



COMMERCIAL IN CONFIDENCE

Structural Plywood - Bond Quality F17 Formply Product Evaluation

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Checked and Authorised:

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on behalf of accessUTS Pty Ltd
for Besgrade Products Sdn Bhd

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Project: 2011002435
Report ID: 2011002 BES-B

TABLE OF CONTENTS

1. INTRODUCTION:.....	3
2. AIM:	3
3. EQUIPMENT USED:	3
4. TEST DETAILS:.....	4
4.1 Product source and description of the test material:.....	4
4.2 Type of preparation of the test pieces prior to testing:	4
4.3 Number of pieces tested:	4
4.4 Number of glue lines tested:.....	4
4.5 Average bond quality of each glue line of the sample and overall average bond quality of the sample:	5
4.6 Size of blisters in overlay or bond quality of overlay:	5
4.7 Any other information relevant to the bond.	5
4.8 References	5
5. CONCLUSIONS:.....	6

1. INTRODUCTION:

This report presents detail of testing for Bond Quality, undertaken in accordance with AS / NZS 2098.2.

The testing was requested by Mr Woei Shyong PEK, Executive Director from Besgrade Products Sdn Bhd and the tests were conducted in the Structural Testing Laboratory of the University of Technology, Sydney (Broadway Campus) as Job number: 2011002BES.

The tests were carried out by suitably trained technical officers of the Faculty of Engineering and Information Technology, UTS prior to being analysed / reported by Mr Peter Brown and then checked / authorised by Prof Keith Crews.

2. AIM:

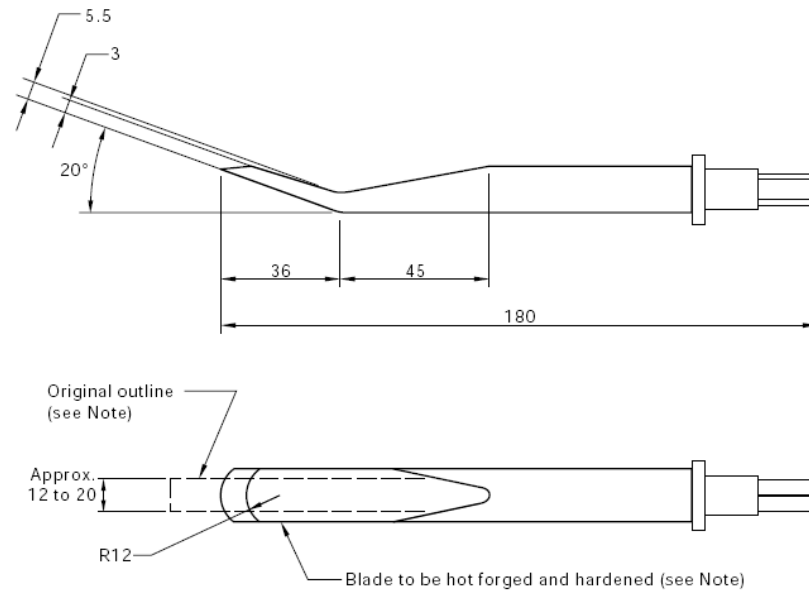
To determine the bond quality of the 18mm Formply, manufactured by Besgrade Products Sdn Bhd, which was supplied to UTS.

This report only gives the performance of the particular sheets supplied, due to no quality control certification obtained by the client at the time of testing, as well as no product identification or traceability to production lines.

3. EQUIPMENT USED:

The equipment used to undertake these tests complies with the requirements of Clause 5 of AS/ NZS 2098.2, including:

- A Water bath
- A well-ventilated thermal oven,
- A Cidel Knife as shown in Figure 1



NOTE: Blades made from approximately 12 mm to 20 mm flat-face chisel have been found suitable.

Figure 1

4. TEST DETAILS:

4.1 PRODUCT SOURCE AND DESCRIPTION OF THE TEST MATERIAL:

The material tested is a Formply of a thickness of 18mm.

Sampling was undertaken as per supplied by Besgrade Products Sdn Bhd, with each sample cut with dimensions 200 mm long by 85 mm wide.

4.2 TYPE OF PREPARATION OF THE TEST PIECES PRIOR TO TESTING:

Boil Test for Type A Bond as noted in Clause 7.2.2 of AS / NZS 2098.2 - 2006

4.3 NUMBER OF PIECES TESTED:

20 Pieces

4.4 NUMBER OF GLUE LINES TESTED:

120

4.5 AVERAGE BOND QUALITY OF EACH GLUE LINE OF THE SAMPLE AND OVERALL

AVERAGE BOND QUALITY OF THE SAMPLE:

no:	Average Bond Quality of each Glue Line										Average for Specimen	RESULT	
	Timber Specimen ID	1	2	3	4	5	6	7	8	9			10
1	2011002BES-01	9	10	8	7	8	10					9	pass
2	2011002BES-02	8	5	5	6	8	8					7	pass
3	2011002BES-03	6	5	5	6	8	8					6	pass
4	2011002BES-04	9	8	4	5	5	8					7	pass
5	2011002BES-05	8	5	7	3	7	7					6	pass
6	2011002BES-06	3	5	4	3	7	9					5	pass
7	2011002BES-07	9	6	5	6	5	9					7	pass
8	2011002BES-08	10	7	4	4	7	8					7	pass
9	2011002BES-09	8	5	6	6	6	8					7	pass
10	2011002BES-10	9	6	4	5	7	6					6	pass
11	2011002BES-11	7	7	8	5	6	8					7	pass
12	2011002BES-12	9	8	7	7	8	6					8	pass
13	2011002BES-13	8	6	6	6	6	7					7	pass
14	2011002BES-14	5	9	5	8	7	8					7	pass
15	2011002BES-15	6	8	5	7	5	8					7	pass
16	2011002BES-16	8	7	9	5	8	9					8	pass
17	2011002BES-17	9	8	8	6	7	7					8	pass
18	2011002BES-18	7	8	7	5	9	8					7	pass
19	2011002BES-19	6	5	8	6	6	7					6	pass
20	2011002BES-20	8	6	8	7	7	8					7	pass

4.6 SIZE OF BLISTERS IN OVERLAY OR BOND QUALITY OF OVERLAY:

No blistering

4.7 ANY OTHER INFORMATION RELEVANT TO THE BOND.

n/a

4.8 REFERENCES

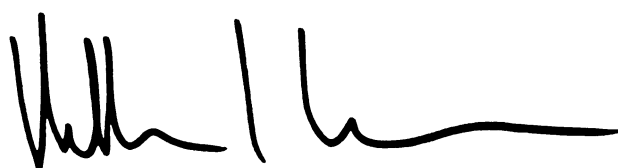
AS/NZS 2098.2 – 2006: Method of test for veneer and Plywood - Method 2: Bond quality of plywood (Chisel test)

AS/ NZS 2269 – 2004: Structural Plywood

5. CONCLUSIONS:

The bond quality as tested meets the requirements of AS / NZS 2098.2 and AS / NZS 2269 (Clause 3.3) for a Type A bond. 100% of the Formply specimens passed the Type A bond test, with 95% obtaining a bond quality of 6 or better.

Authorised Signatory:

A handwritten signature in black ink, appearing to read "Keith Crews".

Dr Keith Crews

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Professor of Structural Engineering