



中国认可  
国际互认  
检测  
TESTING  
CNAS L2249

REPORT No.17-1081



# TEST REPORT

PRODUCT PLYWOOD

COMPANY XUZHOU HUAYU WOOD INDUSTRY 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)

ADD: No.159 Longpan Road, Nanjing Forestry University, Jiangsu Province, China

中国江苏省南京市龙蟠路 159 号 南京林业大学内

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OF STATE FORESTRY ADMINISTRATION (NANJING)

TESTING REPORT

No.17-1081

4 PAGES No.1

Inspected unit	XUZHOU HUAYU WOOD INDUSTRY CO., LTD.		
Production unit	XUZHOU HUAYU WOOD INDUSTRY CO., LTD.		
Product name	Plywood	Trademark	
Product size	Thickness: 14mm	Testing classification	Entrusted testing
Grade	Acceptable part	Standard	EN314-1, EN314-2, EN 310 EN322, EN717-2, EN323
Batch No./ Production date	// 2017-08-31	Sample size	mm: 600×600×14 4pcs
Bonding class	/	Wood species	Poplar
Testing item	Moisture content, Density, Bonding quality, Modulus of elasticity in bending, Bending strength, formaldehyde release		
Conclusion	<p>Required by XUZHOU HUAYU WOOD INDUSTRY CO., LTD. according to the standard EN322, EN323, EN314-1, EN314-2, EN 310 and EN717-2, 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、Page3 and Page4</p> <p style="text-align: right;">Testing unit(stamp) Issuing date: October 2017</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. EN314-13 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: 苏门德      Reviewed by: 梁金宇      Tested by: 曹新高

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

## TESTING REPORT

No.17-1081

4 PAGES No.2

Inspected unit	XUZHOU HUAYU WOOD INDUSTRY CO., LTD.			
Product name	Plywood	Sampling method	Sending	
Product size	Thickness: 14mm	Standard	EN314-1, EN314-2, EN310 EN322, EN717-2, EN 323	
Testing date	September 25, 2017 TO October 12, 2017			
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 5.1.1)	1.14
	The standard deviation	—		0.08
	Mean apparent cohesive wood failure (W)	%		84
Bonding quality (glueline 2)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.20
	The standard deviation	—		0.16
	Mean apparent cohesive wood failure (W)	%		74
Bonding quality (glueline 3)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.23
	The standard deviation	—		0.07
	Mean apparent cohesive wood failure (W)	%		63
Bonding quality (glueline 4)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.1)	1.22
	The standard deviation	—		0.25
	Mean apparent cohesive wood failure (W)	%		100



WOOD PRODUCTS QUALITY TEST & INSPECTION CENTER

OF STATE FORESTRY ADMINISTRATION (NANJING)

TESTING REPORT

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4 PAGES No.3

Inspected unit		XUZHOU HUAYU WOOD INDUSTRY CO., LTD.		
Product name		Plywood	Sampling method	Sending
Product size		Thickness: 14mm	Standard	EN314-1,EN314-2,EN310 EN322, EN717-2,EN 323
Testing date		September 25, 2017 TO October 12, 2017		
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)	1.04
	The standard deviation	—		0.09
	Mean apparent cohesive wood failure (W)	%		77
Bonding quality (glueline 2)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	1.08
	The standard deviation	—		0.19
	Mean apparent cohesive wood failure (W)	%		41
Bonding quality (glueline 3)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	1.02
	The standard deviation	—		0.10
	Mean apparent cohesive wood failure (W)	%		55
Bonding quality (glueline 4)	Mean shear strength( $f_v$ )	N/mm <sup>2</sup>	EN 314 (pretreatments by EN314-1 5.1.4)	1.05
	The standard deviation	—		0.10
	Mean apparent cohesive wood failure (W)	%		53





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TESTING REPORT

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4 PAGES No.4

Inspected unit	XUZHOU HUAYU WOOD INDUSTRY CO., LTD.				
Product name	Plywood	Sampling method	Sending		
Product size	Thickness: 14mm	Standard	EN314-1,EN314-2,EN310		
Testing date	September 25, 2017 TO October 12, 2017		EN322, EN717-2,EN 323		
Testing item		Unit	Standard used	Tested value	
Bending strength	Longitudinal grain	N/mm <sup>2</sup>	EN 310	Panel average	50.2
				Standard deviation	8.1
	Cross grain	N/mm <sup>2</sup>		Panel average	43.2
				Standard deviation	4.0
Moisture content		%	EN322	Average: 7.3	
Density		kg/m <sup>3</sup>	EN323	Average: 548	
Modulus of elasticity in bending	Longitudinal grain	N/mm <sup>2</sup>	EN 310	Panel average	5915
				Standard deviation	335.0
	Cross grain	N/mm <sup>2</sup>		Panel average	4108
				Standard deviation	213.7
Formaldehyde release		mg/m <sup>2</sup> h	EN717-2	Average: 0.88	
remarks	Moisture content (specimen dimension:50mm×50mm×14mm; number: 6) Density(specimen dimension:50mm×50mm×14mm; number: 6) Bending strength(specimen dimension: 330mm×50mm×14mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers) Bonding quality(specimen dimension: 100mm×25mm×14mm; 10 test pieces per glue line) Modulus of elasticity in bending(specimen dimension: 330mm×50mm×14mm; number: 6 with Longitudinal grain fibers and 6 with Cross grain fibers) Formaldehyde release (specimen dimension:400mm×50mm×14mm; number: 2)				



# TEST REPORT

CheckCode: 211822  
Report No. : C201711139686-44E

**Applicant:** Xuzhou Huayu Wood Co., Ltd.  
**Address:** San Bao Zhen Sheng Yang Industrial Park, Tongshan County, Xuzhou City, Jiangsu Province

**Report on the submitted sample(s) said to be:**

**Name:** Plywood  
**Material No.:** ----  
**Product Series:** ----  
**Supplier Code:** ----  
**Manufacturer:** ----

**Date of Receipt:** Apr.8, 2018      **Test period:** Apr.8, 2018 – Apr.19, 2018

**Test Request:** Please refer to following page(s).

**Test Result:** Please refer to following page(s).

**Conclusion:** Please refer to following page(s).



Edited by Zoe Tang Reviewed by Lank. wang Approved by Yoland Yan



Seal of: GUANGZHOU GRG METROLOGY & TEST CO., LTD.

Issue date: Apr 19, 2018

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# TEST REPORT

CheckCode: 211822  
Report No. : C201711139686-44E

No.	Test Item	Client and Regulation Requirements	Conclusion
6	Formaldehyde	Limit< 0.05ppm	Comply

**Sample description:**

1. Light brown plywood with black coating

**Test Result(s):**

**Formaldehyde**

Test Method: With reference to ASTM D 5582-2014, analysis with UV-Vis spectrophotometer.

Test Item	Result	Unit	MDL
	1		
Formaldehyde (HCHO)	N.D.	µg/mL	0.01

Remark: 1) µg/mL = ppm  
2) "N.D." = Not Detected (Below Method Detection Limit)  
3) MDL = method detection limit

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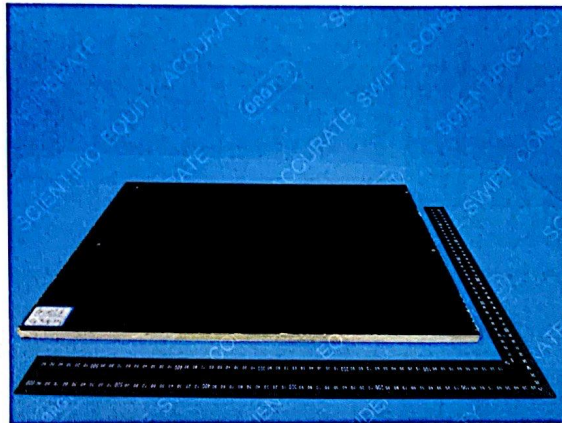




# TEST REPORT

CheckCode: 211822  
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Photo of Sample



-----End of Report-----

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