



中国认可  
国际互认  
检测  
TESTING  
CNAS L2249

REPORT No. 26-0167-4

# TEST REPORT

PRODUCT Film Faced Plywood

CUSTOMER Benchmark Industries Company Limited

CLASSIFYING ENTRUSTED TESTING

国家林业和草原局人造板及其制品质量检验检测中心（南京）  
WOOD-BASED PANEL QUALITY INSPECTION AND TESTING CENTER OF  
NATIONAL FORESTRY AND GRASSLAND ADMINISTRATION (NANJING)

南京林业大学木材及其制品测试中心

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## TESTING REPORT

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|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------|
| Inspected unit  | Benchmark Industries Company Limited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |                              |
| Production unit | Benchmark Industries Company Limited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |                              |
| Product name    | Film Faced Plywood                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Trademark              | /                            |
| Product size    | Thickness: 15mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Testing classification | Entrusted testing            |
| Grade           | /                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Standard               | EN 310:1993<br>EN 314-1:2004 |
| Production date | March 6, 2026                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sample size            | mm: 500×500×15    5pcs       |
| Bonding class   | Class 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Wood species           | Eucalyptus core              |
| Testing item    | Bonding quality、Bending strength、Modulus of elasticity in bending                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                              |
| Conclusion      | <p>Required by Benchmark Industries Company Limited, According to the standard EN 314-1 and EN 310, Wood &amp; Wooden product testing center of Nanjing Forestry University tests its sending the Plywood samples' Bonding quality、Bending strength、Modulus of elasticity in bending. Test values see in Page 2 /Page 3 /Page 4.</p> <p style="text-align: right;">Testing unit (stamp):<br/>Issuing date: March 31, 2026</p>                                                                                                                                                                                                                                                                                    |                        |                              |
| Remarks         | <p>1. The production unit's name and trademark of the product are supplied by the inspected unit.</p> <p>2. This report is only responsible for sending samples.</p> <p>3. Bonding quality' details of pretreatments EN314-1 5.1.1: Immersion for 24 hours in water at <math>(20 \pm 3)^{\circ}\text{C}</math> and EN314-1 5.1.3: Immersion for 4 hours in boiling water, then drying in the ventilated drying oven for 16 hours to 20 hours at <math>(60 \pm 3)^{\circ}\text{C}</math>, then Immersion in boiling water for 4 hours, followed by cooling in water at <math>(20 \pm 3)^{\circ}\text{C}</math> for at least 1 hour to decrease temperature of test pieces to <math>20^{\circ}\text{C}</math>.</p> |                        |                              |

Approved by: 顾海机    Reviewed by: 梁星宇    Compiled by: 刘明

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|                                 |                                         |                                      |                                                 |                              |
|---------------------------------|-----------------------------------------|--------------------------------------|-------------------------------------------------|------------------------------|
| Inspected unit                  |                                         | Benchmark Industries Company Limited |                                                 |                              |
| Product name                    |                                         | Film Faced Plywood                   | Sampling method                                 | Sending                      |
| Product size                    |                                         | Thickness: 15mm                      | Standard                                        | EN 310:1993<br>EN 314-1:2004 |
| Testing date                    |                                         | March 16, 2026 TO<br>March 31, 2026  |                                                 |                              |
| Testing item                    |                                         | Unit                                 | Standard used                                   | Tested value                 |
| Bonding quality<br>(glueline 1) | Mean shear strength(fv)                 | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.1) | 1.35                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.19                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 62                           |
| Bonding quality<br>(glueline 2) | Mean shear strength(fv)                 | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.1) | 1.24                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.30                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 34                           |
| Bonding quality<br>(glueline 3) | Mean shear strength(fv)                 | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.1) | 1.13                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.33                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 56                           |
| Bonding quality<br>(glueline 4) | Mean shear strength(fv)                 | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.1) | 1.23                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.14                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 52                           |
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|                                 |                                         |                                      |                                                 |                              |
|---------------------------------|-----------------------------------------|--------------------------------------|-------------------------------------------------|------------------------------|
| Inspected unit                  |                                         | Benchmark Industries Company Limited |                                                 |                              |
| Product name                    |                                         | Film Faced Plywood                   | Sampling method                                 | Sending                      |
| Product size                    |                                         | Thickness: 15mm                      | Standard                                        | EN 310:1993<br>EN 314-1:2004 |
| Testing date                    |                                         | March 16, 2026 TO<br>March 31, 2026  |                                                 |                              |
| Testing item                    |                                         | Unit                                 | Standard used                                   | Tested value                 |
| Bonding quality<br>(glueline 1) | Mean shear strength( $f_v$ )            | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.3) | 1.02                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.16                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 94                           |
| Bonding quality<br>(glueline 2) | Mean shear strength( $f_v$ )            | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.3) | 1.03                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.34                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 95                           |
| Bonding quality<br>(glueline 3) | Mean shear strength( $f_v$ )            | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.3) | 0.87                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.31                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 77                           |
| Bonding quality<br>(glueline 4) | Mean shear strength( $f_v$ )            | N/mm <sup>2</sup>                    | EN 314-1<br>(pretreatments by<br>EN314-1 5.1.3) | 0.93                         |
|                                 | The standard deviation                  | —                                    |                                                 | 0.24                         |
|                                 | Mean apparent cohesive wood failure (W) | %                                    |                                                 | 94                           |
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WOOD & WOODEN PRODUCT TESTING CENTER OF NANJING FORESTRY UNIVERSITY  
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|                                  |                                                                                                                                                                                                                                                                                                                                                                    |                                      |                 |                              |       |
|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------|------------------------------|-------|
| Inspected unit                   |                                                                                                                                                                                                                                                                                                                                                                    | Benchmark Industries Company Limited |                 |                              |       |
| Product name                     |                                                                                                                                                                                                                                                                                                                                                                    | Film Faced Plywood                   | Sampling method | Sending                      |       |
| Product size                     |                                                                                                                                                                                                                                                                                                                                                                    | Thickness: 15mm                      | Standard        | EN 310:1993<br>EN 314-1:2004 |       |
| Testing date                     |                                                                                                                                                                                                                                                                                                                                                                    | March 16, 2026 TO<br>March 31, 2026  |                 |                              |       |
| Testing item                     |                                                                                                                                                                                                                                                                                                                                                                    | Unit                                 | Standard used   | Tested value                 |       |
| Bending strength                 | Longitudinal grain                                                                                                                                                                                                                                                                                                                                                 | N/mm <sup>2</sup>                    | EN 310          | Panel average                | 52.1  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                    |                                      |                 | Standard deviation           | 9.2   |
|                                  | Cross grain                                                                                                                                                                                                                                                                                                                                                        | N/mm <sup>2</sup>                    |                 | Panel average                | 56.7  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                    |                                      |                 | Standard deviation           | 5.7   |
| Modulus of elasticity in bending | Longitudinal grain                                                                                                                                                                                                                                                                                                                                                 | N/mm <sup>2</sup>                    | EN 310          | Panel average                | 6360  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                    |                                      |                 | Standard deviation           | 349.3 |
|                                  | Cross grain                                                                                                                                                                                                                                                                                                                                                        | N/mm <sup>2</sup>                    |                 | Panel average                | 7330  |
|                                  |                                                                                                                                                                                                                                                                                                                                                                    |                                      |                 | Standard deviation           | 384.4 |
| Below blank                      |                                                                                                                                                                                                                                                                                                                                                                    |                                      |                 |                              |       |
| Remarks                          | Bending strength(specimen dimension:350mm×50mm×15mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers)<br>Bonding quality(specimen dimension: 100mm×25mm×15mm; 10 test pieces per glueline)<br>Modulus of elasticity in bending(specimen dimension: 350mm×50mm×15mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers) |                                      |                 |                              |       |