

BONDING PERFORMANCE  
—  
TEST REPORT

# MIKASA FLOORS

## BONDING PERFORMANCE TEST REPORT

DATE	04/09/2014	SAMPLE ID NO.	
LAB TASK/BUBBLE NO.	-	LAB NO.	AO -3603
TEST REQUESTED BY	Naga		
TEST DONE BY	Michael		
REPORT BY	Michael		
APPLICATION	Flooring		
CUSTOMER NAME	GreenPly		
TITLE	AM Walnut and White Oak 3 layer parquet samples from GreenPly that glued with 1352/2761B/2750 for ANSI test.		

### Purpose

To check bonding performance for samples that glued with 352/2761B/2750 from GreenPly.

### Background

### Product

FINAL PRODUCT	Flooring
PRODUCT SIZE	-
GLUING/ PRODUCTION DATE	22 <sup>nd</sup> and 26 <sup>th</sup> Aug 2014
SAMPLE LABEL	-

## Wood Preparation

WOOD SPECIES	Face – AM Walnut and White Oak Core mat – unknown Veneer - unknown
LAMELLA DIMENSION	-
NO. OF GLUE LINE	2
MOISTURE CONTENT, %	-

## Glue Formula

GLUE	1352/water/2761B (100/50/20 pbw)
HARDENER	2750/water (20/20pbw)
GLUE HARDENER RATIO, PBW	100 : 20 pbw

## Gluing Application

AMBIENT CONDITION, OC / %	-
GLUE SPREAD, G/M2	Face – 177g/m <sup>2</sup> and Veneer – 157 g/m <sup>2</sup> for AM Walnut Face – 178g/m <sup>2</sup> and Veneer – 160 g/m <sup>2</sup> for White Oak
HARDENER SPREAD, G/M2	-
TYPE OF GLUE APPLICATOR	-
GLUE TEMP ON APPLICATOR, OC	-
ASSEMBLY TIME, MIN	-

## Test Method

METHOD CODE	ANSI
OTHER INFO	Some gluing parameter does not given by customer.



## Pressing Parameter

PRESSING MECHANISM	Hot Press
PRE-PRESS	-
PRESSING TIME, MIN	270Sec.
PRESSING TEMPERATURE, OC	100°C
SPECIFIC PRESSURE, KG/CM2	280bar (14kg/cm <sup>2</sup> )

## Test Procedure

ANSI	<p>No of test pieces required: 10 samples x 2 test pieces          Specimen dimension: 2 x 5 inch          ~ 4 hrs in room temperature water } (3 cycles)          ~ 19 hrs in oven 50 oC</p>
	<p>Requirements:          Specimen is considered failed when any delamination between two pliers is more than 50.8mm in continuous length and 6.4 mm depth at any point and 0.08mm in width.          95% of test specimens shall pass the 1st cycle and 85% of the test specimens shall pass 3rd cycle.</p>

## Result ANSI

LAYER	1st cycle		3rd cycle		PASS /FAIL
	NO. SPC PASSED/TESTED	AVE. % PASS	NO. SPC PASSED/TESTED	AVE. % PASS	
<b>AM Walnut</b>					
FACE	12/12	100.0	12/12	100.0	Pass
VENEER	12/12	100.0	12/12	100.0	Pass
<b>White Oak</b>					
FACE	12/12	100.0	12/12	100.0	Pass
VENEER	12/12	100.0	12/12	100.0	Pass

**Remarks:** For delamination please refer to appendix.

## Conclusion

All samples collected from GreenPly showed excellent bonding performance after ANSI testing.

## "Important notice"

1. This report is based only on the understanding of information gathered during the visit by Casco Adhesives glue specialist. As such, the opinion and suggestion herein is in respect of the information and data collected only during the visit and based on our current state of knowledge. The Customer is responsible for satisfying himself as to whether the opinion and suggestion will be suitable for his purpose(s).
2. This report is strictly confidential and for the attention and use of the Customer only. It shall not be circulated to any other party.
3. The Customer shall indemnify Casco Adhesives at all times against any claims, suits, loss damage and/or costs arising from the inappropriate or illegal use of the report or in the event the Customer uses the report such that it infringes the intellectual property rights of any other person or entity."

**Distribution**                      Thay, Frankie & Shandy

**Testing date**                      01/09/2014

**Completion date**                04/09/2014