
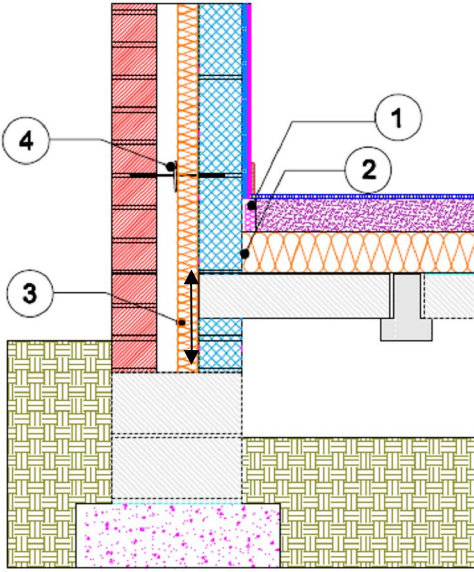
 C B A CONCRETE BLOCK ASSOCIATION	Linear Thermal Transmittance (ψ-value) Temperature Factor (f-value)	 GCU Glasgow Caledonian University
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Certificate No: CBA-201	Issued : August 2014
Issued by Concrete Block Association	

Suspended beam and block floor – Insulation below screed External wall Table K.1 Ref E5 Approved ψ -value = 0.16 W/mK	Inner leaf	100 mm Blockwork
	Cavity	Partial Fill insulation, see tables for options
	Outer leaf	102 mm Brick = 0.77
	Floor	100mm or 150mm of insulation = 0.022 below the floor screed

Key Points

- 1 The R-value of the perimeter insulation should be at least 0.8m²K/W
- 2 Ensure the floor insulation is tightly butted against the external wall.
- 3 Continue the cavity insulation at least 225mm below the top of floor.
- 4 Insulation to be secured firmly against the inner leaf of the cavity wall.



The tables below show the calculated ψ -values and f-values for different cavity insulation systems, inner leaf blockwork with a beam and block floor system. The floor U-values quoted are representative of typical new dwellings. There is a small difference between the values calculated with the beams parallel and perpendicular to the wall; the values in the tables are the average of these two cases.

Page 2 has **100mm** Floor Insulation above the beam & block floor system

Page 3 has **150mm** Floor Insulation above the beam & block floor system

Calculations have been performed in accordance with:
 BS EN ISO 10211:2007, BR497 and BS EN ISO 13370:2007

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**Calculated ψ -values and f-values with 100mm floor insulation
 $\lambda = 0.022$, and **cavity Insulation** as highlighted**

Lightweight Floor Block

	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
Cavity Insulation ↓	ψ -value W/mK	f-value	ψ -value W/mK	f-value	ψ -value W/mK	f-value
50mm =0.022	0.055	0.921	0.091	0.911	0.144	0.894
100mm =0.022	0.056	0.930	0.094	0.921	0.151	0.908

Dense Floor Block

	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
Cavity Insulation ↓	ψ -value W/mK	f-value	ψ -value W/mK	f-value	ψ -value W/mK	f-value
50mm =0.022	0.056	0.920	0.096	0.908	0.159	0.887
100mm =0.022	0.058	0.928	0.101	0.918	0.169	0.901

The f-value should be above 0.75 to minimise the risk of mould in dwellings.

On-site Checklist

- Perimeter insulation with R-value of at least 0.80 m²K/W installed
- Floor insulation tightly butted against the external wall
- Cavity insulation continues at least 225mm below the top of the beam and block floor

Site manager/supervisor.....

Site name.....

Plot number

Date.....

Calculated ψ -values and f-values with 150mm floor insulation
 $\lambda = 0.022$, and **cavity Insulation** as highlighted

Lightweight Floor Block

	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
Cavity Insulation ↓	ψ -value W/mK	f-value	ψ -value W/mK	f-value	ψ -value W/mK	f-value
50mm =0.022	0.062	0.926	0.099	0.912	0.154	0.893
100mm =0.022	0.061	0.935	0.100	0.926	0.159	0.908

Dense Floor Block

	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
Cavity Insulation ↓	ψ -value W/mK	f-value	ψ -value W/mK	f-value	ψ -value W/mK	f-value
50mm =0.022	0.064	0.925	0.104	0.909	0.169	0.888
100mm =0.022	0.064	0.934	0.107	0.923	0.177	0.902

The f-value should be above 0.75 to minimise the risk of mould in dwellings.

On-site Checklist

- Perimeter insulation with R-value of at least 0.80 m²K/W installed
- Floor insulation tightly butted against the external wall
- Cavity insulation continues at least 225mm below the top of the beam and block floor

Site manager/supervisor.....

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