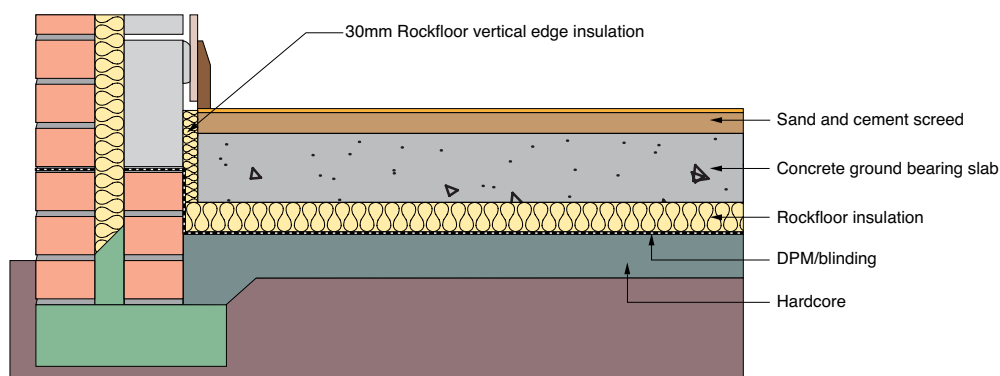


U Values

Floors

Ground Bearing Concrete Floor (using ROCKWOOL® Rockfloor)



Construction – Ground bearing concrete slab

For concrete ground bearing slabs, Wilhams recommend the use of their Rockfloor insulation. The Rockfloor can be used directly below the concrete slab, or above the slab to receive a screed or flooring grade tounge and grooved boarded finish.

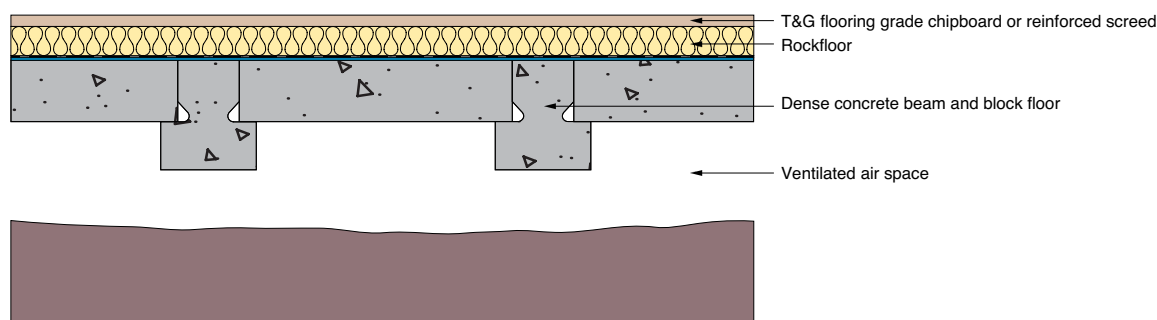
As the U value for ground floors is dependent upon the size, shape, soil type perimeter edge insulation etc., it is not possible to quote specific values. The table below shows insulation thicknesses required to suit floor areas shown. These examples shown are based on detached units with all 4 perimeter edges exposed. For concrete ground bearing slabs with a p/a ratio less than 0.12m/m², will achieve the Elemental U value of 0.25W/m²K without the requirement for full floor insulation.

Note: Where Rockfloor insulation is laid over the slab and below the screed, the screed must be a minimum 65mm thick and laid in accordance with BS 8204: Part 1.

Floor area p/a ratio	8m x 8m 0.500	20m x 12m 0.267	20m x 20m 0.200	50m x 15m 0.173	40m x 20m 0.150
Insulation thickness	U value W/m ² K	U value W/m ² K	U value W/m ² K	U value W/m ² K	U value W/m ² K
30mm	0.43	0.31	0.27	0.24	0.22
40mm	0.38	0.29	0.25	0.23	0.21
50mm	0.35	0.27	0.23	0.22	0.20
60mm	0.32	0.25	0.22	0.20	0.19
70mm	0.30	0.24	0.21	0.19	0.18
80mm	0.28	0.22	0.20	0.19	0.17
90mm	0.26	0.21	0.19	0.18	0.17
100mm	0.25	0.20	0.18	0.17	0.16

Appendix C of Approved Document Part L, provides a summary of how to determine a U value for a ground floor based on the type of soil which lies beneath the building. For full details of how to calculate ground floor U values, refer to BS EN ISO 13370: 1998. If using the Elemental method of compliance, a U value of 0.25W/m²K will be required. However, if the target or other trade off methods of compliance are being sought, then less stringent U values may possibly be used by offsetting against other elements with better insulation values. To avoid thermal bridging at floor edges, 30mm thick Rockfloor insulation strips should be used between the perimeter edges of the slab and walls.

Dense Beam & Block Suspended Floor (using ROCKWOOL® Rockfloor)



Construction

For suspended Beam and Block floors, Wilhams recommend the use of their Rockfloor insulation. The Rockfloor is laid over the beam and block floor to receive a screed or tongue and grooved flooring grade chipboard finish. A vapour control membrane should be used under a timber floor finish. Screed finishes should have full depth edge insulation around the exposed perimeters e.g 30mm Rockfloor. (See detail sheets). As the U value for ground floors is dependent upon the size, shape, soil type, perimeter edge insulation etc., it is not possible to quote specific values.

Note: Suspended floors with p/a ratio less than 0.09m², will achieve the Elemental U value of 0.25 W/m²K without the requirement for full floor insulation. The following table shows the insulation thickness required to suit floor areas shown. The examples shown are based on detached units with all 4 perimeter edges exposed.

Floor area p/a ratio	8m x 8m 0.500	20m x 12m 0.267	20m x 20m 0.200	50m x 15m 0.173	40m x 20m 0.150
Insulation thickness	U value W/m ² K	U value W/m ² K	U value W/m ² K	U value W/m ² K	U value W/m ² K
30mm	0.39	0.29	0.25	0.23	0.21
40mm	0.36	0.27	0.24	0.22	0.20
50mm	0.33	0.26	0.22	0.21	0.19
60mm	0.30	0.24	0.21	0.20	0.18
70mm	0.28	0.23	0.20	0.19	0.17
80mm	0.26	0.21	0.19	0.18	0.17
90mm	0.25	0.20	0.18	0.17	0.16
100mm	0.24	0.20	0.18	0.17	0.16

Appendix C of Approved Document Part L, provides a summary of how to determine a U value for a ground floor based on the type of soil which lies beneath the building. For full details of how to calculate ground floor U values refer to BS EN ISO 13370: 1998. If using the Elemental method of compliance, a U value of 0.25W/m²K will be required. However, if the Target or other trade off methods of compliance are being sought, then less stringent U values may possibly be used by offsetting against other elements with better insulation values.

Note: Where Rockfloor insulation is laid below the screed, the screed must be minimum 65mm thick and laid in accordance with BS 8204: Part 1.

Calculations for individual constructions can be requested from the Wilhams Technical Services Department at +603-78466728.

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