
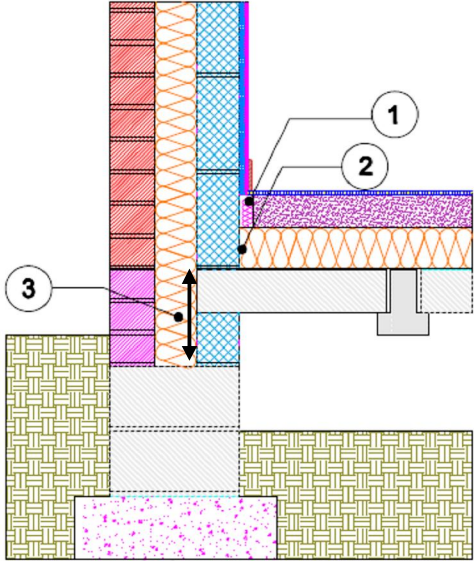
	<b>Linear Thermal Transmittance (<math>\psi</math>-value)</b> <b>Temperature Factor (f-value)</b>	
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<b>Certificate No: CBA-301</b>	<b>Issued : August 2014</b>
<b>Issued by Concrete Block Association</b>	

<b>Suspended beam and block floor – Insulation below screed</b> <b>External wall</b> Table K.1 Ref E5 Approved $\psi$ -value = 0.16 W/mK	Inner leaf	100 mm Blockwork
	Cavity	Full 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

<p><b>Key Points</b></p> <ol style="list-style-type: none"> <li>1 The R-value of the perimeter insulation should be at least 0.8m<sup>2</sup>K/W</li> <li>2 Ensure the floor insulation is tightly butted against the external wall.</li> <li>3 Continue the cavity insulation at least 225mm below the top of the concrete.</li> </ol>	
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The tables below show the calculated  $\psi$ -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  $\psi$ -values and f-values with 100mm floor insulation  
 $\lambda = 0.022$ , and **cavity Insulation** as highlighted

**Lightweight Floor Block**

Cavity Insulation ↓	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value
<b>100mm</b> =0.037	<b>0.056</b>	0.921	<b>0.091</b>	0.910	<b>0.145</b>	0.893
100mm =0.032	<b>0.056</b>	0.923	<b>0.092</b>	0.915	<b>0.146</b>	0.897
<b>150mm</b> =0.037	<b>0.057</b>	0.927	<b>0.094</b>	0.919	<b>0.150</b>	0.904
150mm =0.032	<b>0.057</b>	0.929	<b>0.094</b>	0.920	<b>0.151</b>	0.907

**Dense Floor Block**

Cavity Insulation ↓	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value
<b>100mm</b> =0.037	<b>0.058</b>	0.920	<b>0.096</b>	0.908	<b>0.160</b>	0.887
100mm =0.032	<b>0.057</b>	0.922	<b>0.098</b>	0.912	<b>0.162</b>	0.891
<b>150mm</b> =0.037	<b>0.059</b>	0.926	<b>0.100</b>	0.915	<b>0.167</b>	0.897
150mm =0.032	<b>0.059</b>	0.927	<b>0.101</b>	0.917	<b>0.169</b>	0.900

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 m<sup>2</sup>K/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  $\psi$ -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	
<b>Cavity Insulation</b> ↓	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value
<b>100mm</b> =0.037	<b>0.063</b>	0.925	<b>0.099</b>	0.911	<b>0.155</b>	0.893
100mm =0.032	<b>0.062</b>	0.928	<b>0.099</b>	0.915	<b>0.156</b>	0.897
<b>150mm</b> =0.037	<b>0.063</b>	0.932	<b>0.101</b>	0.922	<b>0.159</b>	0.904
150mm =0.032	<b>0.062</b>	0.934	<b>0.100</b>	0.925	<b>0.160</b>	0.907

**Dense Floor Block**

	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
<b>Cavity Insulation</b> ↓	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value	$\psi$ -value W/mK	f-value
<b>100mm</b> =0.037	<b>0.065</b>	0.924	<b>0.105</b>	0.909	<b>0.170</b>	0.887
100mm =0.032	<b>0.065</b>	0.927	<b>0.105</b>	0.913	<b>0.172</b>	0.891
<b>150mm</b> =0.037	<b>0.066</b>	0.931	<b>0.107</b>	0.919	<b>0.176</b>	0.897
150mm =0.032	<b>0.065</b>	0.933	<b>0.108</b>	0.922	<b>0.178</b>	0.900

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 m<sup>2</sup>K/W installed
- Floor insulation tightly butted against the external wall
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**Site manager/supervisor**.....

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