

Supplement No 21 (Sept. 1978) to AS 1684

SAA LIGHT TIMBER FRAMING CODE
LIGHT TIMBER FRAMING SPAN TABLES
**Seasoned Softwood - Stress
Grade F4**



STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80-86 ARTHUR ST, NORTH SYDNEY

Incorporated by Royal Charter

(Copyright)

This Supplement was prepared by Committee TM/6, Light Timber Framing, and was approved on behalf of the Council of the Standards Association of Australia on 21 July 1978.

LIST OF TABLES

	<i>Page</i>
Table 1S(A) Bearers supporting single-storey loadbearing walls—Maximum spacing of bearers parallel to wall 1.8 m	4
Table 1S(B) Bearers supporting single-storey loadbearing walls—Maximum spacing of bearers parallel to wall 3.6 m	4
Table 2S Bearers supporting floor joists only	4
Table 3S Floor joists	4
Table 4S(A) Studs for single-storey loadbearing walls—Studs spaced up to 450 mm apart	5
Table 4S(B) Studs for single-storey loadbearing walls—Studs spaced up to 600 mm apart	5
Table 5S Studs supporting concentration of loading	6
Table 6S Studs at sides of openings—Single-storey constructions or upper storey of two-storey constructions	6
Table 7S Top wall plates—Single or upper storey	6
Table 8S Bottom wall plates—Single or upper storey	6
Table 9S Lintels—Single or upper storey	7
Table 10S Ceiling joists supporting ceiling only	8
Table 11S Hanging beams for ceiling joists	8
Table 12S Ceiling battens	8
Table 13S(A) Rafters or roofing purlins—Supported at two points only..	9
Table 13S(B) Rafters or roofing purlins—Continuous over two or more spans.....	10
Table 14S Roof beams (principals) for non-trafficable roofs	11
Table 15S Strutting beams for roof members	11
Table 16S Underpurlins	11
Table 17S Roofing battens	11
Table 18S Verandah posts.....	12
Table 19S(A) Bearers supporting two-storey loadbearing walls—Maximum spacing of bearers parallel to wall 1.8 m	12
Table 19S(B) Bearers supporting two-storey loadbearing walls—Maximum spacing of bearers parallel to wall 3.6 m	12
Table 20S Bearers cantilevered to support balconies	12
Table 21S Joists for upper floors and permissible cantilever to support balconies	12
Table 22S(A) Studs for upper storey loadbearing walls—Studs spaced up to 450 mm apart.....	13
Table 22S(B) Studs for upper storey loadbearing walls—Studs spaced up to 600 mm apart.....	13
Table 23S(A) Studs for lower storey loadbearing walls—Studs spaced up to 450 mm apart.....	14
Table 23S(B) Studs for lower storey loadbearing walls—Studs spaced up to 600 mm apart.....	14
Table 24S Studs at sides of openings in lower storey loadbearing walls	15
Table 25S Top wall plates for lower storey loadbearing walls	15
Table 26S Bottom wall plates for lower storey loadbearing walls	15
Table 27S Lintels in lower storey loadbearing walls	15

First published 1978

STANDARDS ASSOCIATION OF AUSTRALIA

Supplement to AS 1684, SAA Light Timber Framing Code

SUPPLEMENT No 21

LIGHT TIMBER FRAMING SPAN TABLES SEASONED SOFTWOOD—STRESS GRADE F4

1 SCOPE. This supplement to AS 1684, SAA Light Timber Framing Code, gives tables of maximum allowable span in their various structural applications for a range of commonly supplied softwood timber sections, provided they have been mechanically stress graded or visually stress graded in their seasoned condition to be in Stress Grade F4 in accordance with the appropriate Australian standard specification.

2 APPLICATION. This Supplement shall be read in conjunction with AS 1684, and the tables of span for the various members given herein shall apply only where the structures in which they are used are constructed in accordance with the Rules given in AS 1684.

NOTE: The following abbreviations are used in certain Tables:

- NS = Not suitable
- A, B, C, D, E = The type of footing to be used (see Table 2 of AS 1684)
(when used with span of bearers)
- F (when used with span of bearers) = Footing requires to be designed.

SEASONED SOFTWOOD—STRESS GRADE F4

TABLE 1S(A) BEARERS SUPPORTING SINGLE-STOREY LOADBEARING WALLS
MAXIMUM SPACING OF BEARERS PARALLEL TO WALL 1.8 m

Size* depth X breadth (mm)	Maximum allowable span of bearer (m)							
	Sheet roofing				Tiled roofing			
	Raftered roof	Trussed roof, of span			Raftered roof	Trussed roof, of span		
6 m		7.5 m	9 m	6 m		7.5 m	9 m	
BEARERS SUPPORTED AT TWO POINTS ONLY								
90 X 70	1.1 A	1.0 A	1.0 A	NS	NS	NS	NS	NS
120 X 70	1.4 A	1.4 A	1.3 A	1.3 B	1.2 B	1.2 B	1.1 B	1.0 B
140 X 70	1.7 B	1.6 B	1.6 B	1.5 B	1.4 B	1.3 B	1.3 B	1.2 B
170 X 70	2.0 B	2.0 B	1.9 B	1.8 B	1.7 B	1.6 B	1.5 B	1.5 B
190 X 70	2.3 B	2.2 B	2.1 B	2.1 B	1.9 B	1.8 B	1.7 C	1.6 C
240 X 70	2.9 B	2.8 B	2.7 B	2.6 C	2.4 C	2.3 C	2.2 C	2.1 D
BEARERS CONTINUOUS OVER TWO OR MORE SPANS								
90 X 70	1.4 A	1.4 A	1.3 A	1.2 A	NS	NS	NS	NS
120 X 70	1.9 B	1.9 B	1.7 B	1.6 B	1.3 B	1.1 B	NS	NS
140 X 70	2.2 B	2.2 B	2.0 B	1.8 B	1.5 B	1.3 B	1.1 B	NS
170 X 70	2.7 B	2.6 B	2.4 B	2.2 B	1.8 B	1.6 B	1.4 B	1.2 B
190 X 70	3.0 B	2.9 B	2.7 B	2.5 B	2.0 B	1.8 B	1.5 B	1.4 B
240 X 70	3.8 C	3.7 C	3.4 C	3.1 C	2.6 C	2.2 C	1.9 C	1.7 C

TABLE 1S(B) BEARERS SUPPORTING SINGLE-STOREY LOADBEARING WALLS
MAXIMUM SPACING OF BEARERS PARALLEL TO WALL 3.6 m

Size* depth X breadth (mm)	Maximum allowable span of bearer (m)							
	Sheet roofing				Tiled roofing			
	Raftered roof	Trussed roof, of span			Raftered roof	Trussed roof, of span		
6 m		7.5 m	9 m	6 m		7.5 m	9 m	
BEARERS SUPPORTED AT TWO POINTS ONLY								
120 X 70	1.2 A	1.2 B	1.1 B	1.1 B	1.1 B	1.0 B	NS	NS
140 X 70	1.4 B	1.4 B	1.3 B	1.3 B	1.2 B	1.2 B	1.1 B	1.0 B
170 X 70	1.7 B	1.7 B	1.6 B	1.6 B	1.5 B	1.4 B	1.4 B	1.2 B
190 X 70	1.9 B	1.9 B	1.8 B	1.8 B	1.7 B	1.6 B	1.5 C	1.4 C
240 X 70	2.4 B	2.3 C	2.3 C	2.2 C	2.1 C	2.0 C	1.9 D	1.8 D
BEARERS CONTINUOUS OVER TWO OR MORE SPANS								
90 X 70	1.2 A	1.2 B	1.1 B	1.1 B	NS	NS	NS	NS
120 X 70	1.6 B	1.6 B	1.5 B	1.4 B	1.2 B	1.1 B	NS	NS
140 X 70	1.9 B	1.8 B	1.8 B	1.7 B	1.4 B	1.2 B	1.1 B	NS
170 X 70	2.3 B	2.2 B	2.2 B	2.0 C	1.7 B	1.5 B	1.3 B	1.2 B
190 X 70	2.5 C	2.5 C	2.4 C	2.3 C	1.9 C	1.7 C	1.5 C	1.3 B
240 X 70	3.2 D	3.1 D	3.0 D	2.9 D	2.4 D	2.1 D	1.9 C	1.6 C

TABLE 2S BEARERS SUPPORTING FLOOR JOISTS ONLY

Size* depth X breadth (mm)	Maximum allowable span of bearer (m)							
	Bearer spacing (m)							
	1.2	1.5	1.8	2.1	2.4	3.0	3.6	
BEARERS SUPPORTED AT TWO POINTS ONLY								
90 X 70	1.4 A	1.2 A	1.1 A	1.0 A	1.0 A	NS	NS	
120 X 70	1.9 A	1.7 A	1.5 A	1.4 A	1.3 A	1.1 A	1.0 A	
140 X 70	2.2 A	1.9 A	1.8 A	1.6 A	1.5 A	1.3 A	1.2 A	
170 X 70	2.6 B	2.3 B	2.1 B	2.0 B	1.8 B	1.6 B	1.5 B	
190 X 70	2.9 B	2.6 B	2.4 B	2.2 B	2.0 B	1.8 B	1.6 B	
240 X 70	3.7 B	3.3 B	3.0 B	2.8 B	2.6 B	2.3 B	2.1 B	
BEARERS CONTINUOUS OVER TWO OR MORE SPANS								
90 X 70	1.4 A	1.2 A	1.1 A	1.0 A	1.0 A	NS	NS	
120 X 70	1.9 A	1.7 A	1.5 A	1.4 A	1.3 A	1.1 A	1.0 A	
140 X 70	2.2 A	1.9 A	1.8 A	1.6 A	1.5 A	1.3 A	1.2 A	
170 X 70	2.6 B	2.3 B	2.1 B	2.0 B	1.8 B	1.6 B	1.5 B	
190 X 70	2.9 B	2.6 B	2.4 B	2.2 B	2.0 B	1.8 B	1.6 B	
240 X 70	3.7 B	3.3 B	3.0 B	2.8 B	2.6 B	2.3 B	2.1 B	

TABLE 3S FLOOR JOISTS

Size* depth X breadth (mm)	Maximum allowable span of joist (m)					
	Supported at two points only			Continuous over two or more spans		
	Joist spacing (mm)					
	300	450	600	300	450	600
70 X 45	1.2	1.1	NS	1.4	1.2	1.1
90 X 35	1.5	1.3	1.2	1.6	1.4	1.1
90 X 45	1.6	1.4	1.3	1.8	1.6	1.5
120 X 35	2.0	1.8	1.7	2.2	2.1	2.0
120 X 45	2.2	2.0	1.9	2.5	2.3	2.2
140 X 35	2.3	2.2	2.1	2.7	2.5	2.3
140 X 45	2.6	2.4	2.3	3.0	2.8	2.6

*Size must not be under that stated (no negative tolerance).