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中国认可
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检测
TESTING
CNAS L2249

REPORT No. 26-0164

TEST REPORT

PRODUCT 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

WOOD & WOODEN PRODUCT TESTING CENTER OF NANJING FORESTRY UNIVERSITY

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WOOD & WOODEN PRODUCT TESTING CENTER OF NANJING FORESTRY UNIVERSITY

TESTING REPORT

No.26-0164 4 PAGES No.1

Inspected unit	Benchmark Industries Company Limited		
Production unit	Benchmark Industries Company Limited		
Product name	Plywood	Trademark	/
Product size	Thickness: 21mm	Testing classification	Entrusted testing
Grade	/	Standard	EN 323:1993, EN 310:1993 EN 314-1:2004 EN 717-1:2004
Production date	March 6, 2026	Sample size	mm: 600×600×21 5pcs
Bonding class	Class 3	Wood species	Eucalyptus core
Testing item	Density、Bonding quality、Modulus of elasticity in bending、Bending strength、Formaldehyde release		
Conclusion	Required by Benchmark Industries Company Limited, According to the standard EN323, EN 314-1， EN 310 and EN 717-1 , Wood & Wooden product testing center of Nanjing Forestry University tests its sending the Plywood samples' Density、Bonding quality、Modulus of elasticity in bending、Bending strength and Formaldehyde release Test values see in Page 2 /Page 3 /Page 4. Testing unit(stamp): Issuing date: April 2, 2026		
Remarks	1. The production unit's name and trademark of the product are supplied by the inspected unit. 2. This report is only responsible for sending samples. 3. Bonding quality' details of pretreatments EN314-1 5.1.1: Immersion for 24 hours in water at (20±3)℃ and EN314-1 5.1.3: Immersion for 4 hours in boiling water, then drying in the ventilatned drying oven for 16 hours to 20 hours at(60±3)℃, then Immersion in boiling water for 4 hours, followed by cooling in water at(20±3)℃ for at least 1 hour to decrease temperature of test pieces to 20℃. 4. Base on the outer veneers is too thin, the outer guleline (1, 8) no tested.		

Approved by: Reviewed by: Compiled by :

WOOD & WOODEN PRODUCT TESTING CENTER OF NANJING FORESTRY UNIVERSITY

TESTING REPORT

No.26-0164 4 PAGES No.2

Inspected unit	Benchmark Industries Company Limited			
Product name	Plywood		**Sampling method**	Sending
Product size	Thickness: 21mm		Standard	EN 323:1993,EN 310:1993 EN 314-1:2004 EN 717-1:2004
Testing date	March 16, 2026 TO April 2, 2026			
Testing item		**Unit**	**Standard used**	**Tested value**
Bonding quality (glueline 2)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.1)	1. 57
	The standard deviation	—		0. 15
	Mean apparent cohesive wood failure (W)	%		29
Bonding quality (glueline 3)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.1)	1. 51
	The standard deviation	—		0. 41
	Mean apparent cohesive wood failure (W)	%		96
Bonding quality (glueline 4)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.1)	1. 66
	The standard deviation	—		0. 32
	Mean apparent cohesive wood failure (W)	%		92
Bonding quality (glueline 5)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.1)	1. 93
	The standard deviation	—		0. 26
	Mean apparent cohesive wood failure (W)	%		86
Bonding quality (glueline 6)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.1)	1. 67
	The standard deviation	—		0. 46
	Mean apparent cohesive wood failure (W)	%		92
Bonding quality (glueline 7)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.1)	1. 43
	The standard deviation	—		0. 25
	Mean apparent cohesive wood failure (W)	%		46
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WOOD & WOODEN PRODUCT TESTING CENTER OF NANJING FORESTRY UNIVERSITY

TESTING REPORT

No.26-0164 4 PAGES No.3

Inspected unit	Benchmark Industries Company Limited		
Product name	Plywood	**Sampling method**	Sending
Product size	Thickness: 21mm	Standard	EN 323:1993,EN 310:1993 EN 314-1:2004 EN 717-1:2004
Testing date	March 16, 2026 TO April 2, 2026		

Testing item		**Unit**	**Standard used**	**Tested value**
Bonding quality (glueline 2)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.3)	1. 42
	The standard deviation	—		0. 22
	Mean apparent cohesive wood failure (W)	%		92
Bonding quality (glueline 3)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.3)	1. 35
	The standard deviation	—		0. 15
	Mean apparent cohesive wood failure (W)	%		88
Bonding quality (glueline 4)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.3)	1. 24
	The standard deviation	—		0. 30
	Mean apparent cohesive wood failure (W)	%		98
Bonding quality (glueline 5)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.3)	1. 36
	The standard deviation	—		0. 23
	Mean apparent cohesive wood failure (W)	%		92
Bonding quality (glueline 6)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.3)	1. 27
	The standard deviation	—		0. 30
	Mean apparent cohesive wood failure (W)	%		96
Bonding quality (glueline 7)	Mean shear strength(fv)	N/mm^2	EN 314-1 (pretreatments by EN314-1 5.1.3)	1. 33
	The standard deviation	—		0. 23
	Mean apparent cohesive wood failure (W)	%		100

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WOOD & WOODEN PRODUCT TESTING CENTER OF NANJING FORESTRY UNIVERSITY
TESTING REPORT

No.26-0164 4 PAGES No.4

Inspected unit	Benchmark Industries Company Limited				
Product name	Plywood		**Sampling method**	Sending	
Product size	Thickness: 21mm		Standard	EN 323:1993,EN 310:1993 EN 314-1:2004 EN 717-1:2004	
Testing date	March 16, 2026 TO April 2, 2026				
Testing item		**Unit**	**Standard used**	**Tested value**	
Bending strength	Longitudinal grain	N/mm^2	EN 310	Panel average	55.2
				Standard deviation	5.5
	Cross grain	N/mm^2		Panel average	36.5
				Standard deviation	5.8
Density		kg/m^3	EN323	Average: 626	
Formaldehyde release		mg/m^3	EN 717-1:2004 ($1m^3$ test chamber)	0.038	
Modulus of elasticity in bending	Longitudinal grain	N/mm^2	EN 310	Panel average	7390
				Standard deviation	1086.0
	Cross grain	N/mm^2		Panel average	5380
				Standard deviation	644.3
Remarks	Density(specimen dimension:50mm×50mm×21mm; number: 6) Bending strength(specimen dimension:470mm×50mm×21mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers) Bonding quality(specimen dimension: 100mm×25mm×21mm; 10 test pieces per glueline) Modulus of elasticity in bending(specimen dimension: 470mm×50mm×21mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers)				