



BONDING PERFORMANCE TEST REPORT

Laboratory Report

Date	23/03/2017	Sample ID no.	-	
Lab task/Bubble no.	-	Lab no.	TSS-3985	
Test requested by	Greenlam Indust	Greenlam Industries Ltd.		
Test done by	Michael	Michael		
Report by	Michael	Michael		
Application	3 layer parquet	3 layer parquet		
Customer Name	Greenlam Indust	Greenlam Industries Ltd.		
Title	3LP samples fro	3LP samples from Greenlam for confirmation on ANSI test.		

Purpose

Parquet flooring samples for ANSI test

Background

Product produced

Final product	Flooring Panels 3 strip (top layer- Oak, Smoke Oak& Walnut)
Product size	-
Gluing/production date	-
Sample label	-

Wood preparation

Wood species	Oak Veneer, Smoke Oak Veneer, Walnut Veneer, Pine Strips, Pine
Lamella dimension	Oak 3 strips-3.14-3.36mm,W/N 3 strips-3.16-3.39mm,Smoke Oak 1 strip- 3.39- 3.51, Pinestrips-9.8- 10.1mm,Pine-2.2-2.6
No. of glue lines	2
Moisture content %	7-8% on oak veneer,5-7% on Walnut veneer,6-9% on Smoke oak veneer, 7-9% on pine strips &5-7% on pine back.

Glue formula

Glue	100:50:20(UF1352:Water:Modifier)	
Hardener	1:1(Hardener2750:Water)	
Glue to hardener ratio, pbw	100:20(Glue:Hardener)	



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Glue Application

Ambient conditions, °C/%	36.6°C/29%
Glue spread, g/m ²	Top layer- 187 g/m², Back layer- 174 g/m²
Hardener spread, g/m ²	-
Type of glue applicator	Roller
Glue temp.on applicator, ⁰ C	20- 22 °C
Assembly time, min	5-6 min

Pressing parameters

ressing parameters		
Pressing Mechanism	Hot Press	
Pre-press		
Pressing time, min	3.5'	
Pressing temp., ⁰ C	100°C	
Specific pressure, kg/cm ²	14.2kg/cm ²	
Condition time, day	-	

Remarks

Test method	ANSI bonding
Other info/comments	-

Test Procedure

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



Result

Cuasias		1 st cycle		3 rd cycle		D
Species	Layer	No. spc passed/Tested	% pass	No. spc passed/Tested	% pass	Pass or Fail
Oak	F/C	12/12	100.0	12/12	100.0	Pass
Uak	C/V	12/12	100.0	12/12	100.0	Pass
Smoke Oak	F/C	12/12	100.0	12/12	100.0	Pass
	C/V	12/12	100.0	12/12	100.0	Pass
Walnut	F/C	12/12	100.0	12/12	100.0	Pass
	C/V	12/12	100.0	12/12	100.0	Pass

Remarks: For delamination please refer to appendix.

Conclusion

No delamination was observed on Smoke Oak and Walnut after testing.

Overall, all samples showed good bonding performance for both face to core and core to veneer after ANSI test.

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