

C24 Span Table Domestic Flooring

not more than 0.25

Joist size Width x depth (mm)	Centre-to-centre spacing of joists (in mm)							
	400	450	600	400	450	600	400	600
38 x 95	1.608	1.602	1.582	1.557	1.545	1.512	1.437	1.312
38 x 120	2.262	2.249	2.213	2.168	2.148	2.090	1.965	1.823
38 x 145	2.962	2.942	2.761	2.815	2.783	2.637	2.511	2.339
38 x 170	3.698	3.563	3.233	3.487	3.407	3.089	3.068	2.740
38 x 195	4.243	4.080	3.704	4.059	3.902	3.539	3.633	3.115
38 x 220	4.744	4.596	4.174	4.572	4.396	3.989	4.108	3.487
44 x 95	1.733	1.726	1.703	1.675	1.662	1.625	1.541	1.459
44 x 120	2.430	2.416	2.375	2.326	2.303	2.239	2.100	1.969
44 x 145	3.175	3.153	2.903	3.012	2.976	2.774	2.677	2.485
44 x 170	3.890	3.742	3.398	3.722	3.579	3.248	3.265	2.911
44 x 195	4.453	4.284	3.892	4.262	4.098	3.721	3.832	3.336
44 x 220	4.918	4.778	4.385	4.759	4.616	4.192	4.317	3.752
47 x 95	1.792	1.784	1.760	1.730	1.717	1.678	1.590	1.503
47 x 120	2.509	2.494	2.452	2.399	2.375	2.308	2.164	2.027
47 x 145	3.275	3.251	2.968	3.103	3.066	2.837	2.755	2.543
47 x 170	3.975	3.824	3.474	3.804	3.659	3.321	3.357	2.978
47 x 195	4.550	4.378	3.979	4.355	4.189	3.805	3.918	3.413
47 x 220	4.997	4.856	4.483	4.837	4.699	4.287	4.414	3.846
63 x 95	2.071	2.061	2.030	1.993	1.976	1.927	1.820	1.715
63 x 120	2.884	2.865	2.715	2.747	2.717	2.596	2.461	2.299
63 x 145	3.740	3.600	3.274	3.534	3.445	3.132	3.118	2.812
63 x 170	4.372	4.209	3.831	4.188	4.030	3.665	3.772	3.293
63 x 195	4.910	4.773	4.385	4.755	4.612	4.196	4.319	3.772
63 x 220	5.361	5.213	4.862	5.193	5.048	4.705	4.807	4.250
72 x 120	3.068	3.047	2.839	2.917	2.884	2.715	2.606	2.431
72 x 145	3.905	3.759	3.422	3.740	3.600	3.274	3.295	2.943
72 x 170	4.562	4.394	4.003	4.372	4.209	3.831	3.942	3.445
72 x 195	5.068	4.928	4.581	4.910	4.773	4.385	4.512	3.946
72 x 220	5.532	5.381	5.023	5.361	5.213	4.862	4.966	4.445

The dead loads shown at the top of span table above do not include the self weight of the joists, however, the joist self weights are included (in addition to the dead loads) in the calculations used to determine permissible clear spans.

All Timbers to be internal and not exposed to the elements, without exception.

Notches are not to exceed 0.125 of the depth of the joist and are to be located between 0.07 and 0.25 of the span from the support.

Holes drilled at the neutral axis (centre line) are not to exceed 0.25 of the depth of a joist and are not to be less than three diameters (centre to centre) apart and are to be located between 0.25 and 0.4 of the span from the support.

Noggins between joists is required as follows;

Joist spans up to 2.5m - no noggin required
Joist spans 2.5m to 4.5m - provide noggin at mid-span
Joist spans over 4.5m - provide 2 rows of noggin at third span positions
Solid timber strutting to be at least 38mm thick and be a minimum of three quarters of the joist depth.

Proprietary noggin/strutting is to be used in accordance with manufacturers recommendations.

Joists are to have minimum end bearing of 40mm.

British Standards,Sources and tollerences

The floor joist span tables are based on the loadings given in the amended version of BS 6399-1 which is an imposed load of either a uniformly distributed load of 1.5 kN/m² or a concentrated load of 1.4 kN. Other span tables are based on the guidance given in BS 5268-7.1 which is a uniformly distributed load of 1.5kN/m² for spans greater than 2400 mm and 3.6 kN load per metre width of floor for spans less than 2400 mm to ensure that very small joist sizes do not result from the calculations for smaller spans. BS 5268-7.1 was published before BS 6399-1 was amended to include the more onerous 1.4 kN imposed concentrated load, so the approach adopted for these span tables uses the recommendations given in BS 6399-1, however, both approaches do result in similar joist sizes being calculated.

These span tables make no additional allowance for partitions or any other loads additional loads. Joists supporting additional loads should be calculated by a competent person.

Wane as allowed in BS 4978:2007+A2:2017 is permitted in all sections included in these span tables.

The allowable clear spans have been calculated in accordance with BS 5268-2:2002 Structural use of timber - Part 2: Code of practice for permissible stress design, materials and workmanship and BS 5268-7.1:1990 Structural use of timber - Section 7.1 Domestic floor joists.

PART L Conservation of Fuel and Power - June 22

Exterior Cavity Wall Options

DELETE AS APPROPRIATE

Any brands mentioned below, assuming the thermal properties/U Values are at least as good as, any similar product is acceptable

OPTION 1 – FULL FILL MINERAL WOOL WITH AIRCRETE

BLOCKWORK – 150MM CAVITY

- 102.5mm brickwork
- 150mm cavity with;
- 150mm Knauf Dritter 32 insulation (0.032 W/mK)
- 100mm aircrete blockwork (0.15-0.18 W/mK);
- 12.5mm plasterboard on dabs

OPTION 2 – PARTIAL FILL PIR INSULATION WITH LIGHT MEDIUM DENSE

BLOCKWORK – 150MM CAVITY

- 102.5mm brickwork
- 150mm cavity with;
- 100mm Celotex CW4000 insulation (0.022 W/mK)
- 100mm light medium dense blockwork (0.49 W/mK);
- 12.5mm plasterboard on dabs

OPTION 3 – PARTIAL FILL PIR INSULATION WITH AIRCRETE

BLOCKWORK – 135MM CAVITY

- 102.5mm brickwork
- 135mm cavity with;
- 85mm Celotex CW4000 insulation (0.022 W/mK)
- 100mm aircrete blockwork (0.15-0.19 W/mK);
- 12.5mm plasterboard on dabs

OPTION 4 – PARTIAL FILL PIR INSULATION WITH BLOCKWORK – 125MM CAVITY

- 102.5mm brickwork
- 125mm cavity with;
- 75mm Kingspan Kooltherm K108 Cavity Board insulation (0.018 W/mK)
- 100mm aircrete blockwork (0.15-0.51 W/mK);
- 12.5mm plasterboard on dabs

OPTION 5 – FULL FILL PIR INSULATION WITH AIRCRETE BLOCKWORK – 100MM CAVITY

- 102.5mm brickwork
- 100mm cavity with;
- 100mm Xtatherm CavithTherm (0.021 W/mK) or 90mm Kingspan Kooltherm K106 Cavity Board insulation (0.018 W/mK)
- 100mm aircrete blockwork (0.15 W/mK);
- 12.5mm plasterboard on dabs

OPTION 5a – FULL FILL PIR INSULATION WITH AIRCRETE

BLOCKWORK – 100MM CAVITY

- Rendered finish (sand and cemet/K-Rend)
- 100mm aircrete blockwork (0.15 -0.19W/mK)
- 100mm cavity with;
- 100mm Xtatherm CavithTherm (0.021 W/mK) or 90mm Kingspan Kooltherm K106 Cavity Board insulation (0.018 W/mK)
- 100mm aircrete blockwork (0.15 -0.19 W/mK);
- 12.5mm plasterboard on dabs

OPTION 6 – PARTIAL FILL PIR INSULATION WITH AIRCRETE/CONCRETE BLOCKWORK – 150MM CAVITY

- Rendered finish (sand and cemet/K-Rend)
- 100mm Concrete Block
- 150mm cavity with;
- 100mm Xtatherm CavithTherm (0.021 W/mK) or 90mm Kingspan Kooltherm K106 Cavity Board insulation (0.018 W/mK)
- 100mm aircrete blockwork (0.15 W/mK);
- 12.5mm plasterboard on dabs

SureCav 50 system in the cavity with a flint exterior skin on aircrete block(where applicable) to meet 0.18W/m2K while maintaining a wall thickness of 300mm

FULL FILL PIR INSULATION WITH AIRCRETE BLOCKWORK – 100MM CAVITY

- 102.5mm brickwork (aircrete block with flint finish - where specified onthe approved plans)
- 100mm cavity with;
 - SureCav 50
 - 100mm Xtatherm CavithTherm (0.021 W/mK) or 90mm Kingspan Kooltherm K106 Cavity (or similar) Board insulation (0.018 W/mK)
- 100mm aircrete blockwork (0.15 W/mK);
- 12.5mm plasterboard on dabs

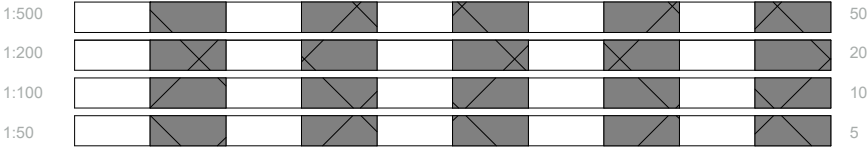
OPTIONS TO INCREASE THERMAL PERFORMANCE where required

Exterior

- batten and clad to block work + 25mm rigid insulation (0.023 W/mK) /TLX Gold breathable membrane 0.15 W/m2K
- 25mm rigid insulation (0.023 W/mK) with a cement board and rendered

Interior

- batten and 25mm rigid insulation (0.023 W/mK)
- insulation backed plater board



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