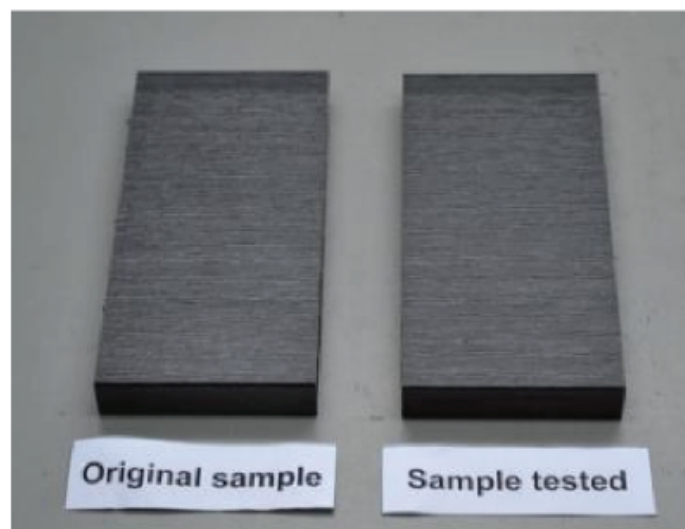
1) 8 hours dry, Irradiance:  $0.89 \text{ W/m}^2$  at 340 nm, Black-panel temperature:  $60^\circ\text{C} \pm 3^\circ\text{C}$

2) 4 hours condensation, Irradiance: UV lamps off, Black-panel temperature:  $50^\circ\text{C} \pm 3^\circ\text{C}$

Test Duration: 300 hours

Test Result:

| Exposure time | $\Delta L^*$ | $\Delta a^*$ | $\Delta b^*$ | $\Delta E^*$ | Grey scale | Observation                     |
|---------------|--------------|--------------|--------------|--------------|------------|---------------------------------|
| 300 hours     | -0.79        | -0.02        | 0.06         | 0.79         | 4-5        | Part showed slight color change |



After test

## Test Report

Issue Date: 2018-07-05

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### Test Items, Method and Results:

Test Item: Specific gravity

Sample Condition: 40 hours at a temperature of  $23\pm 2^{\circ}\text{C}$  and relative humidity of  $50\pm 5\%$

| Test Items       | Test Method                                 | Test Results            |
|------------------|---------------------------------------------|-------------------------|
| Specific Gravity | ASTM D7031-11 Section 5.14<br>ASTM D2395-17 | 1.197 g/cm <sup>3</sup> |

## Test Report

Issue Date: 2018-07-05

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### Test Items, Method and Results:

Test Item: Moisture content

Sample Condition: 40 hours at a temperature of  $23\pm 2^{\circ}\text{C}$  and relative humidity of  $50\pm 5\%$

| Test Items       | Test Method                                 | Test Results |
|------------------|---------------------------------------------|--------------|
| Moisture content | ASTM D7031-11 Section 5.15<br>ASTM D4442-16 | 0.36%        |

## Test Report

Issue Date: 2018-07-05

Intertek Report No. 180611002SHF-BP-2

### Test Items, Method and Results:

Test Item: Moisture absorption and thickness swell

Test Condition: Submersion in water at 23°C

Submersion Time: 24h

| Test Items                              | Test Method                | Test Results      |      |   |
|-----------------------------------------|----------------------------|-------------------|------|---|
| Moisture Absorption and Thickness Swell | ASTM D7031-11 Section 5.19 | Water absorption: | 0.44 | % |
|                                         | ASTM D1037-12 Section 23   | Thickness swell:  | 0.14 | % |

## Test Report

Issue Date: 2018-07-05

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### Test Items, Method and Results:

Test Item: Coefficient of Linear Thermal Expansion  
Test Method: ASTM D696-16  
Conditioning: Condition the test specimens at 23±2°C and 50±10 % relative humidity for not less than 40 h  
Test Sample: WPC CLADDING  
Specimen Size: 80×10×10 mm (length × width × thickness)  
Temperature Range: From -30°C (-22°F) to 30°C (86°F)

### Test Result:

| Test Item                               | Result                                      |
|-----------------------------------------|---------------------------------------------|
| Coefficient of Linear Thermal Expansion | Mean value: 42.9 ×10 <sup>-6</sup> mm/mm/°C |

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### APPENDIX: SAMPLE RECEIVED PHOTO



### REPORT AUTHORIZED

When signed with physical or electronic signature, the contents of this report have been prepared and approved per Intertek's quality process in accordance with ISO 17025.

*Torres Qi*  *Kyle Wang*

Name: Torres Qi

Title: Reviewer

Name: Kyle Wang

Title: Project Engineer

### Revision:

| NO.               | DATE       | CHANGES     | AUTHOR    | REVIEWER  |
|-------------------|------------|-------------|-----------|-----------|
| 180611002SHF-BP-2 | 2018-07-05 | First issue | Kyle Wang | Torres Qi |