

4.2 Trimmers and trimming joists

- 4.2.1 The tables in this section are:
- Tables 4.3 & 4.4: Spans of trimmers
 - Tables 4.5 & 4.6: Nail centres
 - Tables 4.7 & 4.8: Bolt centres
 - Tables 4.9 to 4.12: Reaction forces for trimmers
 - Tables 4.13 to 4.18: Spans of trimming joists
 - Tables 4.19 to 4.24: Nail centres for trimming joists
 - Tables 4.25 to 4.30: Bolt centres for trimming joists.
- 4.2.2 The tables make allowance for supporting lightweight non-loadbearing internal partitions and are therefore conservative for situations where no partitions occur. Where openings fall outside the range of the tables presented, trimmers and trimming joists should be calculated in accordance with *EC5* and the *UK NA to EC5*. It may also be possible to use other engineered wood products such as laminated veneered lumber (LVL), glued laminated timber (glulam), wood-based I-joists and wood-based metal-web beams for longer spans.
- EC1* classifies partition loads depending on their moveability. For the purposes of the spans in *Tables 4.3 to 4.30*, the partition was assumed as fixed in position, ie a permanent load. Although somewhat conservative, 1.0 kN/m is the lowest partition self-weight allowed in *EC1*.
- 4.2.3 The nail specification used is:
- for 38mm wide sections: 3.75mm diameter x 75mm long
 - for 44mm and 47mm wide sections: 4.00mm diameter x 90mm long
 - 63mm, 72mm and 89mm wide sections: 5.00mm diameter x 125mm long.
- The bolt specification used is:
- for 38mm, 44mm, 47mm and 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head and nut)
 - for 72mm and 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head and nut).
- It may be possible to use other types of fasteners for which capacities have been obtained experimentally and declared by manufacturers with third party certification.
- 4.2.4 Unless justified by specialist calculation, the minimum bearing length at supports for trimmers and trimming joists should be 100mm. However, for some of the spans, the calculations suggested providing longer bearing lengths. Where longer bearing is required, typically for larger section trimmers, it is indicated in the tables by shading. For these spans the bearing length provided should be increased to at least 120mm. Longer bearing lengths may also be needed for practical reasons.
- 4.2.5 Double member trimmers and trimming joists should be securely fixed together as shown in *Figure 4.2* and detailed in *Tables 4.5 to 4.8* for trimmers and *4.19 to 4.30* for trimming joists.
- 4.2.6 As a minimum the fixing centres for double member trimmer and trimming joists should be at centres of no more than twice the joist spacing. The spacing values in the tables are therefore limited to a maximum of 1200mm. There should be at least one fastener per double joist.

Eurocode 5 span tables for solid timber members

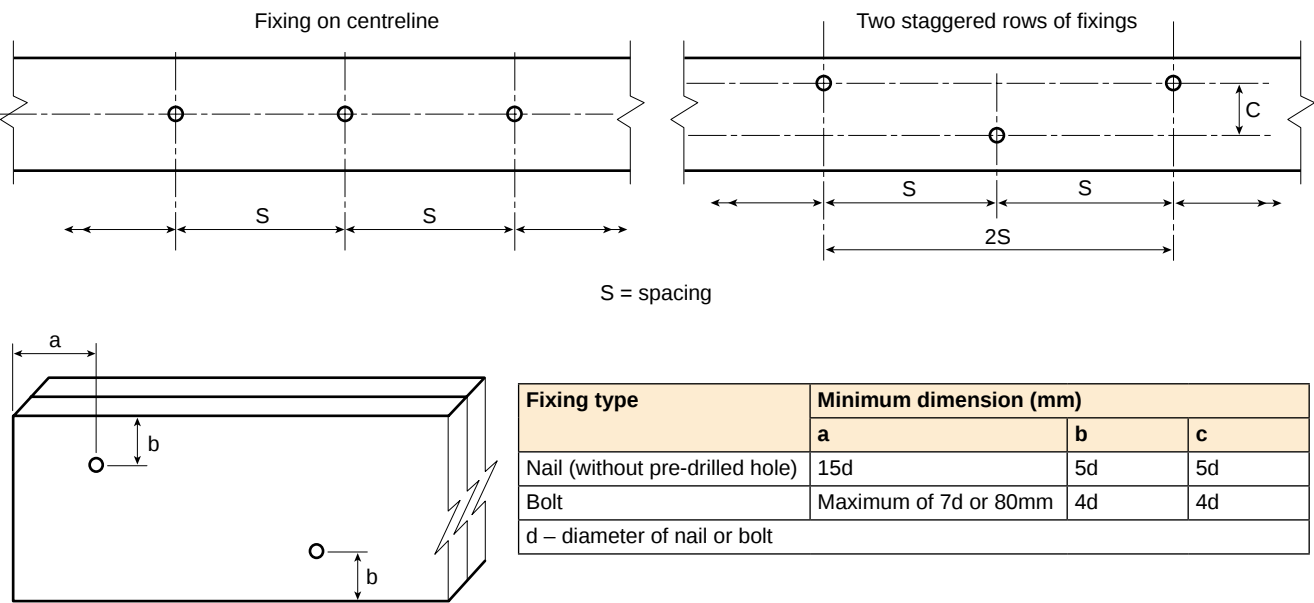


Figure 4.2 Fixings – spacing, edge and end distances

4.2.7 The factored (design) loads which need to be supported from each end of the double member trimmer are given in *Tables 4.9 to 4.12*. The trimmer supports a lightweight partition weighing not more than 1.0 kN/m along its full length. It also supports one end of an incoming partition and an additional joist parallel to the trimmed joists on the supported floor. Where the trimmer is supported off a double member trimming joist, the connection should be designed in accordance with *EC5* to ensure that the load from the trimmer is distributed equally between the members of the trimming joist at, or immediately adjacent to the connection. The fixings for this connection are required in addition to those given in these tables.

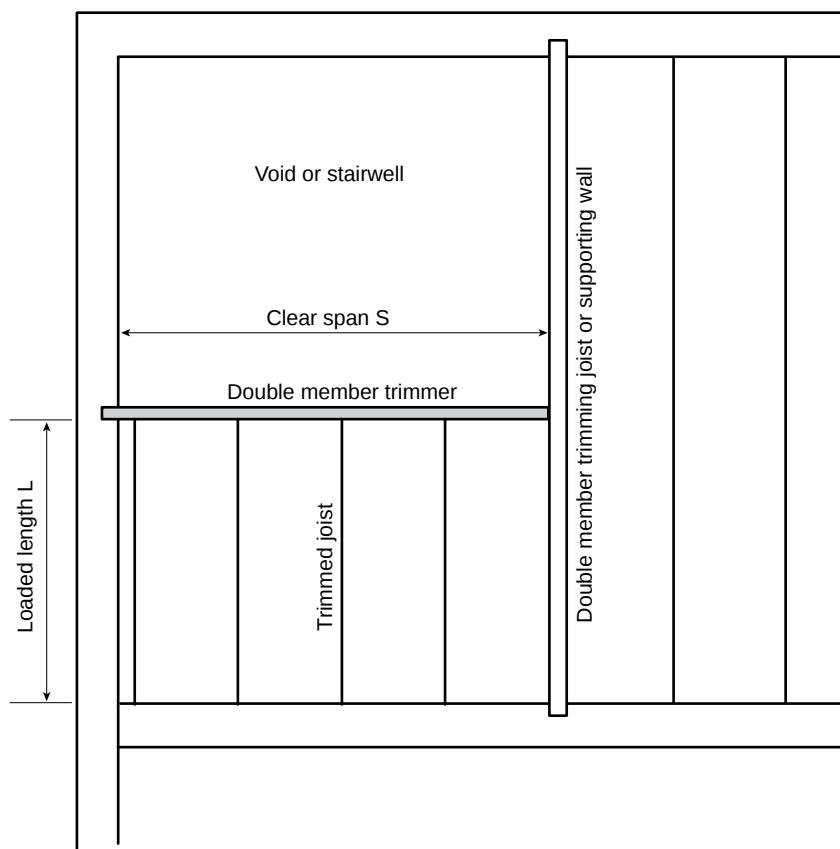


Figure 4.3 Plan on double member trimmer supporting trimmed joists

Notes to Trimmer Tables 4.3 to 4.8

The sizes of the double member trimmer shown in *Figure 4.3* will support permanent (dead) and variable (imposed) loads from the following:

- the trimmed floor joists; and
- a lightweight non-loadbearing partition weighing not more than 1.0 kN/m run, supported on the double member trimmer, and one supported on and parallel to the trimmed joists with an additional joist beneath it, either at the centre or at the end of the trimmer; and
- a variable (imposed) load not exceeding 1.5 kN/m², or 2.0 kN at the centre or end of the trimmer.

It is assumed that the floor joists are of similar cross sectional dimensions for any of the trimmers presented in the tables.

Following the floor joist *Tables 4.1* and *4.2*, the dead load of the floor construction is taken as not exceeding 0.25 kN/m², 0.50 kN/m² and 1.25 kN/m² respectively. These exclude the joist self-weights which are taken into account in the span calculation. The two joists should be securely fixed together, see *Section 4.2.5*.

No notching or drilling of a trimmer should be carried out unless proven by calculation, except as necessary to accommodate the flanges of joist hangers.

Eurocode 5 span tables for solid timber members

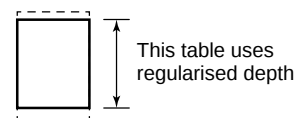
Table 4.3 Permissible clear spans of double member trimmers which support trimmed domestic floor joists and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead loads $g_k = 0.25 \text{ kN/m}^2$, 0.50 kN/m^2 , 1.25 kN/m^2

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

Service Class 1 or 2



C16	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on Figure 4.3																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Maximum clear span S (m) on Figure 4.3																	
2 × 38 × 145	2.21	1.92	1.58	–	–	–	2.15	1.86	1.53	–	–	–	2.02	1.69	1.38	–	–	–
2 × 38 × 170	2.66	2.28	1.90	1.63	–	–	2.59	2.21	1.82	1.56	–	–	2.43	2.01	1.64	1.40	–	–
2 × 38 × 195	3.07	2.64	2.22	1.91	–	–	3.00	2.55	2.13	1.83	–	–	2.83	2.33	1.91	1.64	–	–
2 × 38 × 220	3.48	2.99	2.53	2.19	1.94	–	3.40	2.90	2.43	2.10	1.86	–	3.20	2.65	2.18	1.88	1.65	–
2 × 44 × 145	2.35	2.03	1.73	1.49	–	–	2.29	1.97	1.67	1.43	–	–	2.15	1.82	1.51	1.29	–	–
2 × 44 × 170	2.81	2.41	2.07	1.78	–	–	2.75	2.34	1.99	1.71	–	–	2.58	2.16	1.79	1.54	–	–
2 × 44 × 195	3.24	2.79	2.41	2.09	1.85	–	3.17	2.70	2.32	2.00	1.77	–	2.98	2.49	2.09	1.79	1.58	–
2 × 44 × 220	3.66	3.16	2.75	2.39	2.12	–	3.58	3.07	2.64	2.29	2.03	–	3.37	2.83	2.38	2.05	1.81	–
2 × 47 × 145	2.41	2.08	1.80	1.55	–	–	2.35	2.02	1.73	1.49	–	–	2.21	1.87	1.57	1.34	–	–
2 × 47 × 170	2.88	2.47	2.15	1.86	–	–	2.81	2.40	2.07	1.78	–	–	2.65	2.22	1.86	1.60	–	–
2 × 47 × 195	3.31	2.86	2.50	2.17	1.93	–	3.24	2.77	2.41	2.08	1.84	–	3.05	2.56	2.17	1.86	1.65	–
2 × 47 × 220	3.75	3.24	2.86	2.49	2.21	–	3.66	3.14	2.74	2.38	2.11	–	3.45	2.90	2.47	2.13	1.88	–
2 × 63 × 145	2.71	2.33	2.08	1.85	–	–	2.65	2.26	2.01	1.78	–	–	2.49	2.10	1.85	1.60	–	–
2 × 63 × 170	3.19	2.76	2.46	2.21	–	–	3.12	2.67	2.38	2.12	–	–	2.94	2.48	2.18	1.90	–	–
2 × 63 × 195	3.67	3.18	2.85	2.57	2.29	–	3.59	3.08	2.75	2.46	2.19	–	3.38	2.85	2.52	2.21	1.96	–
2 × 63 × 220	4.14	3.60	3.23	2.93	2.62	2.38	4.05	3.49	3.12	2.81	2.51	2.27	3.82	3.23	2.86	2.52	2.24	2.02
2 × 72 × 145	2.84	2.45	2.19	1.99	–	–	2.78	2.38	2.11	1.92	–	–	2.62	2.20	1.94	1.73	–	–
2 × 72 × 170	3.34	2.89	2.59	2.37	2.12	–	3.27	2.81	2.50	2.28	2.03	–	3.08	2.60	2.30	2.05	1.82	–
2 × 72 × 195	3.83	3.33	2.99	2.74	2.47	–	3.75	3.23	2.89	2.64	2.37	–	3.54	2.99	2.65	2.38	2.12	–
2 × 72 × 220	4.33	3.77	3.39	3.11	2.82	2.57	4.24	3.66	3.28	3.00	2.70	2.45	4.00	3.39	3.00	2.71	2.41	2.19
ALS/CLS																		
2 × 38 × 140	2.12	1.85	1.53	–	–	–	2.07	1.79	1.47	–	–	–	1.94	1.64	1.33	–	–	–
2 × 38 × 184	2.89	2.48	2.08	1.79	–	–	2.83	2.40	1.99	1.71	–	–	2.66	2.19	1.80	1.53	–	–
2 × 38 × 235	3.72	3.21	2.73	2.36	2.09	–	3.64	3.11	2.61	2.26	2.00	–	3.42	2.84	2.35	2.02	1.78	–
2 × 89 × 184	3.88	3.37	3.04	2.79	2.59	–	3.80	3.28	2.94	2.69	2.50	–	3.59	3.04	2.70	2.46	2.24	–
2 × 89 × 235	4.94	4.32	3.91	3.59	3.35	3.10	4.84	4.20	3.78	3.47	3.23	2.96	4.58	3.89	3.47	3.16	2.91	2.64
Interpolation is permitted for values between given loaded lengths.																		
– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See Table 4.1.																		
Indicates that nominal bearing to be increased to 120mm. See Section 4.2.4.																		

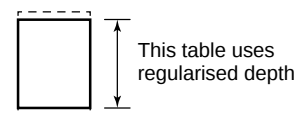
Table 4.4 Permissible clear spans of double member trimmers which support trimmed domestic floor joists and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24

Service Class 1 or 2

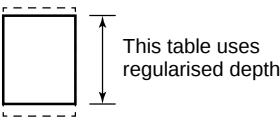


C24	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Maximum clear span S (m) on <i>Figure 4.3</i>																	
2 × 38 × 145	2.52	2.17	1.92	1.74	–	–	2.46	2.11	1.86	1.66	–	–	2.31	1.95	1.70	1.49	–	–
2 × 38 × 170	2.99	2.57	2.29	2.08	–	–	2.93	2.49	2.21	1.99	–	–	2.76	2.30	2.02	1.78	–	–
2 × 38 × 195	3.45	2.97	2.65	2.42	2.15	–	3.37	2.88	2.56	2.32	2.06	–	3.17	2.66	2.34	2.07	1.83	–
2 × 38 × 220	3.90	3.37	3.02	2.75	2.47	–	3.81	3.27	2.91	2.65	2.36	–	3.59	3.01	2.65	2.36	2.09	–
2 × 44 × 145	2.67	2.30	2.04	1.86	–	–	2.61	2.23	1.97	1.79	–	–	2.45	2.06	1.81	1.63	–	–
2 × 44 × 170	3.15	2.72	2.43	2.21	–	–	3.08	2.64	2.34	2.13	–	–	2.91	2.44	2.14	1.93	–	–
2 × 44 × 195	3.63	3.14	2.81	2.56	2.35	–	3.55	3.04	2.71	2.47	2.25	–	3.34	2.81	2.48	2.24	2.00	–
2 × 44 × 220	4.10	3.56	3.19	2.92	2.69	2.44	4.01	3.45	3.08	2.81	2.57	2.32	3.78	3.18	2.81	2.54	2.28	2.06
2 × 47 × 145	2.74	2.35	2.10	1.91	–	–	2.68	2.28	2.03	1.84	–	–	2.51	2.11	1.86	1.68	–	–
2 × 47 × 170	3.23	2.78	2.49	2.27	–	–	3.16	2.70	2.40	2.19	–	–	2.97	2.50	2.20	1.99	–	–
2 × 47 × 195	3.71	3.21	2.88	2.63	2.44	–	3.63	3.12	2.78	2.53	2.34	–	3.42	2.88	2.54	2.30	2.08	–
2 × 47 × 220	4.19	3.64	3.27	2.99	2.78	2.53	4.10	3.53	3.15	2.88	2.67	2.42	3.86	3.26	2.88	2.61	2.37	2.14
2 × 63 × 145	3.03	2.62	2.35	2.14	–	–	2.97	2.54	2.27	2.07	–	–	2.80	2.36	2.08	1.89	–	–
2 × 63 × 170	3.57	3.09	2.78	2.54	2.36	–	3.49	3.00	2.68	2.45	2.27	–	3.29	2.78	2.46	2.24	2.06	–
2 × 63 × 195	4.09	3.56	3.21	2.94	2.74	2.57	4.01	3.46	3.10	2.84	2.63	2.46	3.78	3.20	2.84	2.58	2.38	2.23
2 × 63 × 220	4.62	4.03	3.63	3.34	3.11	2.92	4.52	3.91	3.51	3.22	2.99	2.80	4.27	3.62	3.22	2.93	2.71	2.53
2 × 72 × 145	3.17	2.75	2.46	2.26	–	–	3.11	2.67	2.38	2.18	–	–	2.93	2.48	2.19	1.99	–	–
2 × 72 × 170	3.73	3.24	2.91	2.67	2.49	–	3.65	3.15	2.82	2.58	2.39	–	3.45	2.92	2.59	2.35	2.18	–
2 × 72 × 195	4.28	3.73	3.36	3.09	2.88	2.70	4.19	3.62	3.25	2.98	2.77	2.60	3.95	3.36	2.98	2.72	2.51	2.35
2 × 72 × 220	4.82	4.22	3.81	3.50	3.26	3.07	4.72	4.09	3.68	3.38	3.14	2.95	4.46	3.79	3.37	3.08	2.85	2.67
ALS/CLS																		
2 × 38 × 140	2.42	2.09	1.85	1.67	–	–	2.36	2.03	1.79	1.60	–	–	2.22	1.88	1.64	1.44	–	–
2 × 38 × 184	3.25	2.80	2.49	2.27	2.01	–	3.17	2.71	2.41	2.17	1.93	–	2.99	2.50	2.20	1.94	1.71	–
2 × 38 × 235	4.17	3.61	3.23	2.95	2.65	2.40	4.07	3.50	3.12	2.84	2.53	2.29	3.83	3.22	2.84	2.54	2.25	2.02
2 × 89 × 184	4.32	3.77	3.41	3.13	2.92	2.75	4.23	3.67	3.30	3.03	2.81	2.64	4.00	3.40	3.03	2.77	2.56	2.40
2 × 89 × 235	5.50	4.82	4.37	4.03	3.76	3.55	5.39	4.69	4.22	3.89	3.62	3.41	5.10	4.35	3.88	3.55	3.30	3.09
Interpolation is permitted for values between given loaded lengths.																		
– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See <i>Table 4.2</i> .																		
Indicates that nominal bearing to be increased to 120mm. See <i>Section 4.2.4</i> .																		

Eurocode 5 span tables for solid timber members

Table 4.5 Nail centres for double member trimmers in Table 4.3

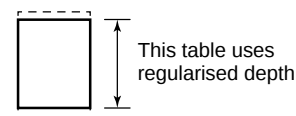
Dead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$
 Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$
 Strength Class C16



C16	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Nail centres S (mm) on <i>Figure 4.2</i>																	
2 × 38 × 145	440	310	190	–	–	–	430	300	190	–	–	–	400	280	190	–	–	–
2 × 38 × 170	530	320	210	160	–	–	510	310	220	150	–	–	480	330	200	150	–	–
2 × 38 × 195	610	320	220	170	–	–	600	360	230	160	–	–	560	330	210	160	–	–
2 × 38 × 220	690	370	250	180	130	–	670	360	240	170	140	–	630	330	210	170	120	–
2 × 44 × 145	580	330	240	180	–	–	570	320	230	170	–	–	530	360	210	160	–	–
2 × 44 × 170	700	400	250	190	–	–	680	380	240	190	–	–	640	350	250	170	–	–
2 × 44 × 195	640	390	260	200	150	–	630	380	250	200	160	–	740	350	260	190	140	–
2 × 44 × 220	730	390	270	210	160	–	710	380	260	200	150	–	670	400	260	200	150	–
2 × 47 × 145	600	340	250	170	–	–	580	330	240	180	–	–	550	310	220	160	–	–
2 × 47 × 170	710	350	260	180	–	–	700	390	250	170	–	–	660	360	230	170	–	–
2 × 47 × 195	660	400	270	190	160	–	640	390	260	180	150	–	610	360	270	180	140	–
2 × 47 × 220	740	400	280	200	170	–	730	390	270	190	160	–	690	410	270	190	150	–
2 × 63 × 145	900	460	340	260	–	–	880	450	330	250	–	–	820	520	300	260	–	–
2 × 63 × 170	790	550	350	270	–	–	780	530	390	260	–	–	980	490	360	270	–	–
2 × 63 × 195	910	520	400	280	220	–	890	510	390	300	240	–	840	570	360	270	210	–
2 × 63 × 220	1030	590	400	320	230	190	1010	580	390	310	250	200	950	530	400	270	220	200
2 × 72 × 145	700	480	360	240	–	–	690	470	350	270	–	–	650	440	320	240	–	–
2 × 72 × 170	830	480	370	290	230	–	810	560	350	280	220	–	770	510	320	250	200	–
2 × 72 × 195	950	550	370	300	220	–	930	530	360	290	230	–	880	490	370	260	210	–
2 × 72 × 220	1080	530	370	310	230	190	1050	600	400	300	240	200	990	560	370	300	210	180
ALS/CLS																		
2 × 38 × 140	420	300	210	–	–	–	410	290	210	–	–	–	480	270	190	–	–	–
2 × 38 × 184	570	350	230	160	–	–	560	340	220	170	–	–	530	310	220	150	–	–
2 × 38 × 235	740	350	240	180	130	–	720	340	230	170	140	–	680	350	230	160	130	–
2 × 89 × 184	770	480	300	230	180	–	940	460	320	240	190	–	890	430	290	220	180	–
2 × 89 × 235	820	480	320	250	190	170	800	460	340	240	200	160	910	480	310	240	190	150
For interpolated values from <i>Table 4.3</i> , use the lower spacing from the two corresponding spacings in this table. – Indicates that a single trimmed joist of this cross section will not span the given loaded length. See <i>Table 4.1</i> . Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimmer should be fixed in line with a minimum of two nails at 1/3 span positions.																		

Table 4.6 Nail centres for double member trimmers in Table 4.4Dead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24



C24	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Nail centres S (mm) on <i>Figure 4.2</i>																	
2 × 38 × 145	500	360	240	170	–	–	610	350	230	160	–	–	570	320	210	160	–	–
2 × 38 × 170	590	360	250	180	–	–	580	350	240	180	–	–	550	320	220	170	–	–
2 × 38 × 195	680	370	260	200	150	–	670	360	250	190	140	–	630	370	250	180	140	–
2 × 38 × 220	770	370	270	190	160	–	760	400	260	200	150	–	710	370	260	190	140	–
2 × 44 × 145	660	380	250	200	–	–	650	370	280	190	–	–	610	340	250	200	–	–
2 × 44 × 170	780	380	300	220	–	–	770	430	290	210	–	–	720	400	260	210	–	–
2 × 44 × 195	900	440	310	230	180	–	880	430	300	220	170	–	830	400	270	220	160	–
2 × 44 × 220	810	440	310	240	190	150	800	430	300	230	180	150	750	450	310	230	170	140
2 × 47 × 145	680	390	260	210	–	–	660	380	250	200	–	–	620	350	260	180	–	–
2 × 47 × 170	800	390	270	220	–	–	780	380	260	210	–	–	740	410	270	190	–	–
2 × 47 × 195	740	450	280	210	170	–	720	440	300	230	170	–	850	410	280	200	170	–
2 × 47 × 220	830	450	290	230	180	140	810	440	310	220	190	150	770	400	280	210	180	140
2 × 63 × 145	1010	520	390	300	–	–	980	500	370	290	–	–	930	470	340	260	–	–
2 × 63 × 170	1180	610	390	310	260	–	1160	600	380	300	250	–	1090	550	410	310	250	–
2 × 63 × 195	1020	590	450	320	270	230	1000	570	440	310	260	220	940	640	400	320	260	220
2 × 63 × 220	1150	670	450	330	280	220	1130	650	430	350	270	230	1060	600	450	320	270	220
2 × 72 × 145	790	540	410	280	–	–	1030	530	390	270	–	–	970	490	360	280	–	–
2 × 72 × 170	930	540	410	290	240	–	910	520	400	320	230	–	860	580	360	290	240	–
2 × 72 × 195	1060	620	420	300	260	220	1040	600	400	330	250	210	980	550	420	300	250	210
2 × 72 × 220	1200	600	420	310	270	210	1180	580	400	330	260	220	1110	630	420	300	250	220
ALS/CLS																		
2 × 38 × 140	600	340	230	160	–	–	580	330	220	170	–	–	550	310	230	160	–	–
2 × 38 × 184	640	340	240	180	150	–	630	380	240	190	140	–	590	350	240	170	140	–
2 × 38 × 235	690	400	260	210	160	130	670	380	250	200	150	130	760	400	250	190	140	120
2 × 89 × 184	860	530	340	260	200	180	840	520	320	270	210	170	1000	480	330	250	210	170
2 × 89 × 235	910	530	360	280	220	180	890	520	350	270	220	180	1010	540	350	270	210	180

For interpolated values from Table 4.4, use the lower spacing from the two corresponding spacings in this table.

– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See Table 4.2.

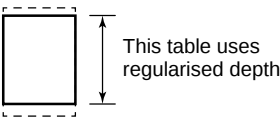
Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections:

4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long.

Each trimmer should be fixed in line with a minimum of two nails at 1/3 span positions.

Table 4.7 Bolt centres for double member trimmers in Table 4.3

Dead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$
 Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$
 Strength Class C16

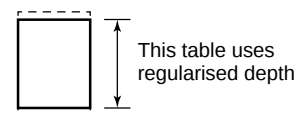


C16	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Bolt centres S (mm) on <i>Figure 4.2</i>																	
2 × 38 × 145	1100	630	520	–	–	–	1070	610	500	–	–	–	1010	560	450	–	–	–
2 × 38 × 170	1200	750	470	400	–	–	1200	730	450	390	–	–	1200	660	540	350	–	–
2 × 38 × 195	1020	870	550	470	–	–	1000	850	530	450	–	–	1200	770	470	400	–	–
2 × 38 × 220	1150	990	630	430	380	–	1130	960	600	420	370	–	1060	880	540	460	330	–
2 × 44 × 145	1170	670	570	490	–	–	1140	650	550	470	–	–	1070	600	500	420	–	–
2 × 44 × 170	1200	800	680	440	–	–	1200	770	660	420	–	–	1200	710	590	380	–	–
2 × 44 × 195	1200	920	600	520	460	–	1200	900	570	500	440	–	1200	830	690	440	390	–
2 × 44 × 220	1200	1050	680	590	420	–	1200	1020	660	570	400	–	1200	940	590	510	450	–
2 × 47 × 145	1200	690	600	510	–	–	1170	670	570	490	–	–	1100	620	520	440	–	–
2 × 47 × 170	1200	820	710	460	–	–	1200	790	680	440	–	–	1200	730	620	530	–	–
2 × 47 × 195	1200	950	620	540	480	–	1200	920	600	520	460	–	1200	850	720	460	410	–
2 × 47 × 220	1200	1080	710	620	440	–	1200	1040	680	590	420	–	1200	960	610	530	470	–
2 × 63 × 145	1200	1160	690	610	–	–	1200	1130	660	590	–	–	1200	1040	610	530	–	–
2 × 63 × 170	1200	910	820	730	–	–	1200	890	790	700	–	–	1200	820	720	630	–	–
2 × 63 × 195	1200	1050	950	640	570	–	1200	1020	910	610	540	–	1200	950	840	730	490	–
2 × 63 × 220	1200	1190	1070	730	650	470	1200	1160	1040	700	620	560	1200	1070	950	620	550	500
2 × 72 × 145	1200	1200	1090	660	–	–	1200	1180	1050	640	–	–	1200	1100	970	570	–	–
2 × 72 × 170	1200	1200	860	780	700	–	1200	1200	830	760	670	–	1200	1200	760	680	600	–
2 × 72 × 195	1200	1200	990	910	820	–	1200	1200	960	880	780	–	1200	1200	880	790	700	–
2 × 72 × 220	1200	1200	1130	1030	700	640	1200	1200	1090	1000	670	610	1200	1200	1000	900	800	540
ALS/CLS																		
2 × 38 × 140	1050	610	500	–	–	–	1030	590	490	–	–	–	970	540	440	–	–	–
2 × 38 × 184	1200	820	510	440	–	–	1200	800	490	420	–	–	1200	720	590	380	–	–
2 × 38 × 235	1200	800	680	470	410	–	1200	770	650	450	400	–	1130	940	580	500	350	–
2 × 89 × 184	1200	1200	1010	920	860	–	1200	1200	970	890	830	–	1200	1200	1200	810	740	–
2 × 89 × 235	1200	1200	1200	1190	1110	770	1200	1200	1200	1150	1070	740	1200	1200	1150	1050	960	880

For interpolated values from Table 4.3, use the lower spacing from the two corresponding spacings in this table.
 – Indicates that a single trimmed joist of this cross section will not span the given loaded length. See Table 4.1.
 Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut),
 for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut).
 Each trimmer should be fixed in line with a minimum of two bolts at 1/3 span positions.

Table 4.8 Bolt centres for double member trimmers in Table 4.4Dead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24



C24	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Bolt centres S (mm) on <i>Figure 4.2</i>																	
2 × 38 × 145	1200	720	640	430	–	–	1200	700	610	410	–	–	1150	640	560	370	–	–
2 × 38 × 170	1200	850	570	510	–	–	1200	830	550	490	–	–	1200	760	670	440	–	–
2 × 38 × 195	1200	990	660	600	430	–	1200	960	630	580	410	–	1200	880	580	510	360	–
2 × 38 × 220	1200	1120	750	550	490	–	1200	1080	720	520	470	–	1200	1000	660	590	410	–
2 × 44 × 145	1200	760	680	460	–	–	1200	740	650	440	–	–	1200	680	600	540	–	–
2 × 44 × 170	1200	900	800	550	–	–	1200	870	780	530	–	–	1200	810	710	480	–	–
2 × 44 × 195	1200	1040	700	640	460	–	1200	1010	670	610	440	–	1200	930	820	550	500	–
2 × 44 × 220	1200	1180	790	580	530	480	1200	1140	760	700	510	460	1200	1060	700	630	450	410
2 × 47 × 145	1200	780	690	630	–	–	1200	760	670	610	–	–	1200	700	610	550	–	–
2 × 47 × 170	1200	920	820	560	–	–	1200	900	800	540	–	–	1200	830	730	490	–	–
2 × 47 × 195	1200	1070	710	650	480	–	1200	1030	690	630	580	–	1200	950	840	570	520	–
2 × 47 × 220	1200	1200	810	740	550	500	1200	1170	780	710	530	480	1200	1080	720	650	470	420
2 × 63 × 145	1200	1200	780	710	–	–	1200	1200	750	680	–	–	1200	1170	690	620	–	–
2 × 63 × 170	1200	1030	920	840	590	–	1200	1000	890	810	560	–	1200	920	820	740	510	–
2 × 63 × 195	1200	1180	1060	730	680	640	1200	1150	1030	700	650	610	1200	1060	940	860	590	550
2 × 63 × 220	1200	1200	1200	830	770	580	1200	1200	1170	800	740	560	1200	1200	1070	730	670	630
2 × 72 × 145	1200	1200	1200	750	–	–	1200	1200	1190	720	–	–	1200	1200	1090	660	–	–
2 × 72 × 170	1200	1200	970	890	820	–	1200	1200	930	850	790	–	1200	1200	860	780	720	–
2 × 72 × 195	1200	1200	1120	1020	950	670	1200	1200	1080	990	920	640	1200	1200	990	900	830	780
2 × 72 × 220	1200	1200	1200	1160	810	760	1200	1200	1200	1120	780	730	1200	1200	1120	1020	940	660
ALS/CLS																		
2 × 38 × 140	1200	690	610	410	–	–	1170	670	590	400	–	–	1100	620	540	360	–	–
2 × 38 × 184	1200	930	620	560	400	–	1200	900	600	540	380	–	1200	830	540	480	420	–
2 × 38 × 235	1200	900	800	590	440	400	1200	870	770	560	500	380	1200	1070	710	500	440	330
2 × 89 × 184	1200	1200	1130	1040	970	910	1200	1200	1090	1000	930	880	1200	1200	1200	920	850	800
2 × 89 × 235	1200	1200	1200	1200	1200	880	1200	1200	1200	1200	1200	850	1200	1200	1200	1180	1090	1030

For interpolated values from Table 4.4, use the lower spacing from the two corresponding spacings in this table.

– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See Table 4.2.

Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut), for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut).

Each trimmer should be fixed in line with a minimum of two bolts at 1/3 span positions.

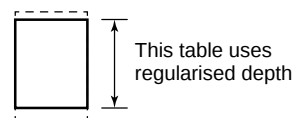
Eurocode 5 span tables for solid timber members

Table 4.9 Factored (design) reactions in kN at each end of double member trimmer in Table 4.3 with an incoming partition

Dead loads $g_k = 0.25 \text{ kN/m}^2$, 0.50 kN/m^2 , 1.25 kN/m^2

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16



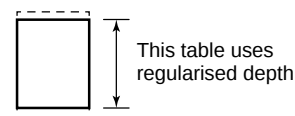
C16	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Factored (design) reactions in kN at each end of double member trimmer with an incoming partition																	
2 × 38 × 145	5.87	7.21	8.80	–	–	–	5.81	7.04	8.54	–	–	–	5.65	6.57	7.97	–	–	–
2 × 38 × 170	6.48	8.35	10.16	11.73	–	–	6.40	8.15	9.87	11.40	–	–	6.19	7.57	9.16	10.57	–	–
2 × 38 × 195	7.04	9.48	11.57	13.35	–	–	6.95	9.25	11.22	12.91	–	–	6.73	8.60	10.38	11.95	–	–
2 × 38 × 220	7.60	10.63	12.99	14.93	16.72	–	7.50	10.36	12.58	14.46	16.15	–	7.25	9.62	11.57	13.30	14.92	–
2 × 44 × 145	6.06	7.58	9.42	10.86	–	–	5.99	7.40	9.16	10.57	–	–	5.82	6.97	8.50	9.85	–	–
2 × 44 × 170	6.70	8.78	10.91	12.56	–	–	6.61	8.55	10.59	12.19	–	–	6.40	8.04	9.78	11.31	–	–
2 × 44 × 195	7.29	9.98	12.43	14.30	15.97	–	7.20	9.71	12.02	13.86	15.48	–	6.95	9.11	11.10	12.76	14.33	–
2 × 44 × 220	7.88	11.19	13.96	16.04	17.91	–	7.78	10.88	13.48	15.49	17.34	–	7.50	10.19	12.42	14.26	15.93	–
2 × 47 × 145	6.16	7.74	9.71	11.23	–	–	6.08	7.56	9.44	10.89	–	–	5.90	7.11	8.78	10.14	–	–
2 × 47 × 170	6.79	8.97	11.25	12.95	–	–	6.71	8.75	10.92	12.57	–	–	6.49	8.21	10.08	11.65	–	–
2 × 47 × 195	7.40	10.20	12.83	14.75	16.52	–	7.31	9.95	12.43	14.29	15.96	–	7.06	9.31	11.44	13.15	14.76	–
2 × 47 × 220	8.01	11.44	14.41	16.55	18.47	–	7.90	11.15	13.95	16.02	17.88	–	7.62	10.42	12.81	14.70	16.48	–
2 × 63 × 145	6.58	8.52	10.92	12.86	–	–	6.50	8.32	10.65	12.48	–	–	6.30	7.84	9.96	11.58	–	–
2 × 63 × 170	7.26	9.88	12.65	14.90	–	–	7.16	9.65	12.32	14.44	–	–	6.94	9.07	11.49	13.29	–	–
2 × 63 × 195	7.95	11.28	14.39	17.00	18.96	–	7.85	10.98	14.00	16.45	18.35	–	7.57	10.30	13.03	15.09	16.92	–
2 × 63 × 220	8.69	12.67	16.14	19.10	21.29	23.38	8.53	12.32	15.64	18.47	20.59	22.52	8.21	11.54	14.58	16.91	18.85	20.72
2 × 72 × 145	6.78	8.92	11.41	13.70	–	–	6.71	8.72	11.12	13.28	–	–	6.49	8.19	10.40	12.30	–	–
2 × 72 × 170	7.50	10.36	13.22	15.87	17.78	–	7.40	10.11	12.88	15.38	17.23	–	7.15	9.48	12.01	14.19	15.84	–
2 × 72 × 195	8.22	11.81	15.05	18.05	20.27	–	8.11	11.52	14.64	17.47	19.62	–	7.82	10.78	13.63	16.13	17.99	–
2 × 72 × 220	9.11	13.26	16.88	20.16	22.78	24.91	8.94	12.93	16.42	19.57	21.93	24.09	8.52	12.09	15.26	18.00	20.15	22.04
ALS/CLS																		
2 × 38 × 140	5.75	6.99	8.53	–	–	–	5.69	6.83	8.31	–	–	–	5.54	6.38	7.75	–	–	–
2 × 38 × 184	6.80	8.99	10.96	12.62	–	–	6.72	8.77	10.63	12.25	–	–	6.50	8.14	9.82	11.35	–	–
2 × 38 × 235	7.94	11.32	13.85	15.92	17.77	–	7.84	11.01	13.38	15.37	17.21	–	7.56	10.25	12.32	14.15	15.81	–
2 × 89 × 184	8.34	12.02	15.32	18.37	21.13	–	8.23	11.73	14.91	17.79	20.53	–	7.96	10.98	13.88	16.59	18.83	–
2 × 89 × 235	10.52	15.22	19.36	23.21	26.67	29.44	10.33	14.85	18.84	22.44	25.88	28.45	9.80	13.89	17.51	20.88	23.76	25.96
Interpolation is permitted for values between given loaded lengths.																		
– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See <i>Table 4.1</i> .																		

Table 4.10 Factored (design) reactions in kN at each end of double member trimmer in Table 4.4 with an incoming partition

Dead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24



C24	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Factored (design) reactions in kN at each end of double member trimmer with an incoming partition																	
2 × 38 × 145	6.29	7.99	10.23	12.24	–	–	6.21	7.81	9.97	11.88	–	–	6.02	7.35	9.36	11.00	–	–
2 × 38 × 170	6.93	9.26	11.83	14.17	–	–	6.85	9.04	11.52	13.73	–	–	6.63	8.47	10.77	12.65	–	–
2 × 38 × 195	7.55	10.54	13.44	16.11	18.02	–	7.46	10.27	13.07	15.63	17.44	–	7.21	9.61	12.19	14.34	16.02	–
2 × 38 × 220	8.18	11.82	15.06	18.04	20.23	–	8.07	11.51	14.63	17.46	19.55	–	7.79	10.75	13.59	16.04	17.90	–
2 × 44 × 145	6.50	8.38	10.75	12.88	–	–	6.42	8.19	10.48	12.54	–	–	6.22	7.71	9.80	11.75	–	–
2 × 44 × 170	7.16	9.72	12.45	14.89	–	–	7.07	9.48	12.12	14.48	–	–	6.85	8.91	11.30	13.51	–	–
2 × 44 × 195	7.83	11.06	14.15	16.91	19.37	–	7.72	10.79	13.72	16.43	18.68	–	7.46	10.11	12.80	15.24	17.18	–
2 × 44 × 220	8.53	12.44	15.86	18.95	21.69	23.80	8.38	12.10	15.37	18.38	20.95	23.00	8.07	11.32	14.31	17.01	19.22	21.04
2 × 47 × 145	6.59	8.57	10.98	13.15	–	–	6.51	8.36	10.70	12.81	–	–	6.31	7.87	10.01	12.00	–	–
2 × 47 × 170	7.27	9.96	12.72	15.22	–	–	7.17	9.69	12.38	14.79	–	–	6.95	9.10	11.54	13.80	–	–
2 × 47 × 195	7.95	11.34	14.46	17.29	19.95	–	7.85	11.03	14.06	16.79	19.33	–	7.57	10.34	13.08	15.57	17.70	–
2 × 47 × 220	8.72	12.72	16.21	19.37	22.34	24.55	8.56	12.37	15.76	18.79	21.59	23.73	8.21	11.58	14.63	17.39	19.81	21.68
2 × 63 × 145	7.03	9.45	12.08	14.50	–	–	6.95	9.23	11.77	14.12	–	–	6.74	8.68	11.03	13.16	–	–
2 × 63 × 170	7.79	10.98	14.05	16.80	19.42	–	7.69	10.71	13.63	16.34	18.79	–	7.44	10.06	12.74	15.18	17.51	–
2 × 63 × 195	8.60	12.54	15.99	19.12	22.07	24.76	8.46	12.20	15.51	18.57	21.34	24.03	8.15	11.44	14.47	17.21	19.84	22.22
2 × 63 × 220	9.68	14.09	17.95	21.44	24.65	27.75	9.50	13.70	17.39	20.81	23.91	26.90	9.01	12.84	16.21	19.26	22.18	24.83
2 × 72 × 145	7.25	9.87	12.65	15.15	–	–	7.16	9.64	12.33	14.74	–	–	6.94	9.07	11.52	13.79	–	–
2 × 72 × 170	8.07	11.51	14.69	17.56	20.29	–	7.96	11.20	14.30	17.07	19.72	–	7.69	10.52	13.32	15.93	18.29	–
2 × 72 × 195	9.01	13.13	16.73	19.99	23.08	25.89	8.84	12.80	16.27	19.42	22.41	25.12	8.44	11.98	15.13	18.00	20.74	23.34
2 × 72 × 220	10.17	14.75	18.78	22.42	25.88	29.02	9.96	14.38	18.26	21.77	25.11	28.14	9.47	13.45	16.96	20.15	23.21	25.97
ALS/CLS																		
2 × 38 × 140	6.15	7.74	9.91	11.89	–	–	6.07	7.57	9.67	11.55	–	–	5.90	7.12	9.08	10.70	–	–
2 × 38 × 184	7.28	9.98	12.75	15.25	17.08	–	7.19	9.72	12.40	14.77	16.54	–	6.95	9.12	11.55	13.61	15.22	–
2 × 38 × 235	8.64	12.59	16.05	19.17	21.52	23.61	8.47	12.24	15.59	18.59	20.79	22.82	8.13	11.45	14.46	17.04	19.00	20.87
2 × 89 × 184	9.18	13.36	17.02	20.34	23.50	26.48	9.01	13.04	16.57	19.77	22.83	25.58	8.60	12.21	15.43	18.43	21.15	23.81
2 × 89 × 235	11.73	17.01	21.64	25.83	29.69	33.45	11.52	16.54	20.97	24.98	28.81	32.27	10.94	15.53	19.49	23.24	26.63	29.77
Interpolation is permitted for values between given loaded lengths.																		
– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See <i>Table 4.2</i> .																		

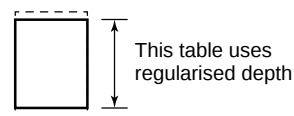
Eurocode 5 span tables for solid timber members

Table 4.11 Factored (design) reactions in kN at each end of double member trimmer in Table 4.3 without an incoming partition

Dead loads $g_k = 0.25 \text{ kN/m}^2$, 0.50 kN/m^2 , 1.25 kN/m^2

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

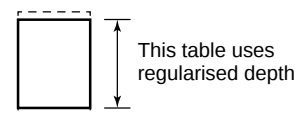
Strength Class C16



C16	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Factored (design) reactions in kN at each end of double member trimmer with an incoming partition																	
2 × 38 × 145	5.87	6.64	7.00	–	–	–	5.81	6.54	6.84	–	–	–	5.65	6.24	6.50	–	–	–
2 × 38 × 170	6.48	7.36	8.09	8.97	–	–	6.40	7.23	7.79	8.64	–	–	6.19	6.88	7.21	7.80	–	–
2 × 38 × 195	7.04	8.10	9.49	10.57	–	–	6.95	7.93	9.14	10.14	–	–	6.73	7.53	8.30	9.18	–	–
2 × 38 × 220	7.60	9.24	10.90	12.15	13.24	–	7.50	8.97	10.49	11.68	12.67	–	7.25	8.23	9.49	10.52	11.44	–
2 × 44 × 145	6.06	6.88	7.37	8.10	–	–	5.99	6.77	7.21	7.80	–	–	5.82	6.49	6.82	7.09	–	–
2 × 44 × 170	6.70	7.64	8.83	9.78	–	–	6.61	7.49	8.51	9.42	–	–	6.40	7.17	7.70	8.54	–	–
2 × 44 × 195	7.29	8.59	10.34	11.51	12.49	–	7.20	8.32	9.93	11.07	12.00	–	6.95	7.85	9.01	9.98	10.85	–
2 × 44 × 220	7.88	9.79	11.87	13.25	14.41	–	7.78	9.48	11.39	12.69	13.85	–	7.50	8.79	10.32	11.47	12.44	–
2 × 47 × 145	6.16	6.98	7.64	8.46	–	–	6.08	6.87	7.38	8.12	–	–	5.90	6.59	6.99	7.37	–	–
2 × 47 × 170	6.79	7.76	9.17	10.17	–	–	6.71	7.63	8.83	9.79	–	–	6.49	7.28	8.00	8.87	–	–
2 × 47 × 195	7.40	8.81	10.74	11.96	13.03	–	7.31	8.55	10.34	11.50	12.47	–	7.06	7.98	9.35	10.36	11.27	–
2 × 47 × 220	8.01	10.04	12.31	13.75	14.97	–	7.90	9.75	11.85	13.22	14.38	–	7.62	9.02	10.71	11.90	12.98	–
2 × 63 × 145	6.58	7.48	8.83	10.07	–	–	6.50	7.36	8.56	9.70	–	–	6.30	7.06	7.87	8.79	–	–
2 × 63 × 170	7.26	8.48	10.55	12.10	–	–	7.16	8.24	10.22	11.64	–	–	6.94	7.84	9.39	10.49	–	–
2 × 63 × 195	7.95	9.87	12.28	14.18	15.43	–	7.85	9.57	11.89	13.63	14.83	–	7.57	8.89	10.91	12.27	13.39	–
2 × 63 × 220	8.64	11.25	14.01	16.26	17.75	19.13	8.52	10.90	13.51	15.64	17.05	18.27	8.21	10.13	12.45	14.07	15.30	16.47
2 × 72 × 145	6.78	7.75	9.31	10.90	–	–	6.71	7.62	9.02	10.48	–	–	6.49	7.28	8.30	9.50	–	–
2 × 72 × 170	7.50	8.95	11.11	13.05	14.25	–	7.40	8.70	10.76	12.56	13.70	–	7.15	8.11	9.89	11.37	12.32	–
2 × 72 × 195	8.22	10.39	12.92	15.21	16.73	–	8.11	10.10	12.52	14.63	16.08	–	7.82	9.36	11.50	13.29	14.44	–
2 × 72 × 220	8.95	11.83	14.74	17.30	19.21	20.63	8.83	11.50	14.28	16.72	18.37	19.81	8.52	10.66	13.11	15.15	16.58	17.75
ALS/CLS																		
2 × 38 × 140	5.75	6.50	6.83	–	–	–	5.69	6.41	6.70	–	–	–	5.54	6.13	6.37	–	–	–
2 × 38 × 184	6.80	7.76	8.88	9.85	–	–	6.72	7.63	8.56	9.48	–	–	6.50	7.23	7.75	8.59	–	–
2 × 38 × 235	7.94	9.93	11.76	13.13	14.29	–	7.84	9.62	11.29	12.58	13.72	–	7.56	8.86	10.23	11.36	12.33	–
2 × 89 × 184	8.34	10.59	13.17	15.51	17.56	–	8.23	10.30	12.77	14.93	16.96	–	7.96	9.55	11.74	13.73	15.26	–
2 × 89 × 235	10.00	13.77	17.19	20.30	23.03	25.08	9.86	13.40	16.66	19.54	22.25	24.09	9.49	12.44	15.33	17.97	20.13	21.60
Interpolation is permitted for values between given loaded lengths.																		
– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See <i>Table 4.1</i> .																		

Table 4.12 Factored (design) reactions in kN at each end of double member trimmer in Table 4.4 without an incoming partitionDead loads $g_k = 0.25 \text{ kN/m}^2, 0.50 \text{ kN/m}^2, 1.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24



C24	Permanent (Dead) loads g_k (kN/m ²) excluding self-weight of joists																	
	g_k not more than 0.25						g_k not more than 0.50						g_k not more than 1.25					
Trimmer size 2 × (mm × mm)	Loaded length L (m) on <i>Figure 4.3</i>																	
	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0	1.0	2.0	3.0	4.0	5.0	6.0
	Factored (design) reactions in kN at each end of double member trimmer with an incoming partition																	
2 × 38 × 145	6.29	7.14	8.16	9.48	–	–	6.21	7.02	7.90	9.12	–	–	6.02	6.74	7.33	8.24	–	–
2 × 38 × 170	6.93	7.94	9.75	11.40	–	–	6.85	7.80	9.44	10.96	–	–	6.63	7.44	8.69	9.88	–	–
2 × 38 × 195	7.55	9.15	11.36	13.33	14.55	–	7.46	8.88	10.99	12.84	13.97	–	7.21	8.22	10.11	11.56	12.54	–
2 × 38 × 220	8.18	10.42	12.97	15.25	16.74	–	8.07	10.12	12.54	14.66	16.06	–	7.79	9.36	11.49	13.25	14.41	–
2 × 44 × 145	6.50	7.38	8.67	10.11	–	–	6.42	7.26	8.40	9.77	–	–	6.22	6.97	7.73	8.98	–	–
2 × 44 × 170	7.16	8.33	10.36	12.11	–	–	7.07	8.09	10.03	11.70	–	–	6.85	7.73	9.21	10.73	–	–
2 × 44 × 195	7.83	9.67	12.05	14.12	15.88	–	7.72	9.39	11.63	13.63	15.18	–	7.46	8.71	10.70	12.44	13.68	–
2 × 44 × 220	8.50	11.04	13.75	16.14	18.18	19.59	8.38	10.69	13.26	15.58	17.44	18.79	8.07	9.92	12.20	14.21	15.71	16.83
2 × 47 × 145	6.59	7.50	8.90	10.38	–	–	6.51	7.38	8.62	10.03	–	–	6.31	7.07	7.93	9.22	–	–
2 × 47 × 170	7.27	8.56	10.63	12.43	–	–	7.17	8.30	10.29	12.01	–	–	6.95	7.85	9.45	11.01	–	–
2 × 47 × 195	7.95	9.93	12.36	14.49	16.45	–	7.85	9.63	11.96	13.99	15.83	–	7.57	8.94	10.98	12.77	14.20	–
2 × 47 × 220	8.64	11.31	14.10	16.55	18.83	20.33	8.52	10.96	13.64	15.98	18.08	19.50	8.21	10.17	12.52	14.58	16.29	17.46
2 × 63 × 145	7.03	8.08	9.97	11.70	–	–	6.95	7.94	9.67	11.32	–	–	6.74	7.60	8.93	10.36	–	–
2 × 63 × 170	7.79	9.57	11.94	13.99	15.89	–	7.69	9.30	11.52	13.52	15.27	–	7.44	8.65	10.63	12.36	13.99	–
2 × 63 × 195	8.57	11.12	13.87	16.28	18.53	20.51	8.46	10.78	13.38	15.73	17.80	19.77	8.15	10.03	12.34	14.38	16.29	17.96
2 × 63 × 220	9.35	12.66	15.81	18.58	21.08	23.47	9.22	12.27	15.25	17.96	20.34	22.62	8.87	11.41	14.07	16.41	18.61	20.54
2 × 72 × 145	7.25	8.47	10.54	12.33	–	–	7.16	8.23	10.22	11.93	–	–	6.94	7.86	9.40	10.98	–	–
2 × 72 × 170	8.07	10.09	12.56	14.72	16.74	–	7.96	9.78	12.17	14.24	16.17	–	7.69	9.10	11.19	13.09	14.75	–
2 × 72 × 195	8.88	11.70	14.59	17.13	19.51	21.60	8.76	11.38	14.13	16.56	18.84	20.84	8.44	10.55	12.99	15.14	17.17	19.05
2 × 72 × 220	9.72	13.31	16.62	19.55	22.29	24.71	9.57	12.95	16.10	18.90	21.52	23.83	9.22	12.01	14.81	17.28	19.61	21.65
ALS/CLS																		
2 × 38 × 140	6.15	6.98	7.84	9.13	–	–	6.07	6.87	7.60	8.79	–	–	5.90	6.59	7.16	7.94	–	–
2 × 38 × 184	7.28	8.60	10.66	12.47	13.61	–	7.19	8.33	10.32	11.99	13.07	–	6.95	7.85	9.47	10.83	11.74	–
2 × 38 × 235	8.57	11.19	13.95	16.37	18.02	19.41	8.45	10.84	13.49	15.79	17.29	18.62	8.13	10.05	12.36	14.24	15.50	16.67
2 × 89 × 184	9.02	11.92	14.86	17.45	19.89	22.16	8.90	11.60	14.41	16.89	19.22	21.26	8.60	10.77	13.26	15.55	17.54	19.49
2 × 89 × 235	11.00	15.54	19.44	22.90	26.02	29.05	10.79	15.07	18.77	22.05	25.15	27.87	10.32	14.07	17.29	20.31	22.96	25.38
Interpolation is permitted for values between given loaded lengths.																		
– Indicates that a single trimmed joist of this cross section will not span the given loaded length. See <i>Table 4.2</i> .																		

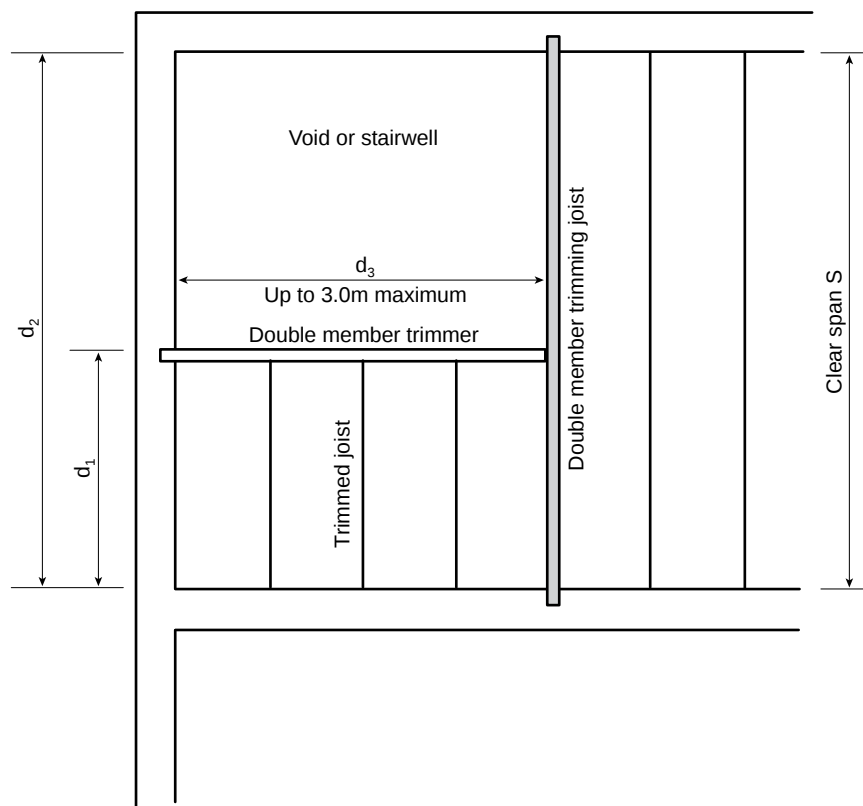


Figure 4.4 Plan on double member trimming joist supporting double member trimmer

Notes to Trimming Joist Tables 4.13 to 4.18

The sizes of the double member trimming joists shown in *Figure 4.4* will support loads from the following:

- The double member trimmer; and
- A lightweight non-loadbearing partition weighing not more than 1.0 kN/m run, supported on the double member trimmer, and one supported on the double member trimming joist over its full length; and
- A variable (imposed) load not exceeding 1.5 kN/m², or 2.0kN at the centre or end of the trimming joist.

It is assumed that the floor joists are of similar cross sectional dimensions for any of the trimmers presented in the tables.

Following the floor joist *Tables 4.1* and *4.2*, the dead load of the floor construction is taken as not exceeding 0.25 kN/m², 0.50 kN/m² and 1.25 kN/m² respectively. See *Section 4.1.4*. These exclude the joist self-weights which are taken into account in the span calculation. The two joists should be securely fixed together, see *Section 4.2.5*. No notching or drilling of a trimming joist should be carried out unless proven by calculation, except as necessary to accommodate the flanges of joist hangers.

Where necessary, the trimmed joists were assumed to be spaced at 400mm centres and the joists parallel to the trimming joist to be spaced at 600mm centres. This imparts the maximum load on the trimming joist and may be conservative for all other configurations.

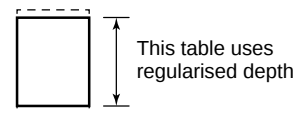
Table 4.13 Permissible clear spans of double member trimming joists which support a trimmer and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead load $g_k = 0.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

Service Class 1 or 2



C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Clear span (m) S on Figure 4.4								
$2 \times 38 \times 145$	2.12	2.01	1.85	1.98	1.62	1.37	2.02	1.67	1.44
$2 \times 38 \times 170$	2.57	2.46	2.26	2.40	2.00	1.72	2.44	2.06	1.79
$2 \times 38 \times 195$	3.03	2.89	2.68	2.82	2.39	2.09	2.86	2.45	2.15
$2 \times 38 \times 220$	3.49	3.31	3.09	3.24	2.79	2.45	3.29	2.85	2.52
$2 \times 44 \times 145$	2.26	2.15	1.98	2.11	1.74	1.49	2.15	1.80	1.55
$2 \times 44 \times 170$	2.74	2.62	2.41	2.56	2.15	1.86	2.59	2.21	1.93
$2 \times 44 \times 195$	3.22	3.06	2.85	3.00	2.56	2.25	3.04	2.62	2.31
$2 \times 44 \times 220$	3.70	3.51	3.28	3.44	2.98	2.64	3.48	3.04	2.70
$2 \times 47 \times 145$	2.33	2.22	2.04	2.18	1.80	1.54	2.21	1.85	1.61
$2 \times 47 \times 170$	2.82	2.69	2.48	2.63	2.22	1.93	2.66	2.27	1.99
$2 \times 47 \times 195$	3.31	3.15	2.93	3.08	2.64	2.32	3.12	2.70	2.39
$2 \times 47 \times 220$	3.80	3.60	3.37	3.53	3.07	2.72	3.57	3.12	2.79
$2 \times 63 \times 145$	2.63	2.51	2.32	2.46	2.07	1.80	2.49	2.12	1.86
$2 \times 63 \times 170$	3.17	3.02	2.81	2.96	2.53	2.22	2.99	2.59	2.29
$2 \times 63 \times 195$	3.71	3.52	3.30	3.45	3.00	2.66	3.49	3.05	2.73
$2 \times 63 \times 220$	4.25	4.02	3.79	3.95	3.47	3.11	3.99	3.53	3.17
$2 \times 72 \times 145$	2.78	2.65	2.45	2.59	2.20	1.92	2.63	2.25	1.98
$2 \times 72 \times 170$	3.34	3.18	2.96	3.11	2.68	2.37	3.15	2.74	2.43
$2 \times 72 \times 195$	3.91	3.70	3.47	3.63	3.17	2.83	3.67	3.23	2.89
$2 \times 72 \times 220$	4.47	4.22	3.98	4.15	3.66	3.29	4.19	3.72	3.36
ALS/CLS									
$2 \times 38 \times 140$	2.03	1.92	1.77	1.90	1.55	1.31	1.94	1.60	1.37
$2 \times 38 \times 184$	2.83	2.70	2.49	2.64	2.22	1.93	2.68	2.28	1.99
$2 \times 38 \times 235$	3.77	3.57	3.34	3.50	3.03	2.68	3.54	3.09	2.74
$2 \times 89 \times 184$	3.96	3.75	3.52	3.68	3.22	2.88	3.72	3.28	2.95
$2 \times 89 \times 235$	5.16	4.88	4.63	4.81	4.29	3.90	4.85	4.35	3.97
Interpolation is permitted for values of d_3 between 1.0m and 3.0m									

Eurocode 5 span tables for solid timber members

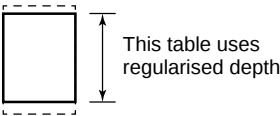
Table 4.14 Permissible clear spans of double member trimming joists which support a trimmer and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead load $g_k = 0.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24

Service Class 1 or 2



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.25 kN/m ²								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Clear span (m) S on Figure 4.4									
2 × 38 × 145	2.43	2.32	2.14	2.27	1.89	1.63	2.31	1.95	1.69
2 × 38 × 170	2.94	2.81	2.60	2.74	2.33	2.03	2.78	2.38	2.09
2 × 38 × 195	3.45	3.28	3.06	3.21	2.77	2.44	3.25	2.82	2.50
2 × 38 × 220	3.97	3.76	3.52	3.68	3.21	2.86	3.72	3.27	2.92
2 × 44 × 145	2.59	2.47	2.28	2.42	2.03	1.76	2.45	2.08	1.82
2 × 44 × 170	3.12	2.98	2.76	2.91	2.49	2.18	2.95	2.54	2.24
2 × 44 × 195	3.66	3.47	3.25	3.41	2.95	2.62	3.44	3.01	2.68
2 × 44 × 220	4.20	3.97	3.73	3.90	3.42	3.06	3.94	3.47	3.12
2 × 47 × 145	2.66	2.54	2.35	2.48	2.09	1.82	2.52	2.14	1.88
2 × 47 × 170	3.21	3.05	2.84	2.99	2.56	2.25	3.03	2.62	2.31
2 × 47 × 195	3.76	3.56	3.34	3.49	3.04	2.70	3.53	3.09	2.76
2 × 47 × 220	4.31	4.07	3.83	4.00	3.52	3.15	4.04	3.57	3.21
2 × 63 × 145	2.99	2.86	2.65	2.79	2.39	2.09	2.83	2.44	2.15
2 × 63 × 170	3.60	3.42	3.20	3.35	2.91	2.58	3.39	2.96	2.64
2 × 63 × 195	4.20	3.97	3.74	3.90	3.43	3.07	3.94	3.48	3.14
2 × 63 × 220	4.80	4.53	4.28	4.46	3.96	3.57	4.49	4.01	3.64
2 × 72 × 145	3.16	3.01	2.80	2.94	2.53	2.23	2.98	2.58	2.29
2 × 72 × 170	3.78	3.59	3.37	3.52	3.07	2.74	3.56	3.13	2.80
2 × 72 × 195	4.41	4.17	3.93	4.10	3.62	3.26	4.14	3.67	3.32
2 × 72 × 220	5.02	4.74	4.50	4.67	4.17	3.78	4.71	4.22	3.84
ALS/CLS									
2 × 38 × 140	2.33	2.22	2.05	2.18	1.81	1.55	2.22	1.86	1.61
2 × 38 × 184	3.23	3.07	2.86	3.01	2.57	2.26	3.04	2.63	2.32
2 × 38 × 235	4.27	4.04	3.80	3.97	3.48	3.11	4.00	3.53	3.17
2 × 89 × 184	4.47	4.22	3.99	4.15	3.67	3.31	4.19	3.73	3.38
2 × 89 × 235	5.76	5.47	5.21	5.40	4.86	4.44	5.43	4.92	4.52
Interpolation is permitted for values of d_3 between 1.0m and 3.0m									

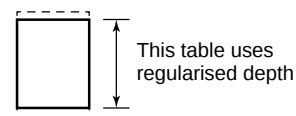
Table 4.15 Permissible clear spans of double member trimming joists which support a trimmer and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead load $g_k = 0.50 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

Service Class 1 or 2



C16 Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.50 kN/m ²								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Clear span (m) S on Figure 4.4									
2 × 38 × 145	2.08	1.98	1.82	1.95	1.59	1.35	1.98	1.64	1.41
2 × 38 × 170	2.53	2.41	2.22	2.35	1.97	1.69	2.39	2.02	1.76
2 × 38 × 195	2.98	2.83	2.63	2.76	2.35	2.04	2.80	2.40	2.11
2 × 38 × 220	3.42	3.25	3.03	3.18	2.73	2.40	3.21	2.78	2.46
2 × 44 × 145	2.22	2.11	1.95	2.08	1.71	1.47	2.11	1.76	1.52
2 × 44 × 170	2.69	2.57	2.37	2.51	2.11	1.83	2.54	2.16	1.89
2 × 44 × 195	3.16	3.01	2.80	2.94	2.51	2.20	2.97	2.56	2.26
2 × 44 × 220	3.63	3.44	3.22	3.37	2.91	2.58	3.41	2.97	2.64
2 × 47 × 145	2.29	2.18	2.01	2.13	1.77	1.52	2.17	1.82	1.58
2 × 47 × 170	2.77	2.64	2.44	2.57	2.17	1.89	2.61	2.23	1.95
2 × 47 × 195	3.25	3.09	2.87	3.02	2.58	2.27	3.05	2.64	2.33
2 × 47 × 220	3.73	3.53	3.31	3.46	3.00	2.66	3.49	3.05	2.72
2 × 63 × 145	2.59	2.47	2.28	2.41	2.03	1.76	2.45	2.08	1.82
2 × 63 × 170	3.11	2.97	2.76	2.90	2.48	2.18	2.93	2.53	2.24
2 × 63 × 195	3.64	3.46	3.24	3.38	2.94	2.61	3.42	2.99	2.67
2 × 63 × 220	4.17	3.94	3.71	3.87	3.39	3.04	3.90	3.44	3.10
2 × 72 × 145	2.73	2.61	2.41	2.54	2.16	1.88	2.58	2.21	1.94
2 × 72 × 170	3.28	3.12	2.91	3.05	2.63	2.32	3.09	2.68	2.38
2 × 72 × 195	3.83	3.63	3.41	3.56	3.10	2.77	3.59	3.16	2.83
2 × 72 × 220	4.38	4.14	3.91	4.06	3.58	3.22	4.10	3.63	3.28
ALS/CLS									
2 × 38 × 140	2.00	1.89	1.74	1.86	1.52	1.28	1.90	1.57	1.34
2 × 38 × 184	2.78	2.65	2.45	2.58	2.18	1.89	2.62	2.23	1.95
2 × 38 × 235	3.69	3.50	3.27	3.42	2.96	2.62	3.46	3.01	2.68
2 × 89 × 184	3.89	3.68	3.46	3.61	3.16	2.82	3.65	3.21	2.88
2 × 89 × 235	5.07	4.79	4.54	4.71	4.20	3.81	4.74	4.25	3.87
Interpolation is permitted for values of d_3 between 1.0m and 3.0m									

Eurocode 5 span tables for solid timber members

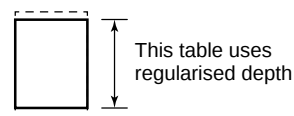
Table 4.16 Permissible clear spans of double member trimming joists which support a trimmer and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead load $g_k = 0.50 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24

Service Class 1 or 2



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.50 kN/m ²								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Clear span (m) S on Figure 4.4									
2 × 38 × 145	2.39	2.28	2.10	2.23	1.86	1.60	2.26	1.91	1.66
2 × 38 × 170	2.89	2.76	2.55	2.69	2.28	1.99	2.72	2.33	2.05
2 × 38 × 195	3.39	3.22	3.00	3.15	2.71	2.39	3.18	2.76	2.45
2 × 38 × 220	3.89	3.68	3.45	3.61	3.14	2.79	3.64	3.19	2.85
2 × 44 × 145	2.54	2.43	2.24	2.37	1.99	1.73	2.41	2.04	1.78
2 × 44 × 170	3.07	2.92	2.71	2.85	2.44	2.14	2.89	2.49	2.20
2 × 44 × 195	3.59	3.41	3.19	3.34	2.89	2.56	3.37	2.94	2.62
2 × 44 × 220	4.12	3.89	3.66	3.82	3.34	2.99	3.85	3.39	3.04
2 × 47 × 145	2.61	2.50	2.31	2.44	2.05	1.79	2.47	2.10	1.84
2 × 47 × 170	3.15	3.00	2.79	2.93	2.51	2.21	2.96	2.56	2.27
2 × 47 × 195	3.69	3.49	3.27	3.42	2.97	2.64	3.46	3.02	2.70
2 × 47 × 220	4.22	3.99	3.76	3.91	3.44	3.08	3.95	3.48	3.13
2 × 63 × 145	2.94	2.81	2.60	2.74	2.34	2.06	2.77	2.39	2.11
2 × 63 × 170	3.53	3.35	3.14	3.28	2.85	2.53	3.32	2.90	2.59
2 × 63 × 195	4.12	3.90	3.67	3.82	3.36	3.01	3.86	3.41	3.07
2 × 63 × 220	4.71	4.44	4.20	4.36	3.87	3.49	4.40	3.92	3.55
2 × 72 × 145	3.10	2.95	2.75	2.89	2.48	2.19	2.92	2.53	2.24
2 × 72 × 170	3.71	3.52	3.30	3.45	3.01	2.68	3.49	3.06	2.74
2 × 72 × 195	4.33	4.09	3.86	4.02	3.54	3.18	4.05	3.59	3.24
2 × 72 × 220	4.93	4.65	4.41	4.58	4.07	3.69	4.61	4.12	3.75
ALS/CLS									
2 × 38 × 140	2.29	2.18	2.01	2.14	1.78	1.53	2.17	1.82	1.58
2 × 38 × 184	3.17	3.01	2.80	2.95	2.52	2.21	2.98	2.57	2.27
2 × 38 × 235	4.19	3.96	3.72	3.88	3.40	3.04	3.92	3.45	3.09
2 × 89 × 184	4.38	4.14	3.91	4.07	3.59	3.24	4.10	3.64	3.30
2 × 89 × 235	5.65	5.36	5.11	5.29	4.75	4.34	5.32	4.80	4.40
Interpolation is permitted for values of d_3 between 1.0m and 3.0m									

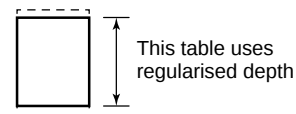
Table 4.17 Permissible clear spans of double member trimming joists which support a trimmer and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

Dead load $g_k = 1.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

Service Class 1 or 2

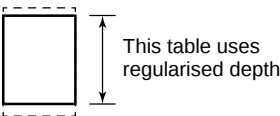


C16 Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 1.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Clear span (m) S on Figure 4.4									
2 × 38 × 145	1.99	1.88	1.74	1.85	1.52	1.29	1.88	1.56	1.34
2 × 38 × 170	2.41	2.29	2.12	2.23	1.87	1.61	2.26	1.91	1.66
2 × 38 × 195	2.83	2.69	2.49	2.62	2.22	1.93	2.65	2.26	1.98
2 × 38 × 220	3.25	3.08	2.87	3.00	2.57	2.26	3.03	2.62	2.31
2 × 44 × 145	2.12	2.01	1.86	1.97	1.63	1.40	2.00	1.67	1.45
2 × 44 × 170	2.56	2.44	2.26	2.37	2.00	1.74	2.40	2.04	1.79
2 × 44 × 195	3.01	2.86	2.66	2.78	2.37	2.08	2.81	2.42	2.13
2 × 44 × 220	3.45	3.27	3.05	3.18	2.75	2.43	3.21	2.79	2.48
2 × 47 × 145	2.18	2.07	1.92	2.03	1.69	1.45	2.06	1.73	1.50
2 × 47 × 170	2.63	2.51	2.32	2.44	2.06	1.80	2.47	2.11	1.85
2 × 47 × 195	3.09	2.93	2.73	2.85	2.44	2.15	2.88	2.49	2.20
2 × 47 × 220	3.54	3.35	3.14	3.27	2.83	2.51	3.30	2.87	2.55
2 × 63 × 145	2.47	2.35	2.18	2.29	1.93	1.68	2.32	1.97	1.73
2 × 63 × 170	2.97	2.82	2.63	2.75	2.35	2.07	2.78	2.39	2.12
2 × 63 × 195	3.46	3.28	3.07	3.20	2.77	2.46	3.23	2.82	2.51
2 × 63 × 220	3.96	3.75	3.52	3.66	3.20	2.86	3.68	3.24	2.91
2 × 72 × 145	2.61	2.48	2.30	2.42	2.05	1.79	2.45	2.09	1.84
2 × 72 × 170	3.12	2.97	2.77	2.89	2.49	2.20	2.92	2.53	2.25
2 × 72 × 195	3.64	3.45	3.24	3.37	2.93	2.62	3.40	2.97	2.66
2 × 72 × 220	4.16	3.93	3.71	3.84	3.38	3.03	3.87	3.42	3.08
ALS/CLS									
2 × 38 × 140	1.91	1.80	1.67	1.77	1.45	1.23	1.80	1.49	1.28
2 × 38 × 184	2.64	2.52	2.33	2.45	2.06	1.79	2.48	2.11	1.84
2 × 38 × 235	3.50	3.32	3.10	3.23	2.79	2.46	3.26	2.83	2.51
2 × 89 × 184	3.70	3.50	3.29	3.42	2.99	2.67	3.45	3.03	2.72
2 × 89 × 235	4.83	4.55	4.31	4.45	3.95	3.58	4.48	3.99	3.63
Interpolation is permitted for values of d_3 between 1.0m and 3.0m									

Eurocode 5 span tables for solid timber members

Table 4.18 Permissible clear spans of double member trimming joists which support a trimmer and non-loadbearing lightweight partitions not exceeding 1.0 kN/m

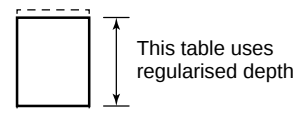
Dead load $g_k = 1.25 \text{ kN/m}^2$
 Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$
 Strength Class C24 Service Class 1 or 2



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 1.25 kN/m ²								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Clear span (m) S on Figure 4.4									
2 × 38 × 145	2.28	2.17	2.01	2.12	1.77	1.53	2.15	1.81	1.57
2 × 38 × 170	2.75	2.62	2.43	2.55	2.16	1.89	2.57	2.20	1.94
2 × 38 × 195	3.22	3.06	2.85	2.98	2.56	2.26	3.00	2.60	2.30
2 × 38 × 220	3.69	3.49	3.27	3.41	2.96	2.63	3.43	3.00	2.67
2 × 44 × 145	2.43	2.31	2.14	2.25	1.89	1.65	2.28	1.93	1.69
2 × 44 × 170	2.92	2.78	2.58	2.70	2.31	2.03	2.73	2.35	2.07
2 × 44 × 195	3.41	3.24	3.03	3.15	2.73	2.42	3.18	2.77	2.46
2 × 44 × 220	3.91	3.69	3.47	3.61	3.15	2.81	3.63	3.18	2.85
2 × 47 × 145	2.49	2.37	2.20	2.31	1.95	1.70	2.34	1.99	1.75
2 × 47 × 170	3.00	2.85	2.65	2.78	2.38	2.09	2.80	2.42	2.14
2 × 47 × 195	3.50	3.32	3.11	3.24	2.81	2.49	3.26	2.84	2.54
2 × 47 × 220	4.01	3.79	3.56	3.70	3.24	2.90	3.72	3.27	2.94
2 × 63 × 145	2.81	2.67	2.48	2.60	2.22	1.96	2.63	2.26	2.00
2 × 63 × 170	3.36	3.19	2.98	3.11	2.69	2.39	3.14	2.73	2.44
2 × 63 × 195	3.92	3.70	3.48	3.62	3.17	2.84	3.64	3.21	2.88
2 × 63 × 220	4.47	4.22	3.98	4.12	3.64	3.28	4.15	3.68	3.33
2 × 72 × 145	2.96	2.81	2.62	2.74	2.35	2.08	2.77	2.39	2.12
2 × 72 × 170	3.53	3.35	3.14	3.27	2.85	2.54	3.30	2.88	2.58
2 × 72 × 195	4.11	3.89	3.66	3.80	3.34	3.00	3.83	3.38	3.05
2 × 72 × 220	4.69	4.42	4.18	4.33	3.83	3.47	4.35	3.87	3.51
ALS/CLS									
2 × 38 × 140	2.19	2.08	1.92	2.03	1.69	1.46	2.06	1.73	1.50
2 × 38 × 184	3.01	2.86	2.66	2.79	2.38	2.10	2.82	2.42	2.14
2 × 38 × 235	3.97	3.75	3.53	3.66	3.20	2.86	3.69	3.23	2.90
2 × 89 × 184	4.17	3.94	3.72	3.85	3.39	3.06	3.88	3.43	3.10
2 × 89 × 235	5.39	5.10	4.85	5.00	4.47	4.07	5.02	4.51	4.12
Interpolation is permitted for values of d_3 between 1.0m and 3.0m									

Table 4.19 Nail centres for double member trimming joists in Table 4.13Dead loads $g_k = 0.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

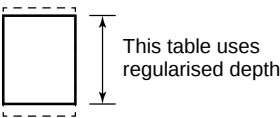


C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Nail centres S (mm) on Figure 4.2								
$2 \times 38 \times 145$	350	330	300	330	320	270	330	270	280
$2 \times 38 \times 170$	360	400	370	400	330	280	400	340	290
$2 \times 38 \times 195$	430	410	380	400	390	340	400	400	350
$2 \times 38 \times 220$	430	470	440	460	390	400	460	400	360
$2 \times 44 \times 145$	370	430	390	420	340	290	430	350	310
$2 \times 44 \times 170$	450	430	400	420	420	370	430	360	380
$2 \times 44 \times 195$	530	510	470	490	420	370	500	430	380
$2 \times 44 \times 220$	520	500	460	490	490	430	490	500	450
$2 \times 47 \times 145$	380	360	400	360	360	300	360	370	320
$2 \times 47 \times 170$	460	440	410	430	360	380	440	370	390
$2 \times 47 \times 195$	470	440	480	510	430	380	510	440	390
$2 \times 47 \times 220$	540	510	480	500	510	450	510	440	460
$2 \times 63 \times 145$	650	620	580	610	510	440	620	530	460
$2 \times 63 \times 170$	630	600	560	590	630	550	590	640	570
$2 \times 63 \times 195$	740	700	650	690	590	530	690	610	540
$2 \times 63 \times 220$	700	800	750	790	690	620	790	700	630
$2 \times 72 \times 145$	550	530	490	510	540	470	520	560	490
$2 \times 72 \times 170$	660	630	590	620	530	590	630	540	480
$2 \times 72 \times 195$	650	730	690	720	630	560	730	640	570
$2 \times 72 \times 220$	630	700	660	690	730	650	690	740	670
ALS/CLS									
$2 \times 38 \times 140$	330	320	290	310	300	260	320	310	270
$2 \times 38 \times 184$	400	380	410	370	370	320	380	380	330
$2 \times 38 \times 235$	470	440	470	430	430	380	440	440	390
$2 \times 89 \times 184$	560	530	580	520	530	480	530	540	490
$2 \times 89 \times 235$	570	540	570	530	610	550	530	620	560
For interpolated values from Table 4.13, use the lower spacing from the two corresponding spacings in this table. Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimming joist should be fixed in line with a minimum of two nails at 1/3 span positions.									

Eurocode 5 span tables for solid timber members

Table 4.20 Nail centres for double member trimming joists in Table 4.14

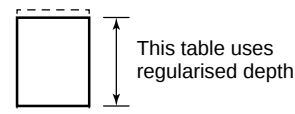
Dead loads $g_k = 0.25 \text{ kN/m}^2$
 Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$
 Strength Class C24



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Nail centres S (mm) on Figure 4.2									
2 × 38 × 145	400	380	350	370	370	320	380	320	330
2 × 38 × 170	420	460	430	450	380	330	460	390	340
2 × 38 × 195	490	460	430	450	460	400	460	470	410
2 × 38 × 220	490	530	500	520	450	400	530	460	410
2 × 44 × 145	430	490	450	480	400	350	490	410	360
2 × 44 × 170	520	490	460	480	490	430	490	420	440
2 × 44 × 195	520	570	540	560	490	430	570	500	440
2 × 44 × 220	590	560	530	550	560	500	560	570	520
2 × 47 × 145	440	420	460	410	410	360	420	420	370
2 × 47 × 170	530	500	470	490	420	450	500	430	460
2 × 47 × 195	530	500	550	490	500	440	500	510	460
2 × 47 × 220	610	580	540	570	500	520	570	500	530
2 × 63 × 145	740	710	660	690	590	520	700	600	530
2 × 63 × 170	710	680	630	660	720	640	670	730	660
2 × 63 × 195	830	790	740	780	680	610	780	690	620
2 × 63 × 220	800	750	850	740	790	710	740	800	720
2 × 72 × 145	630	600	550	580	630	550	590	640	570
2 × 72 × 170	750	710	670	700	610	540	710	620	560
2 × 72 × 195	730	830	780	820	720	650	820	730	660
2 × 72 × 220	710	670	740	770	690	750	670	700	760
ALS/CLS									
2 × 38 × 140	380	370	340	360	360	310	360	370	320
2 × 38 × 184	460	430	400	420	420	370	430	430	380
2 × 38 × 235	530	500	470	490	490	440	500	500	450
2 × 89 × 184	630	600	660	590	610	550	590	620	560
2 × 89 × 235	630	600	570	590	600	550	600	610	560
For interpolated values from Table 4.14, use the lower spacing from the two corresponding spacings in this table. Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimming joist should be fixed in line with a minimum of two nails at 1/3 span positions.									

Table 4.21 Nail centres for double member trimming joists in Table 4.15Dead loads $g_k = 0.50 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

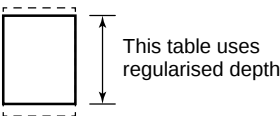


C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.50 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Nail centres S (mm) on Figure 4.2								
$2 \times 38 \times 145$	340	320	300	320	260	270	330	270	280
$2 \times 38 \times 170$	360	340	370	390	320	280	390	330	290
$2 \times 38 \times 195$	420	400	370	390	390	340	400	340	350
$2 \times 38 \times 220$	420	400	430	450	380	340	450	390	350
$2 \times 44 \times 145$	370	350	390	410	340	290	350	350	300
$2 \times 44 \times 170$	440	420	390	410	350	360	420	360	370
$2 \times 44 \times 195$	450	500	460	480	410	360	490	420	370
$2 \times 44 \times 220$	510	490	460	480	480	420	480	490	430
$2 \times 47 \times 145$	380	360	330	350	350	300	360	360	310
$2 \times 47 \times 170$	460	440	400	420	360	370	430	370	390
$2 \times 47 \times 195$	460	440	470	430	430	370	430	430	380
$2 \times 47 \times 220$	530	500	470	490	420	440	490	430	450
$2 \times 63 \times 145$	510	610	570	600	500	440	610	510	450
$2 \times 63 \times 170$	620	590	550	570	620	540	580	500	560
$2 \times 63 \times 195$	720	690	640	670	580	520	680	590	530
$2 \times 63 \times 220$	690	650	740	640	670	600	650	680	610
$2 \times 72 \times 145$	540	520	480	500	530	470	510	550	480
$2 \times 72 \times 170$	650	620	580	610	520	460	610	530	470
$2 \times 72 \times 195$	630	600	680	710	620	550	710	630	560
$2 \times 72 \times 220$	730	690	650	670	590	640	680	600	650
ALS/CLS									
$2 \times 38 \times 140$	330	310	290	310	300	250	310	260	260
$2 \times 38 \times 184$	390	370	340	360	360	310	370	370	320
$2 \times 38 \times 235$	460	430	400	420	420	370	430	430	380
$2 \times 89 \times 184$	550	520	490	510	520	470	520	530	480
$2 \times 89 \times 235$	560	530	500	520	590	540	520	600	550
For interpolated values from Table 4.15, use the lower spacing from the two corresponding spacings in this table. Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimming joist should be fixed in line with a minimum of two nails at 1/3 span positions.									

Eurocode 5 span tables for solid timber members

Table 4.22 Nail centres for double member trimming joists in Table 4.16

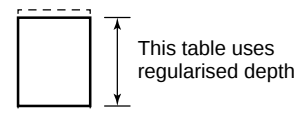
Dead loads $g_k = 0.50 \text{ kN/m}^2$
 Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$
 Strength Class C24



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.50 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Nail centres S (mm) on Figure 4.2									
2 × 38 × 145	390	370	350	370	300	320	370	310	330
2 × 38 × 170	410	390	420	440	380	330	380	380	340
2 × 38 × 195	480	450	420	440	380	390	450	390	400
2 × 38 × 220	480	460	490	450	440	390	450	450	400
2 × 44 × 145	420	400	440	470	390	340	400	400	350
2 × 44 × 170	510	480	450	470	400	420	480	410	430
2 × 44 × 195	510	480	530	550	480	420	560	480	430
2 × 44 × 220	580	550	520	540	550	490	550	480	500
2 × 47 × 145	430	410	380	400	410	350	410	420	360
2 × 47 × 170	520	490	460	480	410	440	490	420	370
2 × 47 × 195	520	490	460	480	490	440	490	500	440
2 × 47 × 220	600	570	530	550	490	510	560	490	520
2 × 63 × 145	580	700	650	680	580	510	690	590	520
2 × 63 × 170	700	670	620	650	560	630	660	570	640
2 × 63 × 195	820	770	730	760	670	600	770	680	610
2 × 63 × 220	780	740	840	720	770	690	730	780	710
2 × 72 × 145	620	590	540	570	610	540	580	630	560
2 × 72 × 170	740	700	660	690	600	530	690	610	540
2 × 72 × 195	720	680	770	660	700	630	670	710	640
2 × 72 × 220	700	660	730	650	670	730	650	680	740
ALS/CLS									
2 × 38 × 140	380	360	330	350	350	300	360	300	310
2 × 38 × 184	450	430	400	420	420	360	420	420	370
2 × 38 × 235	520	490	460	480	480	430	480	490	440
2 × 89 × 184	620	590	550	580	590	530	580	600	540
2 × 89 × 235	560	590	560	580	590	610	590	600	550
For interpolated values from Table 4.16, use the lower spacing from the two corresponding spacings in this table. Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimming joist should be fixed in line with a minimum of two nails at 1/3 span positions.									

Table 4.23 Nail centres for double member trimming joists in Table 4.17Dead loads $g_k = 1.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16

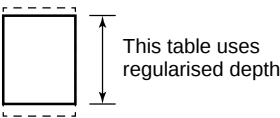


C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 1.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Nail centres S (mm) on Figure 4.2								
$2 \times 38 \times 145$	330	310	290	300	250	250	310	250	220
$2 \times 38 \times 170$	340	320	300	310	310	260	320	310	270
$2 \times 38 \times 195$	350	380	350	370	310	320	370	320	280
$2 \times 38 \times 220$	400	380	350	370	360	320	370	370	330
$2 \times 44 \times 145$	350	330	310	320	320	280	330	330	280
$2 \times 44 \times 170$	420	400	370	390	330	280	400	340	290
$2 \times 44 \times 195$	420	400	370	390	390	340	400	400	350
$2 \times 44 \times 220$	430	460	430	450	390	400	450	390	410
$2 \times 47 \times 145$	360	340	310	330	280	290	340	280	290
$2 \times 47 \times 170$	370	350	380	400	340	290	410	350	300
$2 \times 47 \times 195$	440	410	380	400	400	350	410	350	360
$2 \times 47 \times 220$	440	410	440	400	400	350	410	400	360
$2 \times 63 \times 145$	490	460	430	450	480	420	460	490	430
$2 \times 63 \times 170$	590	560	520	540	470	510	550	470	420
$2 \times 63 \times 195$	570	650	610	640	550	490	640	560	500
$2 \times 63 \times 220$	660	620	580	600	630	570	610	640	580
$2 \times 72 \times 145$	520	490	460	480	410	440	480	410	460
$2 \times 72 \times 170$	520	590	550	570	490	440	580	500	440
$2 \times 72 \times 195$	600	570	530	560	580	520	560	590	530
$2 \times 72 \times 220$	590	650	610	640	560	500	640	560	510
ALS/CLS									
$2 \times 38 \times 140$	310	300	270	290	240	240	300	240	250
$2 \times 38 \times 184$	370	350	330	340	290	290	350	300	300
$2 \times 38 \times 235$	380	410	380	400	340	350	400	350	350
$2 \times 89 \times 184$	520	500	470	480	420	440	490	430	450
$2 \times 89 \times 235$	480	500	530	490	490	510	490	490	510
For interpolated values from Table 4.17, use the lower spacing from the two corresponding spacings in this table. Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimming joist should be fixed in line with a minimum of two nails at 1/3 span positions.									

Eurocode 5 span tables for solid timber members

Table 4.24 Nail centres for double member trimming joists in Table 4.18

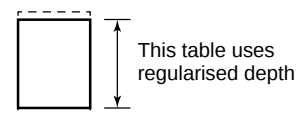
Dead loads $g_k = 1.25 \text{ kN/m}^2$
 Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$
 Strength Class C24



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 1.25 kN/m ²								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Nail centres S (mm) on Figure 4.2									
2 × 38 × 145	320	360	330	350	290	250	350	300	260
2 × 38 × 170	390	370	340	360	360	310	360	360	320
2 × 38 × 195	400	380	400	420	360	320	370	370	320
2 × 38 × 220	460	430	400	420	420	370	420	370	380
2 × 44 × 145	400	380	350	370	370	320	370	380	330
2 × 44 × 170	410	460	430	450	380	330	450	390	340
2 × 44 × 195	480	460	430	450	450	400	450	460	410
2 × 44 × 220	480	520	490	510	440	460	510	450	400
2 × 47 × 145	410	390	360	380	320	340	390	330	340
2 × 47 × 170	420	400	440	390	390	340	400	400	350
2 × 47 × 195	500	470	440	460	400	410	460	400	420
2 × 47 × 220	500	470	500	460	460	410	460	460	410
2 × 63 × 145	560	530	490	520	550	480	520	560	500
2 × 63 × 170	670	630	590	620	530	470	620	540	480
2 × 63 × 195	650	610	690	720	630	560	720	640	570
2 × 63 × 220	630	700	660	680	600	650	690	610	660
2 × 72 × 145	590	560	520	540	470	510	550	470	530
2 × 72 × 170	580	670	620	650	560	500	650	570	510
2 × 72 × 195	680	640	610	630	660	600	630	560	600
2 × 72 × 220	660	630	690	720	630	570	720	640	580
ALS/CLS									
2 × 38 × 140	360	340	320	330	280	290	340	280	250
2 × 38 × 184	430	400	380	390	340	340	400	340	350
2 × 38 × 235	440	410	440	450	390	400	460	400	410
2 × 89 × 184	590	560	530	550	480	500	550	490	510
2 × 89 × 235	530	500	530	550	490	580	500	500	580
For interpolated values from Table 4.18, use the lower spacing from the two corresponding spacings in this table. Nail specifications used; for 38mm wide sections: 3.75mm diameter x 75mm long, for 44mm & 47mm wide sections: 4.00mm diameter x 90mm long and for 63mm, 72mm & 89mm wide sections: 5.00mm diameter x 125mm long. Each trimming joist should be fixed in line with a minimum of two nails at 1/3 span positions.									

Table 4.25 Bolt centres for double member trimming joists in Table 4.13Dead loads $g_k = 0.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16



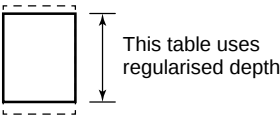
C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Bolt centres S (mm) on Figure 4.2								
$2 \times 38 \times 145$	700	670	610	660	540	450	670	550	470
$2 \times 38 \times 170$	850	810	750	800	660	570	810	680	590
$2 \times 38 \times 195$	1010	960	890	940	790	690	950	810	710
$2 \times 38 \times 220$	1160	1100	1020	1080	920	810	1090	940	840
$2 \times 44 \times 145$	750	710	660	700	580	740	710	590	770
$2 \times 44 \times 170$	910	870	800	850	710	620	860	730	640
$2 \times 44 \times 195$	1070	1020	940	990	850	740	1010	870	770
$2 \times 44 \times 220$	1200	1170	1090	1140	990	870	1160	1010	900
$2 \times 47 \times 145$	770	730	680	720	900	770	730	920	800
$2 \times 47 \times 170$	930	890	820	870	730	640	880	750	660
$2 \times 47 \times 195$	1100	1040	970	1020	870	770	1030	890	790
$2 \times 47 \times 220$	1200	1200	1120	1170	1020	900	1190	1040	920
$2 \times 63 \times 145$	1200	1200	1160	1200	1030	890	1200	1060	920
$2 \times 63 \times 170$	1050	1200	1200	1200	1200	1110	1200	1200	1140
$2 \times 63 \times 195$	1200	1170	1090	1150	1200	1200	1160	1200	1200
$2 \times 63 \times 220$	1200	1200	1200	1200	1150	1030	1200	1170	1050
$2 \times 72 \times 145$	1200	1200	1200	1200	1090	950	1200	1120	980
$2 \times 72 \times 170$	1200	1200	1200	1200	1200	1180	1200	1200	1200
$2 \times 72 \times 195$	1200	1200	1200	1200	1200	1200	1200	1200	1200
$2 \times 72 \times 220$	1200	1200	1200	1200	1200	1200	1200	1200	1200
ALS/CLS									
$2 \times 38 \times 140$	670	640	590	630	510	430	640	530	450
$2 \times 38 \times 184$	940	900	830	870	740	640	890	760	660
$2 \times 38 \times 235$	1200	1180	1110	1160	1000	890	1170	1020	910
$2 \times 89 \times 184$	1200	1200	1200	1200	1200	1200	1200	1200	1200
$2 \times 89 \times 235$	1200	1200	1200	1200	1200	1200	1200	1200	1200
For interpolated values from Table 4.13, use the lower spacing from the two corresponding spacings in this table. Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut), for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut). Each trimming joist should be fixed in line with a minimum of two bolts at 1/3 span positions.									

Table 4.26 Bolt centres for double member trimming joists in Table 4.14

Dead loads $g_k = 0.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24

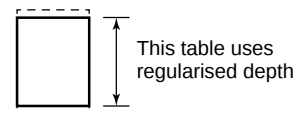


Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Bolt centres S (mm) on Figure 4.2									
2 × 38 × 145	810	770	710	750	630	540	760	640	560
2 × 38 × 170	980	930	860	910	770	670	920	790	690
2 × 38 × 195	1150	1090	1020	1070	920	810	1080	940	830
2 × 38 × 220	1200	1200	1170	1200	1070	950	1200	1080	970
2 × 44 × 145	860	820	760	800	1010	870	810	1040	900
2 × 44 × 170	1040	990	920	970	820	720	980	840	740
2 × 44 × 195	1200	1150	1080	1130	980	870	1140	1000	890
2 × 44 × 220	1200	1200	1200	1200	1130	1010	1200	1150	1040
2 × 47 × 145	880	840	1170	820	1040	900	840	1070	930
2 × 47 × 170	1060	1010	940	990	850	1120	1000	870	1150
2 × 47 × 195	1200	1180	1110	1160	1010	890	1170	1030	920
2 × 47 × 220	1200	1200	1200	1200	1170	1040	1200	1180	1070
2 × 63 × 145	1200	1200	1200	1200	1190	1040	1200	1200	1070
2 × 63 × 170	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 63 × 195	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 63 × 220	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 145	1200	1200	1200	1200	1200	1110	1200	1200	1140
2 × 72 × 170	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 195	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 220	1200	1200	1200	1200	1200	1200	1200	1200	1200
ALS/CLS									
2 × 38 × 140	770	740	680	720	600	510	730	610	530
2 × 38 × 184	1070	1020	950	1000	850	750	1010	870	770
2 × 38 × 235	1200	1200	1200	1200	1160	1030	1200	1170	1050
2 × 89 × 184	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 89 × 235	1200	1200	1200	1200	1200	1200	1200	1200	1200

For interpolated values from Table 4.14, use the lower spacing from the two corresponding spacings in this table.
 Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut),
 for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut).
 Each trimming joist should be fixed in line with a minimum of two bolts at 1/3 span positions.

Table 4.27 Bolt centres for double member trimming joists in Table 4.15Dead loads $g_k = 0.50 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16



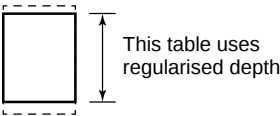
C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.50 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Bolt centres S (mm) on Figure 4.2								
$2 \times 38 \times 145$	690	650	600	640	530	450	660	540	460
$2 \times 38 \times 170$	840	800	740	780	650	560	790	670	580
$2 \times 38 \times 195$	990	940	870	920	780	680	930	800	700
$2 \times 38 \times 220$	1140	1080	1000	1050	900	800	1070	920	820
$2 \times 44 \times 145$	740	700	650	690	570	730	700	580	500
$2 \times 44 \times 170$	890	850	790	830	700	600	840	720	620
$2 \times 44 \times 195$	1050	1000	930	970	830	730	990	850	750
$2 \times 44 \times 220$	1200	1140	1070	1120	970	850	1130	980	870
$2 \times 47 \times 145$	760	720	660	710	580	750	720	600	780
$2 \times 47 \times 170$	920	880	810	850	720	630	870	740	650
$2 \times 47 \times 195$	1080	1020	950	1000	860	750	1010	870	770
$2 \times 47 \times 220$	1200	1170	1100	1150	990	880	1160	1010	900
$2 \times 63 \times 145$	1200	1200	1140	1200	1010	880	1200	1030	910
$2 \times 63 \times 170$	1030	980	1200	1200	1200	1090	1200	1200	1120
$2 \times 63 \times 195$	1200	1150	1070	1120	970	1200	1130	990	1200
$2 \times 63 \times 220$	1200	1200	1200	1200	1130	1010	1200	1140	1030
$2 \times 72 \times 145$	1200	1200	1200	1200	1070	940	1200	1100	960
$2 \times 72 \times 170$	1200	1200	1200	1200	1200	1160	1200	1200	1190
$2 \times 72 \times 195$	1200	1200	1200	1200	1200	1200	1200	1200	1200
$2 \times 72 \times 220$	1200	1200	1200	1200	1200	1200	1200	1200	1200
ALS/CLS									
$2 \times 38 \times 140$	660	630	580	620	500	420	630	520	440
$2 \times 38 \times 184$	920	880	810	860	720	620	870	740	650
$2 \times 38 \times 235$	1200	1160	1090	1140	980	870	1150	1000	890
$2 \times 89 \times 184$	1200	1200	1200	1200	1200	1200	1200	1200	1200
$2 \times 89 \times 235$	1200	1200	1200	1200	1200	1200	1200	1200	1200
For interpolated values from Table 4.15, use the lower spacing from the two corresponding spacings in this table. Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut), for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut). Each trimming joist should be fixed in line with a minimum of two bolts at 1/3 span positions.									

Table 4.28 Bolt centres for double member trimming joists in Table 4.16

Dead loads $g_k = 0.50 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24

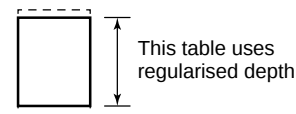


Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 0.50 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Bolt centres S (mm) on Figure 4.2									
2 × 38 × 145	790	750	700	740	610	530	750	630	550
2 × 38 × 170	960	910	850	890	760	660	900	770	680
2 × 38 × 195	1120	1070	1000	1040	900	790	1060	910	810
2 × 38 × 220	1200	1200	1150	1200	1040	930	1200	1060	950
2 × 44 × 145	840	800	740	790	660	860	800	680	890
2 × 44 × 170	1020	970	900	950	810	710	960	820	730
2 × 44 × 195	1190	1130	1060	1110	960	850	1120	970	870
2 × 44 × 220	1200	1200	1200	1200	1110	990	1200	1130	1010
2 × 47 × 145	870	830	760	810	1020	890	820	1050	920
2 × 47 × 170	1040	990	920	970	830	730	980	850	750
2 × 47 × 195	1200	1160	1090	1140	990	880	1150	1000	890
2 × 47 × 220	1200	1200	1200	1200	1140	1020	1200	1160	1040
2 × 63 × 145	1200	1200	1200	1200	1170	1020	1200	1190	1050
2 × 63 × 170	1170	1200	1200	1200	1200	1200	1200	1200	1200
2 × 63 × 195	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 63 × 220	1200	1200	1200	1200	1200	1160	1200	1200	1180
2 × 72 × 145	1200	1200	1200	1200	1200	1090	1200	1200	1120
2 × 72 × 170	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 195	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 220	1200	1200	1200	1200	1200	1200	1200	1200	1200
ALS/CLS									
2 × 38 × 140	760	720	670	710	590	500	720	600	520
2 × 38 × 184	1050	1000	930	980	840	730	990	850	750
2 × 38 × 235	1200	1200	1200	1200	1130	1010	1200	1140	1030
2 × 89 × 184	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 89 × 235	1200	1200	1200	1200	1200	1200	1200	1200	1200

For interpolated values from Table 4.16, use the lower spacing from the two corresponding spacings in this table.
 Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut),
 for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut).
 Each trimming joist should be fixed in line with a minimum of two bolts at 1/3 span positions.

Table 4.29 Bolt centres for double member trimming joists in Table 4.17Dead loads $g_k = 1.25 \text{ kN/m}^2$ Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C16



C16	Permanent (Dead) loads g_k , excluding self-weights, not more than 1.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Trimming joist size $2 \times (\text{mm} \times \text{mm})$	Bolt centres S (mm) on Figure 4.2								
$2 \times 38 \times 145$	660	620	580	610	500	430	620	510	440
$2 \times 38 \times 170$	800	760	700	740	620	530	750	630	550
$2 \times 38 \times 195$	940	890	830	870	730	640	880	750	660
$2 \times 38 \times 220$	1080	1020	950	1000	850	750	1010	870	770
$2 \times 44 \times 145$	700	670	620	650	540	460	660	550	480
$2 \times 44 \times 170$	850	810	750	790	660	570	800	680	590
$2 \times 44 \times 195$	1000	950	880	920	790	690	930	800	710
$2 \times 44 \times 220$	1140	1080	1010	1060	910	810	1070	920	820
$2 \times 47 \times 145$	720	690	630	670	560	720	680	570	490
$2 \times 47 \times 170$	870	830	770	810	680	590	820	700	610
$2 \times 47 \times 195$	1020	970	900	950	810	710	960	820	730
$2 \times 47 \times 220$	1170	1110	1040	1080	940	830	1090	950	850
$2 \times 63 \times 145$	1200	1170	1080	1140	960	840	1150	980	860
$2 \times 63 \times 170$	980	940	870	910	1170	1030	920	1190	1050
$2 \times 63 \times 195$	1150	1090	1020	1060	920	820	1070	930	830
$2 \times 63 \times 220$	1200	1200	1170	1200	1060	950	1200	1070	960
$2 \times 72 \times 145$	1200	1200	1150	1200	1020	890	1200	1040	920
$2 \times 72 \times 170$	1200	1200	1200	1200	1200	1100	1200	1200	1120
$2 \times 72 \times 195$	1200	1200	1200	1200	1200	1200	1200	1200	1200
$2 \times 72 \times 220$	1200	1200	1200	1200	1200	1200	1200	1200	1200
ALS/CLS									
$2 \times 38 \times 140$	630	600	550	590	480	400	600	490	420
$2 \times 38 \times 184$	880	830	770	810	680	590	820	700	610
$2 \times 38 \times 235$	870	820	1030	1070	920	820	1080	940	830
$2 \times 89 \times 184$	1200	1200	1200	1200	1200	1200	1200	1200	1200
$2 \times 89 \times 235$	1200	1200	1200	1200	1200	1200	1200	1200	1200

For interpolated values from Table 4.17, use the lower spacing from the two corresponding spacings in this table.
 Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut),
 for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut).
 Each trimming joist should be fixed in line with a minimum of two bolts at 1/3 span positions.

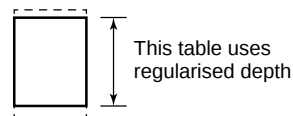
Eurocode 5 span tables for solid timber members

Table 4.30 Bolt centres for double member trimming joists in Table 4.18

Dead loads $g_k = 1.25 \text{ kN/m}^2$

Imposed load not exceeding $q_k = 1.5 \text{ kN/m}^2$ or $Q_k = 2.0 \text{ kN}$

Strength Class C24



Trimming joist size 2 × (mm × mm)	Permanent (Dead) loads g_k , excluding self-weights, not more than 1.25 kN/m^2								
	See Figure 4.4 for positions of d_1 , d_2 , d_3 and S								
	d_1/d_2 not more than 0.25			d_1/d_2 not more than 0.50			d_1/d_2 not more than 0.75		
	Dimension d_3 (m)			Dimension d_3 (m)			Dimension d_3 (m)		
	1.0	2.0	3.0	1.0	2.0	3.0	1.0	2.0	3.0
Bolt centres S (mm) on Figure 4.2									
2 × 38 × 145	760	720	660	700	580	500	710	600	520
2 × 38 × 170	910	870	800	840	720	620	850	730	640
2 × 38 × 195	1070	1010	940	990	850	750	1000	860	760
2 × 38 × 220	1200	1160	1090	1130	980	870	1140	990	890
2 × 44 × 145	800	760	710	750	630	540	750	640	560
2 × 44 × 170	970	920	860	900	760	670	910	780	690
2 × 44 × 195	1130	1070	1000	1050	900	800	1060	920	820
2 × 44 × 220	1200	1200	1150	1200	1040	930	1200	1060	950
2 × 47 × 145	830	790	730	770	650	850	780	660	870
2 × 47 × 170	990	950	880	920	790	690	930	800	710
2 × 47 × 195	1160	1100	1030	1070	930	830	1080	940	840
2 × 47 × 220	1200	1200	1180	1200	1070	960	1200	1090	970
2 × 63 × 145	1200	1200	1200	1200	1110	970	1200	1130	1000
2 × 63 × 170	1120	1060	990	1030	1200	1190	1040	1200	1200
2 × 63 × 195	1200	1200	1160	1200	1050	1200	1200	1060	1200
2 × 63 × 220	1200	1200	1200	1200	1200	1090	1200	1200	1100
2 × 72 × 145	1200	1200	1200	1200	1170	1030	1200	1190	1060
2 × 72 × 170	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 195	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 72 × 220	1200	1200	1200	1200	1200	1200	1200	1200	1200
ALS/CLS									
2 × 38 × 140	720	690	640	670	560	480	680	570	500
2 × 38 × 184	1000	950	880	920	790	690	930	800	710
2 × 38 × 235	990	1200	1170	1200	1060	950	1200	1070	960
2 × 89 × 184	1200	1200	1200	1200	1200	1200	1200	1200	1200
2 × 89 × 235	1200	1200	1200	1200	1200	1200	1200	1200	1200
For interpolated values from Table 4.18, use the lower spacing from the two corresponding spacings in this table.									
Bolt specifications used; for 38mm, 44mm, 47mm & 63mm wide sections: M12 bolts (min. 3mm x 38mm M12 washers under head & nut), for 72mm & 89mm wide sections: M16 bolts (min. 4mm x 48mm M16 washers under head & nut).									
Each trimming joist should be fixed in line with a minimum of two bolts at 1/3 span positions.									