

Certificate No: CBA-E24-1-C-A

Issued : January 2016

Issued by Concrete Block Association

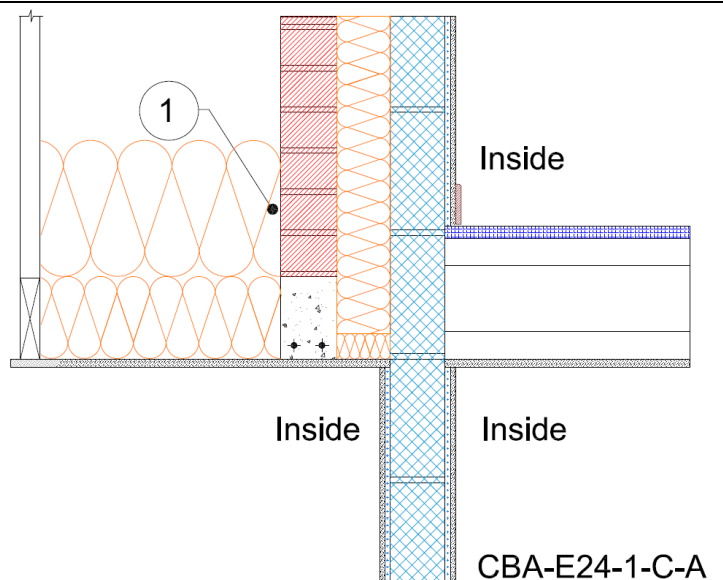
Eaves (Insulation at ceiling level - inverted)

Table K.1 Ref E24
Default ψ -value =
0.24 W/mK

Inner leaf	100 mm blockwork
Cavity	Full fill insulation
Outer leaf	102 mm brick $\lambda = 0.77$
Lintel	Concrete
Roof	Pitched roof over single storey addition with doorway. 150 mm of insulation with $\lambda = 0.037$ between 45mm wide joists. 250mm over joists

Key Point

1. Ensure the roof insulation is tightly butted to the wall



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

Calculation prepared by : Chris Sanders B.Sc, M.Sc. GCU, Cowcaddens Rd, Glasgow G4 0BA
For more information contact 0116 232 5165 (CBA).

Calculated ψ -values and f -values for eaves (insulation at ceiling level – inverted) and **cavity insulation** as highlighted

1. With ultra lightweight blocks in the internal wall $\lambda = 0.28$ W/mK

Cavity Insulation	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
	ψ -value W/mK	f -value	ψ -value W/mK	f -value	ψ -value W/mK	f -value
100mm $\lambda=0.037$	0.090	0.901	0.087	0.902	0.087	0.903
100mm $\lambda=0.032$	0.095	0.900	0.093	0.900	0.093	0.901
150mm $\lambda=0.037$	0.101	0.897	0.099	0.897	0.099	0.897
150mm $\lambda=0.032$	0.105	0.895	0.103	0.896	0.104	0.896

2. With lightweight blocks in the internal wall $\lambda = 0.6$ W/mK

Cavity Insulation	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
	ψ -value W/mK	f -value	ψ -value W/mK	f -value	ψ -value W/mK	f -value
100mm $\lambda=0.037$	0.090	0.901	0.088	0.902	0.087	0.903
100mm $\lambda=0.032$	0.095	0.900	0.093	0.901	0.093	0.901
150mm $\lambda=0.037$	0.101	0.897	0.099	0.897	0.099	0.897
150mm $\lambda=0.032$	0.105	0.895	0.103	0.896	0.104	0.896

3. With dense blocks in the internal wall $\lambda = 1.33$ W/mK

Cavity Insulation	Inner leaf blockwork					
	Ultra lightweight		Lightweight		Dense	
	ψ -value W/mK	f -value	ψ value W/mk	f -value	ψ -value W/mK	f -value
100mm $\lambda=0.037$	0.090	0.901	0.088	0.902	0.087	0.903
100mm $\lambda=0.032$	0.095	0.900	0.093	0.901	0.093	0.901
150mm $\lambda=0.037$	0.101	0.897	0.099	0.897	0.099	0.897
150mm $\lambda=0.032$	0.105	0.895	0.103	0.896	0.104	0.896

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



**Linear Thermal Transmittance (ψ -value)
Temperature Factor (f-value)**



On-site Checklist

1. Roof insulation is tightly butted to the wall

Signed:

Site manager/supervisor.....

Site name.....

Plot Number.....

Date.....