

Requirements for wood-based building components to achieve 50-year durability performance

Ref No	Wood-based building components	Species or type ¹	Grade or Standard ref.	In-service moisture range (%)	Level of treatment ² to NZS 3640 or AS/NZS 160 ³	See clause/s ection
A Members in contact with the ground (see section 106)						
1A.1	Building piles	Radiata pine	NZS 3605	Not Limited	H5	106.2
1A.2	Plywood and timber frame foundations		BRANZ P43		H5	106.3 106.2
1A.3	Crib walling		NZS 3605		H5	C106.4
1A.4	Sawn poles				H5	-
1A.5	House poles				H5	106.2
1A.6	Retaining walls – uprights				H5	-
1A.7	Retaining walls – horizontal members				H4	-
B Members exposed to exterior weather conditions and dampness but not in ground contact (see section 107)						
1B.1	Laminated beams	Radiata pine	AS/NZS 1328 & NZS 3606	Not Limited	H3 ³⁴ or specific design	104.4
1B.2	Laminated posts	Radiata pine	Structural grades		H3 ³⁴	104.4
1B.3	Posts, bearers, beams, floor joists, rafters, guardrails, stair stringers				H3.2 ⁵	-
1B.4	Cladding as wall bracing	Plywood ⁴	AS/NZS 2269		H3 ³⁴	107.2
C Members protected from the weather but exposed to ground atmosphere (see section 108)						
1C.1		Radiata pine	Structural grades	20 % or less	H1.2	108
		Larch	Structural grades		None	
		Cypress species ⁶	Structural grades sapwood		H1.2	
		Cypress species ⁶	Structural grades heart		None	
		Douglas fir	Structural grades		H1.2	
		LVL	AS/NZS 4357	18 % or less	None	-
1C.2	Plywood sheet bracing	Radiata pine	AS/NZS 2269	18 % of less	H1.2	108.4
1C.3	Interior flooring, suspended ground floors	Plywood ⁷	AS/NZS 4357	18 % or less	None	108.2
		LVL	AS/NZS 2269		None	104.3 104.2
		Particleboard and other wood-based products ⁷	AS/NZS 1859.1 AS/NZS 1859.2			
		Radiata pine	Dressing		H1.1	108.2
		Cypress species ⁶	Dressing sapwood		H1.1	
		Cypress species ⁶	Dressing heart		None	
		Matai	Dressing sapwood		H1.1	
		Matai	Dressing heart		None	
		Rimu	Dressing sapwood		H1.1	
		Rimu	Dressing heart		None	
Eucalyptus species	Dressing	None				
Tawa	Dressing	H1.1				

NOTES to table 1A to 1C

(1) Wood-based building components made from wood species other than those listed may also achieve the required durability but there is not enough data on their durability to permit their inclusion in this Standard. (Refer to C101.2).

(2) Throughout table 1, timber treated to a higher level than the minimum satisfies the minimum requirements.

(3) NZS 3640 specifies treatment for round and sawn timber. Plywood shall be treated to AS/NZS 1604:Part 3. Laminated beams and posts shall be treated to AS/NZS 1604:Part 5.

(4) H3 LOSP treated items exposed to the exterior must be painted to achieve a 50-year durability.

(5) H3.1 refers to tin-based Light Organic Solvent Preservatives (LOSP). H3.2 refers to CCA, Alkaline Copper Quaternary, Copper Naphthenate and Copper Azole preservatives. (See also Note 2).

(6) Cypress species include Cupressus macrocarpa (macrocarpa), C.lustianica (Mexican cypress) and Chamaecyparis lawsoniana (Lawson's cypress). (Refer to AS/NZS 1148).

(7) In wet areas where maintenance of an impervious coating cannot be assured plywood or timber flooring that has been treated to a minimum of H3.1 shall be used. (Refer to 110.3.1).