



中国认可  
国际互认  
检测  
TESTING  
CNAS L2249

REPORT No.19-1187

# TEST REPORT



PRODUCT PLYWOOD

COMPANY Xuzhou Huayu International Imports&Export Co., Ltd.

CLASSIFYING ENTRUSTED TESTING



国家林业局人造板及其制品质量检验检测中心(南京)

南京林业大学木材及其制品测试中心

WOOD PRODUCTS QUALITY TEST& INSPECTION CENTER  
OF STATE FORESTRY ADMINISTRATION (NANJING)

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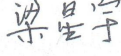

WOOD PRODUCTS QUALITY TEST& INSPECTION CENTER  
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## TESTING REPORT

No.19-1187

4 PAGES No.1

Inspected unit	Xuzhou Huayu International Imports&Export Co., Ltd.		
Production unit	Xuzhou Huayu Wood Co., Ltd.		
Product name	Plywood	Trademark	/
Product size	mm: 2440×1220×12	Testing classification	Entrusted testing
Grade	Acceptable part	Standard	EN314-1, EN314-2, EN 310 EN322, EN323 ISO 12460-3
Batch No./ Production date	20191009// 2019-10-09	Sample size	mm: 500×500×12 4pcs
Bonding class	Class 3	Wood species	Poplar Face Eucalyptus core
Testing item	Moisture content, Density, Bonding quality, Modulus of elasticity in bending, Bending strength, Formaldehyde release		
Conclusion	<p>Required by Xuzhou Huayu International Imports&amp;Export Co.,Ltd., According to the standard EN322, EN323, EN314-1,EN314-2, EN 310 and ISO 12460-3, Wood Products Quality &amp; Inspection Center of State Forestry Administration (Nanjing) tests its sending the plywood samples' Mechanical properties (Moisture content, Density, Bonding quality, Modulus of elasticity in bending, Bending strength) and Formaldehyde release.</p> <p>Test values see in Page 2、 Page 3 and Page 4.</p> <p style="text-align: right;">Testing unit(stamp): Issuing date: November 8, 2019</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 (20±3)°C. EN314-1 5.1.4: Immersion for (72±1) hours in boiling water, followed by cooling in water at(20±3)°C for at least 1 hour to decrease temperature of test pieces to 20°C.</p>		

Approved by:  Reviewed by:  Tested by: 

WOOD PRODUCTS QUALITY TEST & INSPECTION CENTER

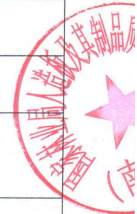
OF STATE FORESTRY ADMINISTRATION (NANJING)

TESTING REPORT

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4 PAGES No.2

Inspected unit	Xuzhou Huayu International Imports&Export Co., Ltd.			
Product name	Plywood	Sampling method	Sending	
Product size	mm: 2440×1220×12	Standard	EN314-1,EN314-2,EN310 EN322, EN323 ISO 12460-3	
Testing date	October 30, 2019 TO November 8, 2019			
<b>Testing item</b>		<b>Unit</b>	<b>Standard used</b>	<b>Tested value</b>
Bonding quality (glueline 1)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.54
	The standard deviation	—		0.44
	Mean apparent cohesive wood failure (W)	%		65
Bonding quality (glueline 2)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.36
	The standard deviation	—		0.18
	Mean apparent cohesive wood failure (W)	%		66
Bonding quality (glueline 3)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.62
	The standard deviation	—		0.22
	Mean apparent cohesive wood failure (W)	%		88
Bonding quality (glueline 4)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.41
	The standard deviation	—		0.20
	Mean apparent cohesive wood failure (W)	%		100



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4 PAGES No.3

Inspected unit	Xuzhou Huayu International Imports&Export Co., Ltd.			
Product name	Plywood	Sampling method	Sending	
Product size	mm: 2440×1220×12	Standard	EN314-1,EN314-2,EN310 EN322, EN323 ISO 12460-3	
Testing date	October 30, 2019 TO November 8, 2019			
Testing item		Unit	Standard used	Tested value
Bonding quality (glueline 1)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	0.96
	The standard deviation	—		0.08
	Mean apparent cohesive wood failure (W)	%		45
Bonding quality (glueline 2)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	1.20
	The standard deviation	—		0.24
	Mean apparent cohesive wood failure (W)	%		53
Bonding quality (glueline 3)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	1.14
	The standard deviation	—		0.19
	Mean apparent cohesive wood failure (W)	%		30
Bonding quality (glueline 4)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	1.09
	The standard deviation	—		0.11
	Mean apparent cohesive wood failure (W)	%		58



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4 PAGES No.4

Inspected unit		Xuzhou Huayu International Imports&Export Co., Ltd.			
Product name		Plywood		Sampling method	Sending
Product size		mm: 2440×1220×12		Standard	EN314-1, EN314-2, EN310 EN322, EN323 ISO 12460-3
Testing date		October 30, 2019 TO November 8, 2019			
Testing item		Unit	Standard used	Tested value	
Bending strength	Longitudinal grain	N/mm <sup>2</sup>	EN 310	Panel average	48.3
		Cross grain		N/mm <sup>2</sup>	Standard deviation
	Cross grain			N/mm <sup>2</sup>	Panel average
		Cross grain		N/mm <sup>2</sup>	Standard deviation
Moisture content			%	EN322	Average: 5.4
Density		kg/m <sup>3</sup>	EN323	Average: 595	
Modulus of elasticity in bending	Longitudinal grain	N/mm <sup>2</sup>	EN 310	Panel average	6709
		Cross grain		N/mm <sup>2</sup>	Standard deviation
	Cross grain			N/mm <sup>2</sup>	Panel average
		Cross grain		N/mm <sup>2</sup>	Standard deviation
Formaldehyde release			mg/m <sup>2</sup> h	ISO 12460-3	Average: 0.25
Remarks	Moisture content (specimen dimension:50mm×50mm×12mm; number: 6) Density(specimen dimension:50mm×50mm×12mm; number: 6) Bending strength(specimen dimension: 290mm×50mm×12mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers) Bonding quality(specimen dimension: 100mm×25mm×12mm; 10 test pieces per glue line) Modulus of elasticity in bending(specimen dimension: 290mm×50mm×12mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers) Formaldehyde release (specimen dimension:400mm×50mm×12mm; number: 2)				