

The following tables give details of the allowable spans and spacing for some of the more common timber sizes used in ceiling and flat roof construction. All the figures are based on the normal loading conditions found in domestic construction. In any other situation you should refer to the **TRADA Document – ‘Span tables for solid timber members in floors, ceilings and roofs for dwellings’** or ask your Building Control Officer for advice.

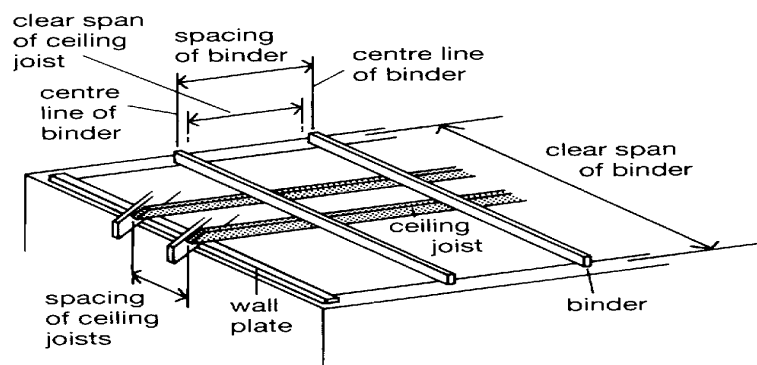
### MAXIMUM CLEAR SPAN OF CEILING JOISTS IN METRES

Size of ceiling joist	Spacing between joists		
	400mm	450mm	600mm
97 x 47	1.84	1.81	1.74
122 x 47	2.43	2.38	2.27
147 x 47	3.08	3.02	2.87
170 x 47	3.74	3.67	3.46
195 x 47	4.41	4.31	4.07
220 x 47	5.08	4.96	4.67

**Tables assume a minimum C16 structural grade timber - not all timber is structurally graded – ensure you purchase the right material!!**

### MAXIMUM CLEAR SPANS FOR CEILING BINDERS IN METRES

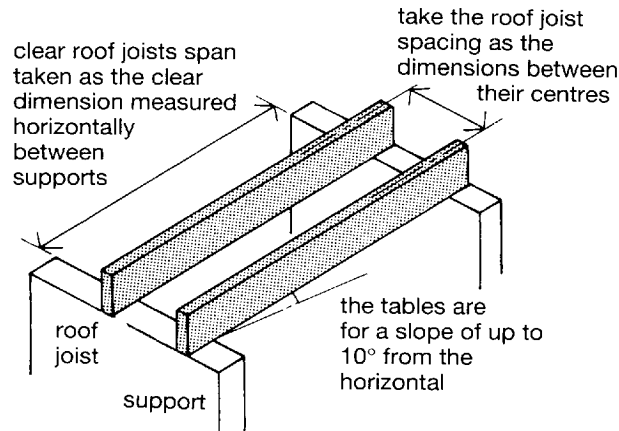
Size of ceiling binder	Spacing between binders		
	1.5m	2.1m	2.7m
175 x 47	2.25	2.04	1.89
200 x 63	2.92	2.65	2.45
150 x 75	2.28	2.07	1.92
175 x 75	2.70	2.45	2.27
200 x 75	3.12	2.83	2.62
225 x 75	3.54	3.20	2.96



## CLEAR SPANS FOR FLAT ROOF JOISTS IN METRES

Size of roof joists	Spacing of joists		
	400mm	450mm	600mm
97 x 47	1.84	1.81	1.74
120 x 47	2.43	2.39	2.27
145 x 47	3.08	3.02	2.87
170 x 47	3.75	3.67	3.42
195 x 47	4.41	4.31	3.92
220 x 47	5.04	4.85	4.41
170 x 75	4.50	4.38	3.99
195 x 75	5.19	5.01	4.57
220 x 75	5.84	5.63	5.14

**Table assumes a minimum C16 structural grade timber - not all timber is structurally graded – ensure you purchase the right material!!**

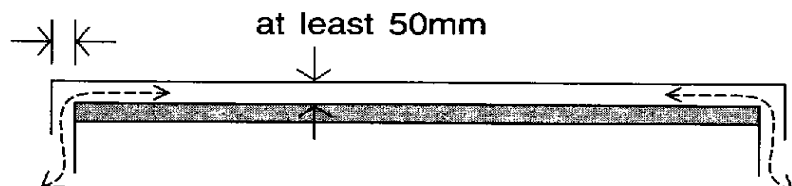


**Important note** - if a traditional cold deck roof construction is used, the depth of joist necessary may well be dictated by the thickness of the insulation needed and the 50mm air gap as shown in the diagram - rather than purely structural requirements.

Refer to Part L of the Building Regulations for advice on the thickness of insulation needed to meet the requirements of

## Ventilation details for flat roofs

at least equal to continuous strip 25mm wide



**(a) Flat roof**