

FOR PUBLIC RELEASE

DESIGN CERTIFICATE

designIT for houses Australia has been developed by experienced timber engineers to assist designers in selecting appropriate sizes of structural laminated veneer lumber products manufactured by Carter Holt Harvey (including hySPAN, hySPAN+, hyJOIST and hyCHORD) and other generic stress grades of timber, to be used as structural elements for the construction of buildings that fall within the scope of the AS1684 series.

The member specifications given by designIT are certified by Carter Holt Harvey as valid for the member type and design inputs specified and for installation in accordance with the specific requirements referenced in the Member Design Details, information published by Carter Holt Harvey and framing requirements specified in AS 1684.2 or AS 1684.3, as appropriate. The accuracy of the member specifications produced by designIT in relation to third party products depends on the accuracy, completeness and currency of the information provided to Carter Holt Harvey in relation to the third party products. CHH does not independently verify the accuracy, completeness and currency of the information about third party products. The user must verify the accuracy, completeness and currency of information in relation to third party products, if the user decides to specify third party products following use of designIT.

designIT relies on the accurate input of span and loading information by the user. CHH is not liable for any failure of the software to give accurate product specifications and sizing where the user does not have sufficient understanding of these standards or common building practice and / or where the user fails to correctly input all of the relevant information required by the software to produce such results.

Carter Holt Harvey further certifies that the structural design methodology used in designIT complies with the requirements of the following design standards.

1. AS/NZS 1170.0 - 2002 Structural design actions, Part 0: General principles.
2. AS/NZS 1170.1 - 2002 Structural design actions, Part 1: Permanent, imposed and other actions.
3. AS/NZS 1170.2 - 2011 Structural design actions, Part 2: Wind actions.
4. AS/NZS 1170.3 - 2003 Structural design actions, Part 3: Snow and ice actions.
5. AS 1720.1-2010 Timber Structures, Part 1: Design methods.

References for design

1. AS 1720.3: 2016 Timber structures. Part3: Design criteria for timber-framed residential buildings
2. AS 4055-2012 Wind loads for houses

Other references

1. AS 1684.2-2010 Residential timber-framed construction, Part 2: Non-cyclonic areas.
2. AS 1684.3-2010 Residential timber-framed construction, Part 3: Cyclonic areas.

This Design Certificate, and any associated warranty/certification, is void where there has been substitution of alternate products not detailed within the Member Specification.

Version date: 3 May 2017

For further information or advice contact:

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Specifier details:

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Project & site details:

Project:	RES'
Reference:	29?
Site address:	3' MBIER 5290
For (owner/s):	
Design wind classification	

MEMBER DESIGN DETAILS

Member 1

- 1) **Member code and description** B1 - Bearer - Supporting floor loads only
- 2) **Date prepared** 14 July 2018
- 3) **Serviceability criteria** AS 1720.1: 2010 and AS 1720.3: 2016
- 4) **Design inputs**
- | | |
|------------------------|-------------------------|
| Span | 1.7 m - continuous span |
| Floor load width 'FLW' | 1.5 m |
| Floor dead load | 40 kg/m ² |
| Floor live load | 1.5 kPa/1.8 kN |
- 5) **Member specification**
- | | |
|----------------------------|--------------------------------|
| Size, stress grade/product | Use 2/90 x 45 MGP10 Laserframe |
| Material type | Seasoned softwood to AS 1748 |

6) Serviceability

Load case	Limit ³ on average deflection ²	Estimated average deflection ²	Rigidity ratio ⁴
Long term load - G + Ψ LQ	5.7 mm	2.4 mm (long term)	2.4
Live load - Ψ_s Q*	4.7 mm	2.5 mm	1.9
Live load - Ψ_s Q	9.0 mm	2.4 mm	3.7

*Critical serviceability load case

See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1 ¹	Limit States Design Reaction ^{2,3}	
		End kN ⁴	Intermediate kN
1.35G	0.57	-1.2	-4.2
1.2G + 1.5Q	0.80	-2.7	-8.9
1.2G + 1.5Q	0.94	-3.2	-4.5

8) Installation requirements

- Provide at least 30 mm bearing at end supports
 - Provide at least 45 mm bearing at internal supports
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