



**Technical competency:** The Psi value ( $\Psi$ ) analysis indicated below has been undertaken by a BRE accredited competent person to EN 10211 2017 and BR497 (Second Edition). Members of the Unilin Insulation Technical team are qualified under the BBA Competency Scheme CS/1006 to produce thermal and condensation risk calculations



**Certificate No**                      **Date**  
**UI-CTPIR-E12-RG-01 V1**                      **03-Jan-23**

**Calculation prepared by**  
**Unilin Insulation Technical Services**

**General Construction Specification (Wall)**

Plasterboard on dabs
Air layer & plaster adhesive
Concrete block
Unilin Insulation CavityTherm CT/PIR
Residual cavity (5mm)
Proprietary fire barrier
Brick

**General Construction Specification (Ceiling)**

Mineral wool between & over joists
Vapour control layer
Plasterboard

**Table K1 reference**  
E12

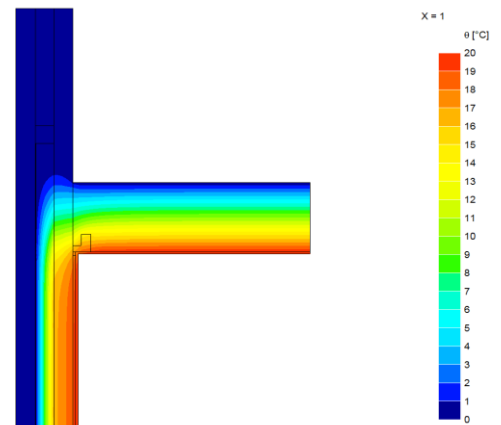
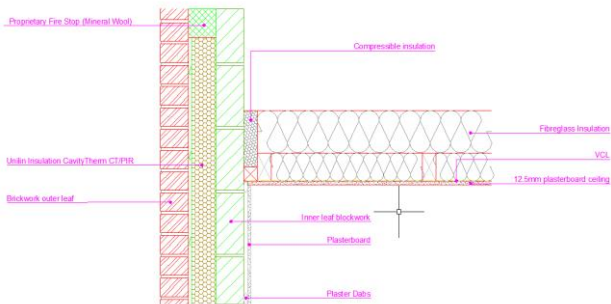
**Description**  
Wall ceiling junction gable (Insulation at ceiling level)

**U value range (Wall)**  
0.12 W/m<sup>2</sup>K - 0.21 W/m<sup>2</sup>K

**U value range**  
0.10 W/m<sup>2</sup>K - 0.16 W/m<sup>2</sup>K

**Junction detail**

**Thermal image**



**Notes**

The U values indicated on this certificate are the actual U values for the proposed construction. The Psi values are calculated using the modelled U value in accordance with the guidelines set out in BR497 and ISO 10211. Contact Unilin Insulation technical support for further guidance

$\Psi$  and  $f$  are only valid for the detail drawn and described above

Calculations have been carried out in accordance with the following standards and guidance documents were relevant

- EN ISO 10211 2017
- EN ISO 13370 2017
- EN ISO 6946 2017
- BR 497 (Second Edition)
- BR 443 2019
- BRE IP1/06

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**Disclaimer:** The calculations have been completed in accordance with guidance documents as indicated above by Unilin Insulation. Any change to the materials specified would alter the results achieved and would invalidate the information contained herein. Specification and results should be verified before installation. To this extent the information and/or specification is to the best of our knowledge accurate, however Unilin Insulation specifically exclude any liability for errors, omissions or otherwise arising therefrom.



## Ceiling

Mineral wool (0.040 W/m K) 300mm

CavityTherm	100mm		110mm		125mm		150mm	
	$\psi$	$f$	$\psi$	$f$	$\psi$	$f$	$\psi$	$f$
<b>Inner block</b>								
0.11	0.056	0.91	0.055	0.91	0.055	0.92	0.054	0.92
0.15	0.063	0.91	0.062	0.91	0.062	0.91	0.061	0.92
0.19	0.070	0.90	0.069	0.90	0.068	0.91	0.068	0.91
0.31	0.088	0.89	0.088	0.89	0.088	0.89	0.087	0.90
0.57	0.121	0.87	0.121	0.87	0.121	0.88	0.121	0.88
1.13	0.191	0.82	0.191	0.82	0.192	0.85	0.194	0.85

## Ceiling

Mineral wool (0.040 W/m K) 400mm

CavityTherm	100mm		110mm		125mm		150mm	
	$\psi$	$f$	$\psi$	$f$	$\psi$	$f$	$\psi$	$f$
<b>Inner block</b>								
0.11	0.052	0.92	0.051	0.92	0.050	0.93	0.049	0.93
0.15	0.058	0.92	0.057	0.92	0.056	0.92	0.055	0.93
0.19	0.064	0.91	0.063	0.91	0.062	0.92	0.060	0.92
0.31	0.080	0.90	0.079	0.90	0.078	0.91	0.077	0.91
0.57	0.108	0.88	0.108	0.89	0.107	0.89	0.106	0.89
1.13	0.170	0.84	0.170	0.86	0.170	0.86	0.170	0.87

## Ceiling

Mineral wool (0.040 W/m K) 450mm

CavityTherm	100mm		110mm		125mm		150mm	
	$\psi$	$f$	$\psi$	$f$	$\psi$	$f$	$\psi$	$f$
<b>Inner block</b>								
0.11	0.051	0.92	0.050	0.92	0.049	0.93	0.047	0.93
0.15	0.057	0.92	0.056	0.92	0.054	0.92	0.053	0.93
0.19	0.062	0.91	0.061	0.91	0.060	0.92	0.058	0.92
0.31	0.077	0.90	0.076	0.91	0.075	0.91	0.073	0.91
0.57	0.104	0.89	0.103	0.89	0.102	0.89	0.101	0.91
1.13	0.162	0.84	0.162	0.87	0.161	0.87	0.161	0.87

$\psi$  Thermal transmittance value (W/m K)

$f$  Temperature factor

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