



REGULATORY INFORMATION REPORT

Fire hazard properties of timber veneers on standard MDF
and particleboard substrates in accordance with
AS 5637.1:2015

Client: Forest and Wood Products Australia Ltd

Report number: 45982 Revision: R13.0

DOCUMENT REVISION STATUS

Date Issued	Issue No	Description
25/09/06	RIR 45982.1	Initial Issue
15/06/07	RIR 45982.2	Extension of application to any timber veneers
09/04/10	RIR 45982.3	Extension of application to any timber veneers and adhesives
04/05/10	RIR 45982.4	Typographical amendment
07/07/10	RIR 45982.5	Typographical amendment
19/5/2011	RIR 45982.6	Inclusion of Pyrotech flame retardant MDF as a substrate
12/8/2011	RIR 45982.7	Inclusion of FLAMEBLOCK™ FRMDF flame retardant MDF as a substrate
15/8/2011	RIR 45982.8	Typographical amendment
19/09/2011	RIR 45982.9	Typographical amendment
21/12/2015	RIR 45982.10	Revised to change the details of report sponsor
23/09/2016	RIR 45982.11	Revised to confirm validity with respect to 2016 NCC
18/03/2019	RIR 45982.12	Revalidation in accordance with AS 5637.1:2015
24/09/2019	RIR 45982.13	Revised to include proposed variation to timber veneer thickness

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1 INTRODUCTION

This report contains the minimum information sufficient for regulatory compliance and refers to the assessment report Warringtonfire 45982.13. The referenced report was prepared at the request of the Forest and Wood Products Australia (FWPA) as an assessment on the fire hazard properties of timber veneers on Medium Density Fibreboard (MDF) and particleboard substrates for use as wall and ceiling linings in accordance with the requirements of AS 5637.1:2015.

The tested prototypes described in section 2 of this report, when subjected to the proposed variations described in section 3 and tested in accordance with the relevant standards described in section 4, are assessed to achieve performance as summarised in section 5.

The validity of this assessment is conditional on compliance with sections 6, 7, 8 and 9 of this report.

2 TESTED PROTOTYPES

The referenced assessment report is based on the reports summarised in Tables 1 and 2 referring to tests on veneered MDF and particleboard products. The reports were sponsored by Timber Development Association NSW Ltd and undertaken by Warringtonfire Australia, CSIRO and BRANZ.

Table 1 – Referenced AS3837 Tests of Solid Timber

WFRA 499163j	WFRA 499163f	WFRA 499163t	WFRA 499140f
WFRA 499163b	WFRA 499163k	WFRA 499182l	WFRA 499163q
WFRA 499240d	WFRA 499140d	WFRA 499163r	WFRA 499182k
WFRA 499163i	WFRA 499163s	WFRA 499163d	WFRA 499182e
WFRA 499240b	WFRA 499182n	WFRA 499163p	WFRA 499163n
WFRA 499163h	WFRA 499163e	WFRA 499182j	WFRA 499182h
WFRA 499140a	WFRA 499240c	WFRA 499182b	WFRA 499240n
WFRA 499163l	WFRA 499163c	WFRA 499163u	WFRA 499240a
WFRA 499163v	WFRA 499163g	WFRA 499182m	WFRA 499182i
WFRA 499140e	WFRA 499182c	WFRA 499182d	FH4384
WFRA 499182f	WFRA 499140b	WFRA 499163a	FH4385
WFRA 499182g	WFRA 499163o	WFRA 499140c	FH4389
FH4391	FH4392	FH4393	FH4394
FH4390			

Table 2 – Referenced AS/NZS3837 Tests of Particleboard and MDF

Report	Species	Total Thickness
WFRA 499240g	Medium Density Fibreboard (MDF)	12mm
WFRA 499240k	Particleboard	12mm
WFRA 2146200E	Medium Density Fibreboard (MDF)	12mm
CMIT 02/276	Medium Density Fibreboard (MDF)	12mm
FH4386	Medium Density Fibreboard (MDF) faced with PVA adhesive	6.5mm
FH4388	Medium Density Fibreboard (MDF) faced with Resorcinol adhesive	6.5mm

Table 3 – Referenced AS/NZS3837 Tests of Veneered Particleboard and MDF

Report	Species	Total Thickness
WFRA 499240H.1	0.6mm Ash, Alpine (<i>Eucalyptus Sieberi</i>) veneer on each side of 12mm thick MDF	13.5mm
WFRA 499240J.1	0.6mm Box, Brush (<i>Lophostman confertus</i>) veneer on each side of 12mm thick MDF	13.5mm
WFRA 499240L.1	0.6mm Ash, Alpine (<i>Eucalyptus Sieberi</i>) veneer on each side 12mm thick Particleboard	13.5mm
WFRA 499240M.1	0.6mm Box, Brush (<i>Lophostman confertus</i>) veneer on each side of 12mm Particleboard	13.5mm
CMIT 02/276	Tasmanian Oak Veneer on 12mm thick Particleboard	12mm

3 VARIATION TO TESTED PROTOTYPES

3.1 Timber veneers on MDF and particleboard substrates

The following combinations of timber veneers can be bonded to particleboard or MDF substrates and obtain the Group numbers described in Table 6, if tested in accordance with the requirements of AS 5637.1:2015.

Table 4: Summary of Proposed Lining Construction

Substrate	
Material	Particleboard 6mm minimum thickness and a Dry Density nominally 700kg/m ³
	MDF 6mm minimum thickness and a Dry Density 560kg/m ³ to 740kg/m ³
Veneers for all Substrates	
Material	Unmodified untreated timber or CCA treated Radiata pine
Thickness	Up to 1.2 mm
Seasoned Density	Veneer density Up to 1120 kg/m ³ for Particleboard and standard MDF substrates
Adhesive Material	PVA or Resorcinol
Position of Veneers	A timber veneer shall be applied to each face, though does not have to be of the same species on each side

4 REFERENCED TEST PROCEDURES

This assessment is made in accordance with requirements of AS 5637.1:2015. Group numbers for particleboard and standard MDF are determined from the prediction method, based on the heat release data obtained from cone testing in accordance with AS/NZS 3837:1998. Group numbers for substrates treated with flame retardants are determined from AS ISO 9705-2003 room burn tests as a poor correlation was found between the cone and room burn tests.

5 FORMAL ASSESSMENT SUMMARY

Based on the discussion presented in Appendix B of the referenced assessment report, the variations described in Section 3 will achieve the performance stated below, if tested in accordance with the standards referenced in Section 4. The performance is conditional to the variations satisfying all requirements described in Section 7.

Table 5: Formal assessment summary

Lining Construction		Performance		
		Group Number	Average Specific Extinction Area (m ² /kg)	SMOGRA (m ² /s)
Substrate				
Material	Particleboard 6mm minimum thickness and Dry Density nominally 700kg/m ³ MDF 6mm minimum thickness and Dry Density 560kg/m ³ to 740kg/m ³	3	<250	-
Veneers for all Substrates				
Material	All unmodified untreated timber or CCA treated Radiata pine previously tested to Group 3. <i>The list excludes Teak, Burmese – Tectona grandis</i>			
Thickness	Up to 1.2mm (Nominal)			
Seasoned Density	Veneer density Up to 1120 kg/m ³ for Particleboard and standard MDF substrates			
Adhesive Material	PVA and Resorcinol			
Position of Veneers	A timber veneer shall be applied to each face, though does not have to be of the same species on each side			

6 DIRECT FIELD OF APPLICATION

This assessment applies to internal wall and ceiling linings of class 2 to 9 buildings with fire hazard properties in accordance with the requirements of Specification C1.10 of NCC 2016, Volume 1 Amendment 1.

7 REQUIREMENTS

All timber species to be used as veneers should be tested previously to achieve Group 3.

Any further variations with respect to size, constructional details, edge or end conditions, other than those identified in this report, may invalidate the conclusions drawn in this report.

8 VALIDITY

This assessment report does not provide an endorsement by Warringtonfire Australia of the actual products supplied.

The conclusions of this assessment may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all conditions.

Because of the nature of fire testing, and the consequent difficulty in quantifying the uncertainty of measurement, it is not possible to provide a stated degree of accuracy. The inherent variability in test procedures, materials and methods of construction, and installation may lead to variations in performance between elements of similar construction.

The assessment can therefore only relate to the actual prototype test specimens, testing conditions, and methodology described in the supporting data, and does not imply any performance abilities of constructions of subsequent manufacture.

This assessment is based on information and experience available at the time of preparation. The published procedures for the conduct of tests and the assessment of test results are the

subject of constant review and improvement and it is recommended that this report be reviewed on or, before, the stated expiry date.

The information contained in this report shall not be used for the assessment of variations other than those stated in the conclusions above. The assessment is valid provided no modifications are made to the systems detailed in this report. All details of construction should be consistent with the requirements stated in the relevant test reports and all referenced documents.

9 AUTHORITY

9.1 APPLICANT UNDERTAKINGS AND CONDITIONS OF USE

By using this report as evidence of compliance or performance the applicant(s) confirms that:

- to their knowledge the component or element of structure, which is the subject of this assessment, has not been subjected to a fire test to the Standard against which this assessment is being made, and
- they agree to withdraw this assessment from circulation should the component or element of structure be the subject of a fire test by a test authority in accordance with the Standard against which this assessment is being made and the results are not in agreement with this assessment, and
- they are not aware of any information that could adversely affect the conclusions of this assessment and if they subsequently become aware of any such information, agree to ask the assessing authority to withdraw the assessment.

9.2 GENERAL CONDITIONS OF USE

This report may only be reproduced in full without modifications by the report sponsor. Copies, extracts or abridgments of this report in any form shall not be published by other organisations or individuals without the permission of Warringtonfire Australia.

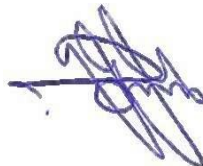
9.3 AUTHORISATION ON BEHALF OF WARRINGTONFIRE AUSTRALIA

Prepared by:



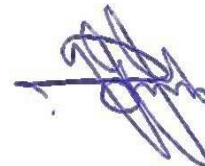
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9.4 DATE OF ISSUE

24 September 2019

9.5 EXPIRY DATE

30 September 2024