

29 July 2025

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Declaration of Characteristic Design Properties

Designated timber stress grades: Arboreal SP 7, SP 8, SP 10

Arboreal is certified to manufacture strength graded structural timber with rectangular section in accordance with EN 14081-1:2005 + A1:2011. The relevant European strength grades are C14, C16, and C22. The certificate of conformity of the factory production control is No. 6072-CPR-1019, issued by MPA-University of Stuttgart, Germany, on August 31st, 2023.

The EN 14081.1 manufacturing process conforms with the requirements of AS/NZS 1748.1:2011- (including Amendment 1 – 2012) Timber – Solid – Stress-graded for structural purposes, Part 1: General requirements. Production is periodically monitored by the MPA-University of Stuttgart, Germany, using processes that meet the requirements of AS/NZS 4490:2011 Timber – Solid – Stress-graded for structural purposes – Verification of properties.

Arboreal has conducted a testing program of its European strength grades, C14, C16, and C22, in accordance with the provisions of AS / NZS 4063.1, and the test data has been analysed in accordance with AS / NZS 4063.2, to assess the declared structural properties for design in accordance with AS 1720.1 and the AS 1684 series, and conformity to the DTS provisions of the National Construction Code of Australia. The characteristic properties for each grade will meet or exceed those detailed in Table 1.

**Table 1. Declaration of performance of strength grades SP 7, SP 8, and SP 10
(for section sizes 100x50mm to 200x50mm)**

Product	Strength graded structural timber - rectangular cross section				
Manufacturer	Arboreal SA Ruta 26 224 – Paso Santander Tacuarembó 45000 - Uruguay				
Application	Buildings and bridges				
Species	<i>Pinus taeda</i> & <i>P. elliottii</i> - Southern Yellow Pine				
Characteristic properties	Symbol	Unit	SP 7 (C14)	SP 8 (C16)	SP 10 (C22)
<i>Bending strength</i>	f_b	N/mm ²	14	16	22
<i>Modulus of elasticity</i>	E_{mean}	N/mm ²	7000	8000	10000
<i>Tension strength</i>	f_t	N/mm ²	7.2	8.5	13
<i>Compression strength</i>	f_c	N/mm ²	16	17	20
<i>Joint group</i>	<i>JD</i>	kg/m ³	JD 6	JD 6	JD 5
<i>Characteristic Density (5th %tile)</i>	ρ_k	kg/m ³	290	310	340
<i>Emission of dangerous substances</i>	Untreated timber				
<i>Natural Durability</i>	Class 4 – not durable				

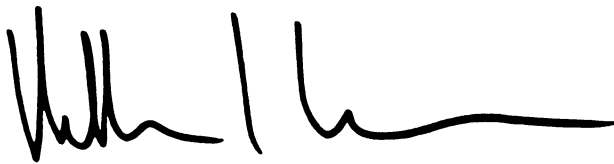
Product Substitution:

Product substitution of the SP grades for Australian structural grades, specified in AS 1720.1 and AS 1684 series, is permissible, as noted in Table 2. In all cases the characteristic properties of the SP grades will meet or exceed those of the corresponding F or MGP grades in Table 2.

Table 2. Permissible product substitution to meet NCC DTS requirements

Australian Grade (AS 1720.1)	Arboreal grade substitution
F5	SP7
F7	SP8
MGP10	SP10

Yours sincerely



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