

# Linear Thermal Transmittance Junction Details (Psi Values)

SAP Detail	Description of Detail	Durisol	Durisol	Default SAP	Accredited	Notes/ Comments
Reference	Description of Detail	D365 Block	D300 Block	Values	<b>Details Values</b>	Notes/ Comments
		W/mK*	W/mK*	W/mK*	W/mK*	
E2	Other lintels	0.037	0.049	1.000	0.300	Durisol values significantly better than accredited details
E3	Cill	0.015	0.019	0.080	0.040	Durisol values significantly better than accredited details
E4	Jamb	0.030	0.034	0.100	0.050	Durisol values significantly better than accredited details
E5	Ground Floor- B&B Parallel (Aircrete floor infill)	0.176	0.077	0.320	0.160	Durisol 300mm values are significantly better and 365mm values are very close to accredited details
E5	Ground Floor- B&B Parallel (Aircrete at edges only, conc. block infill)	0.176	0.075	0.320	0.160	Durisol 300mm values are significantly better and 365mm values are very close to accredited details
E5	Ground Floor - B&B Perpendicular (Aircrete floor infill)	0.176	0.050	0.320	0.160	Durisol 300mm values are significantly better and 365mm values are very close to accredited details
E5	Ground Floor - B&B Perpendicular (Aircrete at edges only, conc. block infill)	0.176	0.050	0.320	0.160	Durisol 300mm values are significantly better and 365mm values are very close to accredited details
E6	Intermediate floor within dwelling	0.039	0.048	0.140	0.070	Durisol values significantly better than accredited details
E10	Eaves (insulation at ceiling level)	0.002	0.009	0.120	0.060	Durisol values significantly better than accredited details
E12	Gable (insulation at ceiling level)	0.011	0.015	0.480	0.240	Durisol values significantly better than accredited details
E16	Normal Corner	0.002	0.002	0.180	0.090	Durisol values significantly better than accredited details
E17	Inverted Corner	-0.002	-0.001	0.000	-0.090	Durisol values significantly better than accredited details
E18	Party wall between dwellings	0.011	0.015	0.120	0.060	Durisol values significantly better than accredited details
P1	Ground Floor- B&B Parallel	0.0	) 59	0.160	0.080	Durisol values significantly better than accredited details
P1	Ground Floor- B&B Parallel	0.0	059	0.160	0.080	Durisol values significantly better than accredited details
P1	Ground Floor - B&B Perpendicular	0.0	063	0.160	0.080	Durisol values significantly better than accredited details
P1	Ground Floor - B&B Perpendicular	0.0	061	0.160	0.080	Durisol values significantly better than accredited details
P4	Roof (insulation at ceiling level)	0.1	140	0.240	0.240	Durisol values significantly better than accredited details
Building wit	th Durisol delivers highly efficient therma	al perform	ance due t	o excellent	U Values and	d low loss through thermal bridging



Certificate No:	2638 – 300mm Lintel E2	lssued: 18/11/2014		
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>300mm</u> blocks.	Material Thermal Conductivities: Reinforced Concrete @ Lintel: 2.3 W/m.K Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K		
	Description:	300mm Star	ndard Lintel Junction	
	Reference:	2638 – 300m	nm Lintel E2	
Junction Detail		Linear The Ψ =	perature Distribution rmal Transmittance W/m.K 0.049	
	HEAD DETAIL SECTION	Temperature Factor <sup>3</sup> for Humidity and Mould <i>f</i> = 0.882		

**Calculation Prepared By:** 

Alan Calcott

#### Notes: -

- 1  $\Psi$  and *f* are only valid for the detail drawn and described above.
- 2 In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.

Calculations have been performed in accordance and with reference to the following publications:

- EN ISO 10211\_2007 (British Standards)
- IP 1/06 & BR497 (BRE Press)
- EN ISO 6946 (British Standards)
- BR443 (BRE Press)

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Certificate No:	2638 – 365mm Lintel E2	lssued: 11/18/2014		
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>365mm</u> blocks.	Material Thermal Conductivities: Reinforced Concrete @ Lintel: 2.3 W/m.K Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K		
	Description:	365mm Standard	Lintel Junction	
	Reference:	2638 – 365mm L	intel E2	
<text></text>		Linear Thermal Ψ =	ture Distribution Transmittance W/m.K 0.037 r <sup>3</sup> for Humidity and Mould 0.946	

**Calculation Prepared By:** 

Alan Calcott

N7 9DP

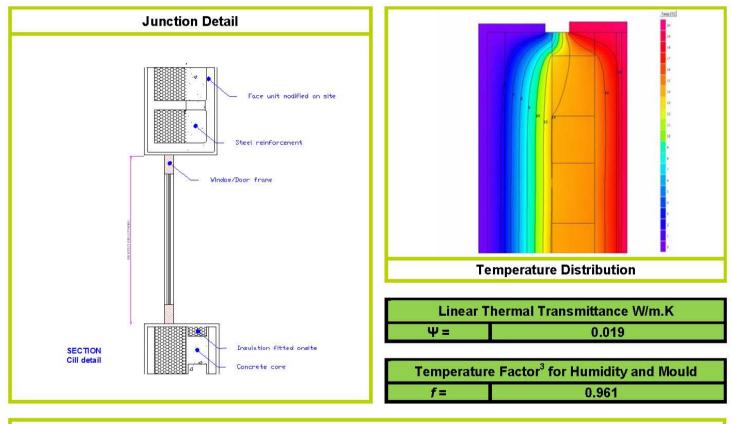
# Notes: -

- 1  $\Psi$  and *f* are only valid for the detail drawn and described above.
- 2 In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
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Certificate No:	2638 – 300mm Cill E3	Issued:	11/18/2014	
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>300mm</u> blocks. Concrete not poured at Cill, but special <u>50mm PIR 0.022 W/m.K insulation</u> inserted below timber cill.	Material Thermal Conductivities: Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K Timber Cill: 0.15 W/m.K		
	Description: Reference:	300mm Cill Junc 2638 – 300mm C	tion with insulation insert ill E3	



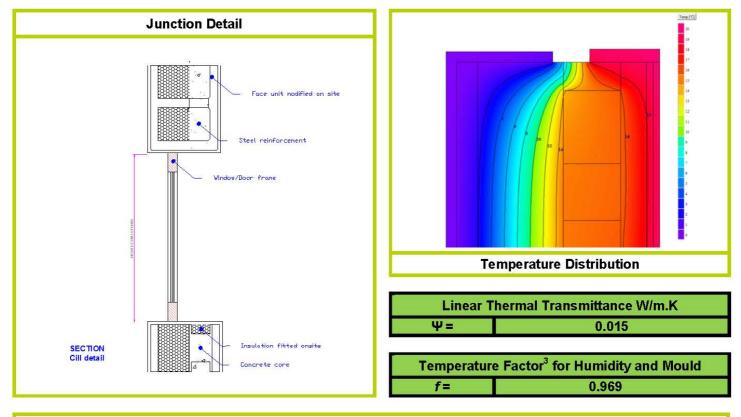
**Calculation Prepared By:** 

1 2 **Alan Calcott** 

#### Notes: - $\Psi$ and *f* are only valid for the detail drawn and described above. In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth. Calculations have been performed in accordance and with reference to the following publications: EN ISO 10211 2007 (British Standards) IP 1/06 & BR497 (BRE Press) EN ISO 6946 (British Standards) BR443 (BRE Press) CarbonPlan Ltd. **Omnibus Workspace** 39-41 North Road N7 9DP London Tel. / Fax: +44 (0)207 683 1432 E-mail: enquiries@carbonplan.co.uk



Certificate No:	2638 – 365mm Cill E3	Issued:	11/18/2014	
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>365mm</u> blocks. Concrete not poured at Cill, but special <u>50mm PIR 0.022 W/m.K insulation</u> inserted below timber cill.	Material Thermal Conductivities: Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K Timber Cill: 0.15 W/m.K		
	Description: Reference:	365mm Cill Junc 2638 – 365mm C	tion with insulation insert ill E2	



#### **Calculation Prepared By:**

Alan Calcott

**N7 9DP** 

#### Notes: -

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Certificate No:	2638 – 300mm Jamb E4		Issued:	11/18/2014	
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	blocks.		Material Thermal Conductivities: Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K		
	Description:		300mm Standard	I Jamb Junction	
	Reference:		2638 – 300mm Ja	amb E4	
Example of external finish; render.	Nock D365/120 fac fied on site	T	Linear Thermal Ψ =	ure Distribution Transmittance W/m.K 0.034 r <sup>3</sup> for Humidity and Mould 0.935	
Notes: - 1 Ψ and f are only w 2 In dwellings, a ter Calculations have EN ISO IP 1/06 δ	tion Prepared By: ralid for the detail drawn and described abo nperature factor f that is >0.75 would avoid been performed in accordance and with re 10211_2007 (British Standards) & BR497 (BRE Press) 6946 (British Standards)	the risl	< of mould growth.	Calcott lications:	



Certificate No:	2638 – 365mm Jamb E4	Issued:	11/18/2014
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	Description:	365mm Standa	rd Jamb Junction
	Reference:	2638 – 365mm v	Jamb E4
Durisol Block D365/120 Durisol B Example of external finish; render.	Action Detail	Tempera	ature Distribution
JAM	B DETAIL PLAN	Ψ=	I Transmittance W/m.K 0.030 or <sup>3</sup> for Humidity and Mould
		f=	0.935
Calculat	ion Prepared By:	Ala	n Calcott
2 In dwellings, a ten Calculations have	alid for the detail drawn and described above. perature factor f that is >0.75 would avoid the ri been performed in accordance and with referen 10211_2007 (British Standards)		blications:

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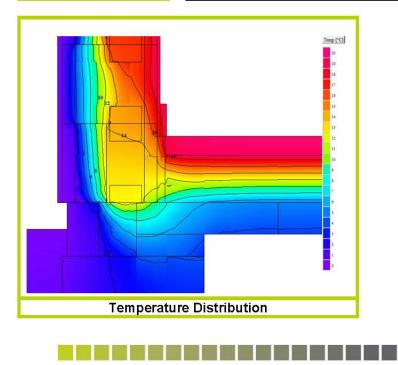
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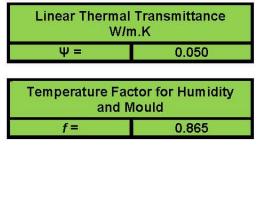
Certificate No:	2638 – 300mm GF B&B E5 PERP Aircrete Issued: 18/11/2014						
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>Notes about Detail:</li> <li>Utilises standard Durisol <u>300mm</u> block.</li> <li><u>440mm wide and deep Aircrete Threnchblock</u> foundation</li> <li><u>170mm high</u> Aircrete coursing block @ <u>100mm wide</u> rests on Trechblock to extendace under Durisol blocks</li> <li><u>120mm thick 0.022 W/m.K</u> insulation @ <u>170mm high</u> between coursing block to underside of Durisol Block</li> </ul>						
NP I I JEF	face          face         170mm         Floor infill with         Min         150mm         0.022	oursing block @ <u>215mm wic</u> oncrete beams run <u>Perpenc</u> <u>Floor Blocks</u> <u>I.K</u> insulation between scree <u>W/m.K</u> Edge insulation fror	<mark>licular</mark> to wall. ed and structure				
	<ul> <li>Notes: -</li> <li>Ψ and f are only valid for the detail drawn and described above.</li> <li>In dwellings, a temperature factor f that is &gt;0.75 would avoid the risk of mould growth. Calculations have been performed in accordance and with reference to the following publications:</li> <li>EN ISO 10211_2007 &amp; EN ISO 6946 (British Standards)</li> <li>IP 1/06 &amp; BR497 &amp; BR443 (BRE Press)</li> </ul>						
	Description: 300mm Ground Floor Block and Beam – Perpendicular with Aircrete Floor Blocks						
	Reference:	2638 - 300mm GF B&B F	Perpendicular E	5 Aircrete Infill			



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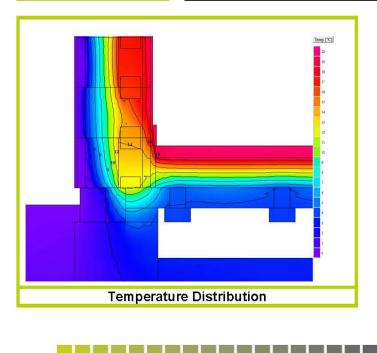
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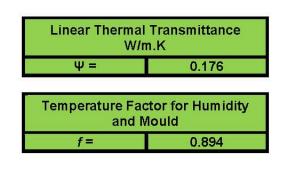
Certificate No:	2638 – 365mm GF B&B E5 PAR Aircrete Issued: 18/11/2014					
Jertificate NO. Issued to: DURISOL UK Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>Notes about Detail:</li> <li>Utilises standard Durise</li> <li>440mm wide and dee</li> <li>170mm high Aircrete of face under Durisol block</li> <li>120mm thick 0.022 Ward underside of Durisol Black</li> <li>65mm high Aircrete conface</li> <li>170mm pre-stressed of Floor infill with Aircrete</li> <li>Min 150mm 0.022 Ward</li> <li>Min 20mm thick 0.022 screed</li> </ul> Notes: - <ul> <li>1 Ψ and f are only valid</li> <li>2 In dwellings, a tempe Calculations have been publications:</li> <li>EN ISO 102</li> </ul>	ol <u>365mm</u> block. <u>p Aircrete Threnchblock</u> fo coursing block @ <u>100mm w</u> ks <u>m.K</u> insulation @ <u>170mm h</u> ock oursing block @ <u>215mm wid</u> oncrete beams run <u>Parallel</u>	oundation ide rests on Tre high between co de rests on Trec to wall. ed and structure m top of B&B flo ibed above. Id avoid the risk of id with reference t	chblock to external oursing block to hblock to internal or to top edge of		
	Description: 365mm Ground Floor Block and Beam – Parallel with Aircrete Floor Blocks					
	Reference:	2638 - 365mm GF B&B F	Parallel E5 Airci	rete Infill		



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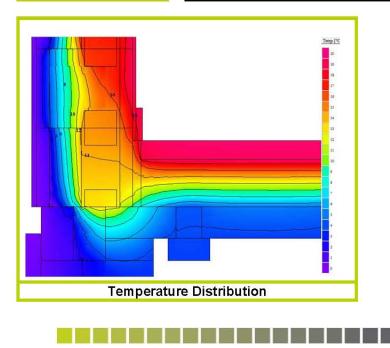
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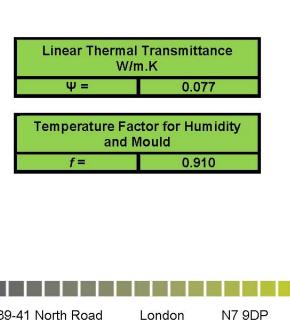
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Certificate No:	2638 – 300mm GF B	&B E5 PAR Conc	Issued:	18/11/2014		
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>170mm high Aircrete of face under Durisol bloc</li> <li>120mm thick 0.022 W/underside of Durisol Bloc</li> <li>65mm high Aircrete conface</li> <li>170mm pre-stressed of</li> <li>Floor infill with Aircrete Blocks elsewhere</li> <li>Min 150mm 0.022 W/m</li> <li>Min 20mm thick 0.022 screed</li> <li>Notes: -         <ol> <li>Ψ and f are only valid</li> <li>In dwellings, a tempe Calculations have bee publications:</li> <li>EN ISO 102</li> </ol> </li> </ul>	D <mark>Aircrete Threnchblock</mark> fo oursing block @ <u>100mm w</u> ks <mark>m.K.</mark> insulation @ <u>170mm h</u>	ide rests on Trea high between co le rests on Treck to wall. Medium Densit ed and structure n top of B&B floo ibed above. Id avoid the risk of id with reference t	oursing block to hblock to internal <mark>y Concrete</mark> or to top edge of of mould growth.		
	Description: 300mm Ground Floor Block and Beam – Parallel with Medium Density Concrete Blocks					
	Reference:	2638 - 300mm GF B&B F	Parallel E5 Cond	crete Infill		

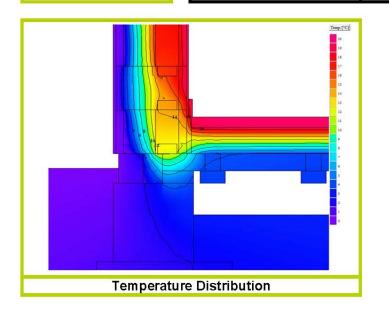


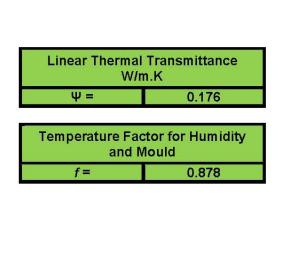


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Certificate No:	2638 – 365mm GF B	&B E5 PAR Conc	Issued:	18/11/2014		
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>170mm high Aircrete of face under Durisol bloc</li> <li>120mm thick 0.022 W/underside of Durisol Bloc</li> <li>65mm high Aircrete conface</li> <li>170mm pre-stressed of</li> <li>Floor infill with Aircrete Blocks elsewhere</li> <li>Min 150mm 0.022 W/m</li> <li>Min 20mm thick 0.022 screed</li> <li>Notes: -         <ol> <li>Ψ and f are only valid</li> <li>In dwellings, a tempe Calculations have bee publications:</li> <li>EN ISO 102</li> </ol> </li> </ul>	D <mark>Aircrete Threnchblock</mark> fo coursing block @ <u>100mm w</u> ks Im.K insulation @ <u>170mm h</u>	ide rests on Tre high between co le rests on Treck to wall. Medium Densit ed and structure m top of B&B flow ibed above. Id avoid the risk of ad with reference t	oursing block to hblock to internal <mark>y Concrete</mark> or to top edge of of mould growth.		
	Description: 365mm Ground Floor Block and Beam – Parallel with Medium Density Concrete Blocks					
	Reference:     2638 - 365mm GF B&B Parallel E5 Concrete Infill					

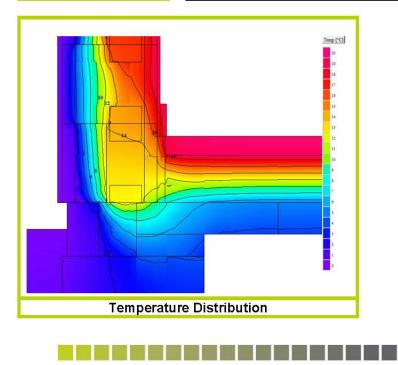




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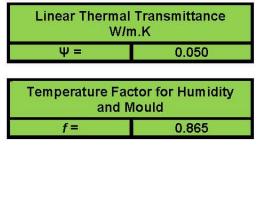
Certificate No:	2638 – 300mm GF B&B E5 PERP Aircrete Issued: 18/11/2014						
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>Notes about Detail:</li> <li>Utilises standard Durisol <u>300mm</u> block.</li> <li><u>440mm wide and deep Aircrete Threnchblock</u> foundation</li> <li><u>170mm high</u> Aircrete coursing block @ <u>100mm wide</u> rests on Trechblock to extendace under Durisol blocks</li> <li><u>120mm thick 0.022 W/m.K</u> insulation @ <u>170mm high</u> between coursing block to underside of Durisol Block</li> </ul>						
NP I I JEF	face          face         170mm         Floor infill with         Min         150mm         0.022	oursing block @ <u>215mm wic</u> oncrete beams run <u>Perpenc</u> <u>Floor Blocks</u> <u>I.K</u> insulation between scree <u>W/m.K</u> Edge insulation fror	<mark>licular</mark> to wall. ed and structure				
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	Description: 300mm Ground Floor Block and Beam – Perpendicular with Aircrete Floor Blocks						
	Reference:	2638 - 300mm GF B&B F	Perpendicular E	5 Aircrete Infill			



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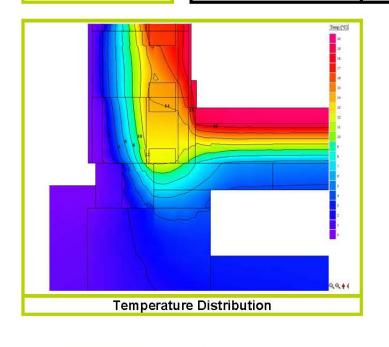
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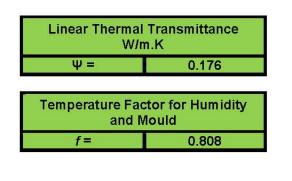
Certificate No:	2638 – 365mm GF B&B	B E5 PERP Aircrete	Issued:	18/11/2014	
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent,	<ul> <li>170mm high Aircrete of face under Durisol bloc</li> <li>120mm thick 0.022 W/ underside of Durisol Bloc</li> </ul>	o Aircrete Threnchblock fo oursing block @ <u>100mm w</u> ks ( <mark>m.K.</mark> insulation @ <u>170mm h</u> ock	<mark>ide</mark> rests on Tre <mark>nigh</mark> between co	ursing block to	
NP11 3EF	face          face         170mm         Floor infill with         Min         150mm         0.022	<ul> <li><u>65mm high</u> Aircrete coursing block @ <u>215mm wide</u> rests on Trechblock to internal face</li> <li><u>170mm</u> pre-stressed concrete beams run <u>Perpendicular</u> to wall.</li> <li>Floor infill with <u>Aircrete Floor Blocks</u></li> <li>Min <u>150mm 0.022 W/m.K</u> insulation between screed and structure</li> <li>Min <u>20mm thick 0.022 W/m.K</u> Edge insulation from top of B&amp;B floor to top edge of</li> </ul>			
	<ul> <li>In dwellings, a temper</li> <li>Calculations have been publications:</li> <li>EN ISO 102</li> </ul>	for the detail drawn and descr rature factor f that is >0.75 wou en performed in accordance an 11_2007 & EN ISO 6946 (Britis R497 & BR443 (BRE Press)	uld avoid the risk o ad with reference t		
	Description:	365mm Ground Floor Bl with Aircrete Floor Bloc		– Perpendicular	
	Reference:	2638 - 365mm GF B&B F	Perpendicular E	5 Aircrete Infill	



**Omnibus Workspace** 

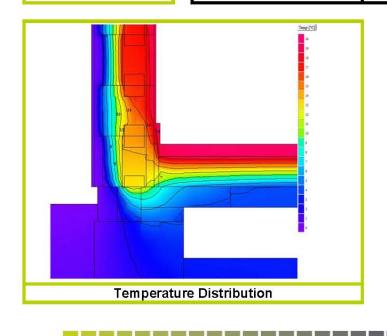
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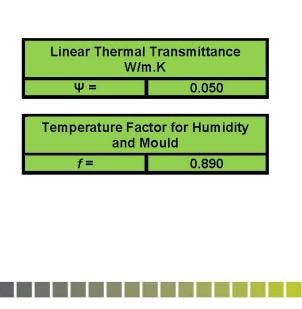
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Certificate No:	2638 – 300mm GF B&B	E5 PERPEND Conc	Issued:	18/11/2014
Issued to: DURISOL UK Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>170mm high Aircrete of face under Durisol block</li> <li>120mm thick 0.022 W<sub>i</sub> underside of Durisol Black</li> <li>65mm high Aircrete of face</li> <li>170mm pre-stressed of</li> <li>Floor infill with <u>Aircrete</u></li> <li>Min 150mm 0.022 W/m</li> <li>Min 20mm thick 0.022 screed</li> <li>Notes: -</li> <li>Ψ and f are only valide</li> <li>In dwellings, a tempe Calculations have bee publications:</li> <li>EN ISO 102</li> </ul>	p Aircrete Threnchblock fo coursing block @ <u>100mm wi</u> ks / <u>m.K</u> insulation @ <u>170mm h</u>	ide rests on Tre high between co le rests on Trec licular to wall. Medium Densit ed and structure n top of B&B flo ibed above. ild avoid the risk of id with reference t	chblock to external bursing block to hblock to internal <b>cy Concrete</b> for to top edge of
	Description:	300mm Ground Floor Blo with Medium Density Co		– Perpendicular
	Reference:	2638 - 300mm GF B&B P	erpendicular E	5 Concrete Infill

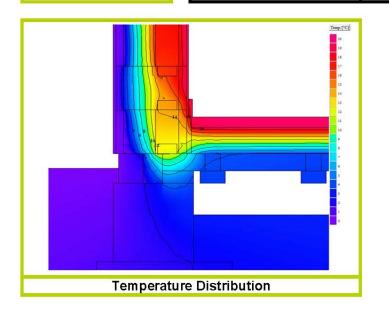


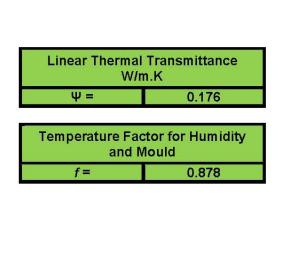


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Certificate No:	2638 – 365mm GF B	&B E5 PAR Conc	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>170mm high Aircrete of face under Durisol bloc</li> <li>120mm thick 0.022 W/w underside of Durisol Bloc</li> <li>65mm high Aircrete conface</li> <li>170mm pre-stressed of</li> <li>Floor infill with Aircrete Blocks elsewhere</li> <li>Min 150mm 0.022 W/m</li> <li>Min 20mm thick 0.022 screed</li> <li>Notes: -         <ol> <li>Ψ and f are only valid</li> <li>In dwellings, a tempe Calculations have bee publications:</li> <li>EN ISO 102</li> </ol> </li> </ul>	D <mark>Aircrete Threnchblock</mark> fo coursing block @ <u>100mm w</u> ks Im.K insulation @ <u>170mm h</u>	ide rests on Tre high between co le rests on Treck to wall. Medium Densit ed and structure m top of B&B flow ibed above. Id avoid the risk of ad with reference t	oursing block to hblock to internal <mark>y Concrete</mark> or to top edge of of mould growth.
	Description:	365mm Ground Floor Bl Medium Density Concre		– Parallel with
	Reference:	2638 - 365mm GF B&B P	Parallel E5 Cond	crete Infill

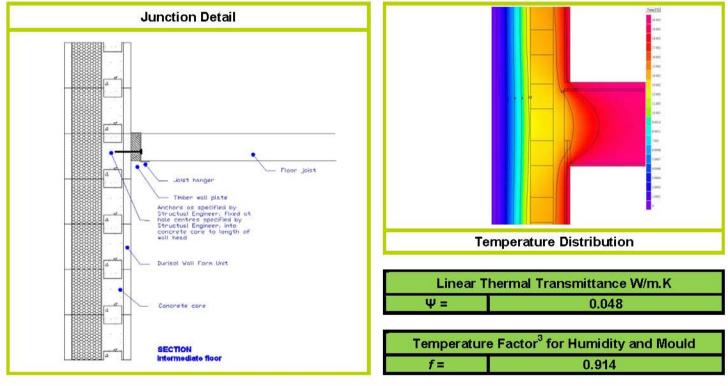




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Certificate No:	2638 – 300mm E6-l	ntermediary	Floor	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol d blocks.	Medium Density Concrete: 1.65 W/		1.65 W/m.K K urisol: 0.064 W/m.K s cavity: R= 0.125 W/m.K ste: 0.8 W/m.K nembrane: 0.5021 W/m.K	
	Description:	300mm	E6 - Intei	rmediary Floor	
	Reference:	2638 – 3	38 – 300mm E6 - Intermediary Floor		



#### **Calculation Prepared By:**

**Alan Calcott** 

**N7 9DP** 

#### Notes: -

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
- 2 In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.

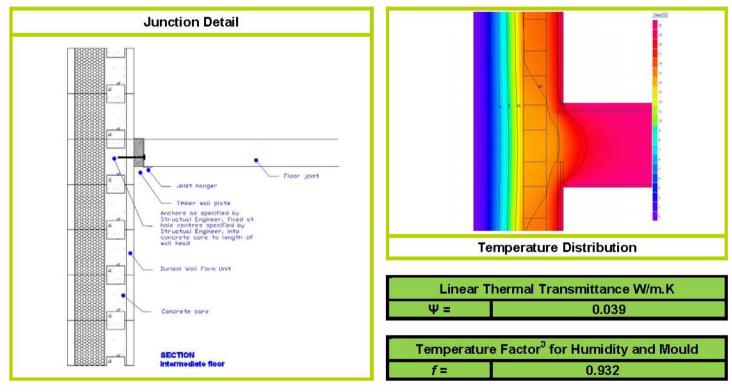
Calculations have been performed in accordance and with reference to the following publications:

- EN ISO 10211\_2007 (British Standards)
- IP 1/06 & BR497 (BRE Press)
- EN ISO 6946 (British Standards)
- BR443 (BRE Press)

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Certificate No:	2638 – 365mm E6-	Intermediary Floc	r Issued:	18/11/2014	
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol blocks.	detail for <u>365mm</u> PIR In PIR In Duris Plasto Vertio Duris High	Material Thermal Conductivities: Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K High density acoustic floor membrane: 0.5021 W/m.K Air gap between ceiling and floor: 0.0251 W/m.K		
	Description:	365mm E6 - I	ntermediary Floor		
	Reference:	2638 – 365mr	- 365mm E6 - Intermediary Floor		



#### **Calculation Prepared By:**

Alan Calcott

**N7 9DP** 

#### Notes: -

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
- 2 In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.

Calculations have been performed in accordance and with reference to the following publications:

- EN ISO 10211\_2007 (British Standards)
- IP 1/06 & BR497 (BRE Press)
- EN ISO 6946 (British Standards)
- BR443 (BRE Press)

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Certificate No:	2638 – 300mm Eaves Ins @	Ceiling E10	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>300m</u> blocks. Area behind wall plate to be packed with <u>min 200mm</u> mineral wool insulation with <u>R = 0.036 W/m.K</u>	PIR Insulation: PIR Insulation E Durisol Block: 0 Plasterboard: 0 Vertical High E Durisol Bridged	Bridged by Durisc 0.13 W/m.K .21 W/m.K	ol: 0.064 W/m.K vity: R= 0.125 W/m.K 0.8 W/m.K
	Description:	365mm Eave	s Insulation at	Ceiling Junction
	Reference:	2638 – 365mı Junction	n E10 Eaves lı	ns at Ceiling
Jur	Proprietory ventilator between rafters Celling Insulation Design Insulation Insulation between last trues on voll Theore wall plate on nortar bed Archarge as specified by Sciences Expectified By Sci	Temp	erature Distrib	pution
	Durisol Vali Farm Unit	Linear Ther Ψ=	mal Transmitta 0.	ance W/m.K 009

Temperature Factor<sup>3</sup> for Humidity and Mould f =0.882

**Calculation Prepared By:** 

Alan Calcott

N7 9DP

### Notes: -

 $\Psi$  and *f* are only valid for the detail drawn and described above. 1

ECTION

- 2 In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
    - IP 1/06 & BR497 (BRE Press)
    - EN ISO 6946 (British Standards)
    - BR443 (BRE Press)

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Certificate No:	2638 – 365mm Eaves Ins @	Ceiling E10	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>365mm</u> blocks. Area behind wall plate to be packed with <u>min 200mm</u> mineral wool insulation with <u>R = 0.036 W/m.K</u>	Material Therm PIR Insulation: 0. PIR Insulation Bri Durisol Block: 0.1 Plasterboard: 0.2 Vertical High E P Durisol Bridged w Mineral wool loft	022 W/m.K idged by Durisol: I3 W/m.K I W/m.K laster dabs cavity /ith Concrete: 0.8	0.064 W/m.K /: R= 0.125 W/m.K : W/m.K
	Description:	365mm Eaves	Insulation at C	eiling Junction
	Reference:	2638 – 365mm Junction	E10 Eaves Ins	at Ceiling
Jun	Ction Detail			
	Jurisol Voll Form Unit		ature Distribu al Transmittan 0.00	ce W/m.K
	SECTION Roof beam detail	Temperature Fac	tor <sup>3</sup> for Humid 0.88	

#### **Calculation Prepared By:**

Alan Calcott

N7 9DP

#### Notes: -

- 1  $\Psi$  and *f* are only valid for the detail drawn and described above.
- In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
   Calculations have been performed in accordance and with reference to the following publications:
  - EN ISO 10211\_2007 (British Standards)
  - IP 1/06 & BR497 (BRE Press)
  - EN ISO 6946 (British Standards)
  - BR443 (BRE Press)

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Certificate No:	2638 – Gable with Ins @ ceil	ng 300mm E12	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>300mr</u> blocks.	Material Thermal Conductivities: Reinforced Concrete @ Lintel: 2.3 W/m.K Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.I Durisol Bridged with Concrete: 0.8 W/m.K Mineral wool loft roll insulation: 0.036 W/m.K		
	Description:	300mm E12 Gab	le Ins at Ceil	ing Junction
	Reference:	2638 – 300mm E	12	
	nction Detail	Tempera	ture Distribu	tion
SECTION Gable detail	Durbol Valt Form Unit	Linear Thermal $\Psi =$ Temperature Factor f =	0.0	15

**Calculation Prepared By:** 

Alan Calcott

## Notes: -

2

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
    - IP 1/06 & BR497 (BRE Press)
    - EN ISO 6946 (British Standards)
    - BR443 (BRE Press)

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Certificate No:	2638 – Gable with Ins @ ceiling 365mm E12 Issued: 18/11/2			18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>365mm</u> blocks.	65mm Material Thermal Conductivities: Reinforced Concrete @ Lintel: 2.3 W/m.K Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m. Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 Durisol Bridged with Concrete: 0.8 W/m.K Mineral wool loft roll insulation: 0.036 W/m.K		V/m.K n.K .064 W/m.K R= 0.125 W/m.K V/m.K
	Description:	365mm E12 Gable	e Ins at Ceilin	ng Junction
	Reference:	2638 – 365mm E12		
	nction Detail	Temperatu	ne Distributio	5
SECTION Gable detail	Durisot Vall Form Unit	Linear Thermal T $\Psi =$ Temperature Factor f =	0.011	

Calculation Prepared By:

Alan Calcott

# Notes: -

2

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
    - IP 1/06 & BR497 (BRE Press)
    - **EN ISO 6946** (British Standards)
      - BR443 (BRE Press)

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Certificate No:	2638 – Corner 300mm	E16	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<b>Notes about Detail:</b> Utilises standard Durisol detail for <u>300mm</u> blocks.	Material Thermal Conduct Medium Density Concrete: 1.0 PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Dur Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs of Durisol Bridged with Concrete		m.K ).064 W/m.K R= 0.125 W/m.K
	Description:	300mm E16 N	lormal Corner Ju	Inction
	Reference:	2638 – 300mm E16		
	B REMOVED ONSITE TO ALLOW FLOW OF NCRETE	Linear Therr Ψ=	erature Distributi nal Transmittano 0.00 ctor <sup>3</sup> for Humidit 0.899	ce W/m.K 2 ty and Mould

#### **Calculation Prepared By:**

Alan Calcott

### Notes: -

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
- $2 \qquad \mbox{In dwellings, a temperature factor f that is > 0.75 would avoid the risk of mould growth.}$ 
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
    - IP 1/06 & BR497 (BRE Press)
    - EN ISO 6946 (British Standards)
    - BR443 (BRE Press)

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Certificate No:	2638 – Corner 365mm E	16	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<b>Notes about Detail:</b> Utilises standard Durisol detail for <u>365mm</u> blocks.	Medium Den PIR Insulatio PIR Insulatio Durisol Block Plasterboard Vertical High	nermal Conductivitie sity Concrete: <b>1.65</b> W/r n: <b>0.022</b> W/m.K n Bridged by Durisol: <b>0</b> (: <b>0.13</b> W/m.K : <b>0.21</b> W/m.K E Plaster dabs cavity: yed with Concrete: <b>0.8</b> M	n.K .064 W/m.K R= 0.125 W/m.K
	Description:	365mm E1	6 Normal Corner Ju	nction
	Reference:	2638 – 365	mm E16	
FIRST COURSE	ction Detail	Linear Th Ψ =	nperature Distributi ermal Transmittanc 0.002 Factor <sup>3</sup> for Humidit 0.921	e W/m.K 2
Calc	ulation Prepared By:		Alan Calcott	

#### Notes: -

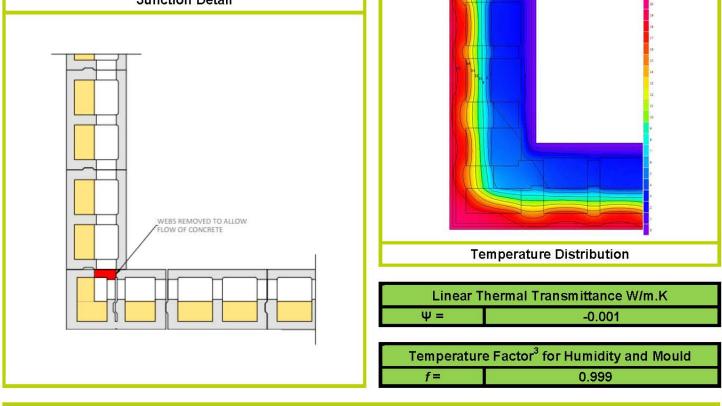
2

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
    - IP 1/06 & BR497 (BRE Press)
    - EN ISO 6946 (British Standards)
    - BR443 (BRE Press)

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Certificate No:	2638 – Inverted Corner 300mm E17		Issued:	18/11/2014
Issued to:	Notes about Detail:		ermal Conductivi	
<i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Utilises standard Durisol detail for <u>300mm</u> blocks.	Medium Density Concrete: <b>1.65 W/m.K</b> PIR Insulation: <b>0.022 W/m.K</b> PIR Insulation Bridged by Durisol: <b>0.064 W/m.K</b> Durisol Block: <b>0.13 W/m.K</b> Plasterboard: <b>0.21 W/m.K</b> Vertical High E Plaster dabs cavity: <b>R= 0.125 W/m.K</b> Durisol Bridged with Concrete: <b>0.8 W/m.K</b>		
	Description:	300mm E17	Inverted Corner	Junction
Reference: 2638 – 300mm				



#### **Calculation Prepared By:**

**Alan Calcott** 

### Notes: -

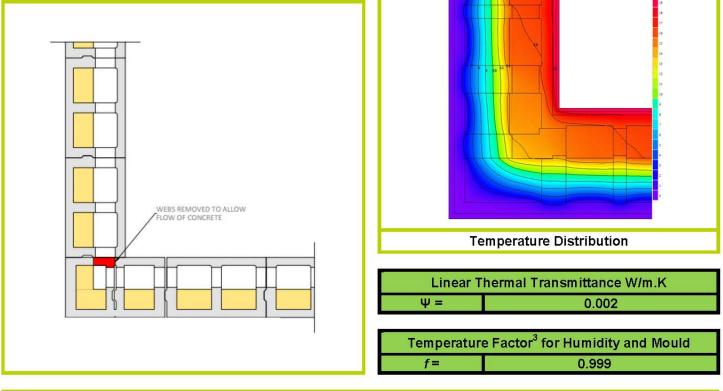
2

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
    - IP 1/06 & BR497 (BRE Press)
    - EN ISO 6946 (British Standards)
      - BR443 (BRE Press)

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Certificate No:	2638 – Inverted Corner 365mm E17		Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<b>Notes about Detail:</b> Utilises standard Durisol detail for <u>365mm</u> blocks.	Material Thermal Conductivities: Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m.K Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 W/m.K Durisol Bridged with Concrete: 0.8 W/m.K		
	Description:	365mm E17 Ir	verted Corner J	unction
	Reference:	2638 – 365mn	ו E17	
Ju	nction Detail			7 marg (13) 28 39 38 37



#### **Calculation Prepared By:**

**Alan Calcott** 

# Notes: -

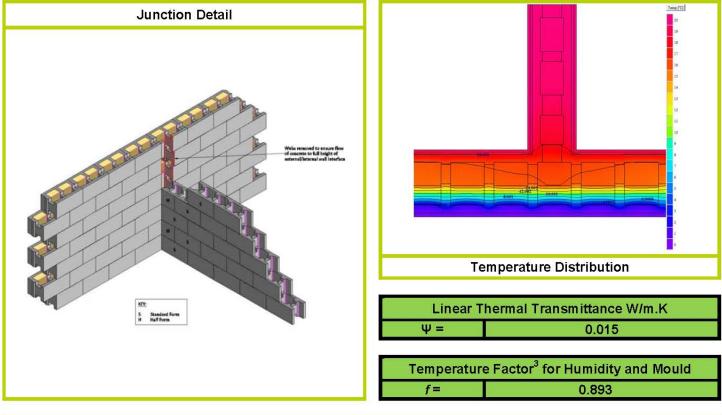
2

- 1  $\Psi$  and *f* are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
    - EN ISO 10211\_2007 (British Standards)
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    - EN ISO 6946 (British Standards)
      - BR443 (BRE Press)

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Certificate No:	2638 – 300mm E18		Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol detail for <u>300mm</u> blocks.	Material Thermal Conductivities: Reinforced Concrete: 2.3 W/m.K Medium Density Concrete: 1.65 W/m.K PIR Insulation: 0.022 W/m.K PIR Insulation Bridged by Durisol: 0.064 W/m Durisol Block: 0.13 W/m.K Plasterboard: 0.21 W/m.K Vertical High E Plaster dabs cavity: R= 0.125 Durisol Bridged with Concrete: 0.8 W/m.K		n.K .064 W/m.K R= 0.125 W/m.K
	Description:	300mm E18 Party Wall Junction		on
	Reference: 2638 – 300mm E18			



#### **Calculation Prepared By:**

**Alan Calcott** 

### Notes: -

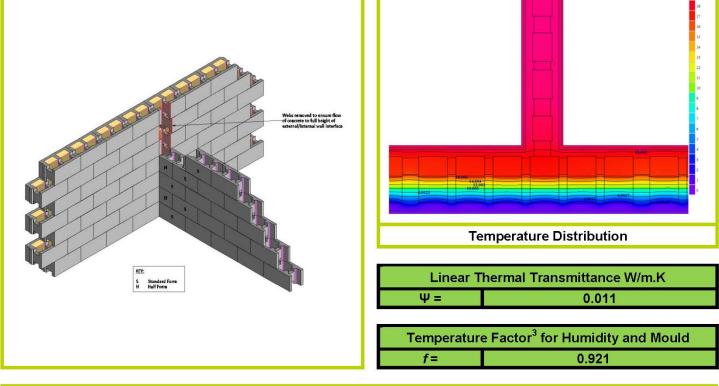
2

- 1  $\Psi$  and f are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
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    - IP 1/06 & BR497 (BRE Press)
    - **EN ISO 6946** (British Standards)
    - BR443 (BRE Press)

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Certificate No:	2638 – Party Wall 365mm E18 Issued: 18/			
				<u>~</u>
lssued to:	Notes about Detail:	Material Thermal Reinforced Concrete		es:
DURISOL UK	Utilises standard Durisol detail for 365mm	Medium Density Co		m.K
	blocks.	PIR Insulation: 0.02		
Parkway, Pen-y-Fan Industrial		PIR Insulation Bridg		).064 W/m.K
Estate,		Durisol Block: <b>0.13 W/m.K</b> Plasterboard: <b>0.21 W/m.K</b> Vertical High E Plaster dabs cavity: <b>R= 0.125 W/m.K</b> Durisol Bridged with Concrete: <b>0.8 W/m.K</b>		
Crumlin,				
Gwent, NP11 3EF				
	Description:	365mm E18 Part	y Wall Junctio	on
	Reference:	2638 – 365mm E	18	
Jur	nction Detail			
				19



**Calculation Prepared By:** 

Alan Calcott

### Notes: -

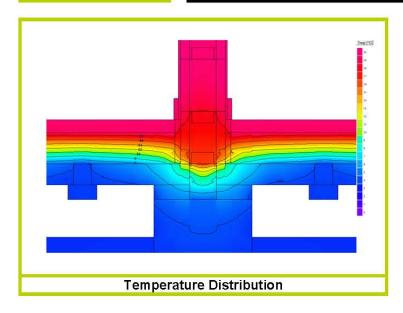
2

- 1  $\Psi$  and *f* are only valid for the detail drawn and described above.
  - In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth.
  - Calculations have been performed in accordance and with reference to the following publications:
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    - IP 1/06 & BR497 (BRE Press)
    - **EN ISO 6946** (British Standards)
      - BR443 (BRE Press)

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Certificate No:	2638 – BOTH GF B&B	P1 PARAL AIRCRETE	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>440mm wide and dee</li> <li>65mm high Aircrete conface and internal face of a contract of a cont</li></ul>	<mark>/m.K</mark> insulation @ <u>170mm high</u> ock oncrete beams run <u>Parallel</u> to wa	ation sts on Trechb between cour all. nd structure o of B&B floor above. oid the risk of r h reference to f	olock to external rsing block to to top edge of mould growth.
	Description:	Ground Floor Block and Bea Parallel with Aircrete Floor B		I – BOTH
	Reference:	2638 - Both GF B&B Party W Blocks	all Parallel P	1 Aircrete Floor

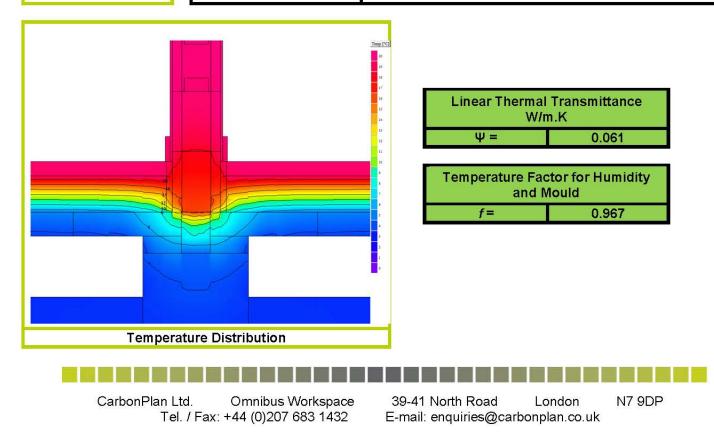


	I Transmittance m.K			
Ψ=	0.059			
	ctor for Humidity Mould			
and Mould f = 0.966				



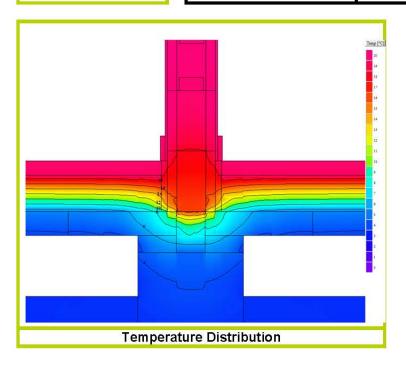


Certificate No:	2638 – BOTH GF B&B	P1 PERPEND Conc	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>440mm wide and deer</li> <li>65mm high Aircrete conface and internal face of a conditional face of a conditinal face of a conditional fa</li></ul>	Im.K insulation @ 170mm h	bundation le rests on Treck high between co dicular to wall. Medium Densit ed and structure m top of B&B flow ibed above. Id avoid the risk of ad with reference t	hblock to external bursing block to <mark>y Concrete</mark> or to top edge of of mould growth.
	Description:	Ground Floor Block and Perpendicular with Medi		
	Reference:	2638 - Both GF B&B Par Concrete Infill	ty Wall Perpend	dicular P1





Certificate No:	2638 – BOTH GF B&B F	P1 PERPEND AIRCRETE	Issued:	18/11/2014		
Certificate No: Issued to: DURISOL UK Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>Notes about Detail:</li> <li>Utilises standard Durise</li> <li>440mm wide and dee</li> <li>65mm high Aircrete conface and internal face of face and internal face of face and internal face of 120mm thick 0.022 Wounderside of Durisol Bl</li> <li>170mm pre-stressed of Floor infill with Aircrete</li> <li>Min 150mm 0.022 W/m</li> <li>Min 20mm thick 0.022 screed</li> </ul> Notes: - <ul> <li>1 Ψ and f are only valid</li> <li>2 In dwellings, a temper Calculations have be publications:</li> </ul>	ol <u>300mm and 365mm</u> block wit <u>p Aircrete Threnchblock</u> founds oursing block @ <u>160mm wide</u> re- under Durisol blocks <u>/m.K</u> insulation @ <u>170mm high</u> ock oncrete beams run <u>Perpendicul</u> <u>e Blocks</u> <u>1.K</u> insulation between screed ar <u>W/m.K</u> Edge insulation from top d for the detail drawn and described a rature factor f that is >0.75 would av en performed in accordance and wit	h <u>170mm pa</u> ation sts on Trechk between cour ar to wall. ad structure of B&B floor above. /oid the risk of h reference to	rty wall block. block to external rsing block to to top edge of mould growth.		
	<ul> <li>EN ISO 10211_2007 &amp; EN ISO 6946 (British Standards)</li> <li>IP 1/06 &amp; BR497 &amp; BR443 (BRE Press)</li> </ul>					
	Description:	Ground Floor Block and Bea Perpendicular with Aircrete	Floor Blocks			
	Reference:	2638 - Both GF B&B Party W Aircrete Floor Blocks	all Perpendi	cular P1		

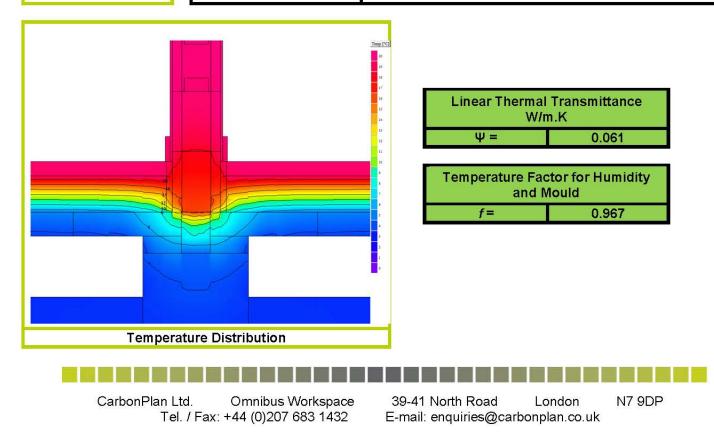


	I Transmittance m.K
Ψ=	0.063
	ctor for Humidity Nould

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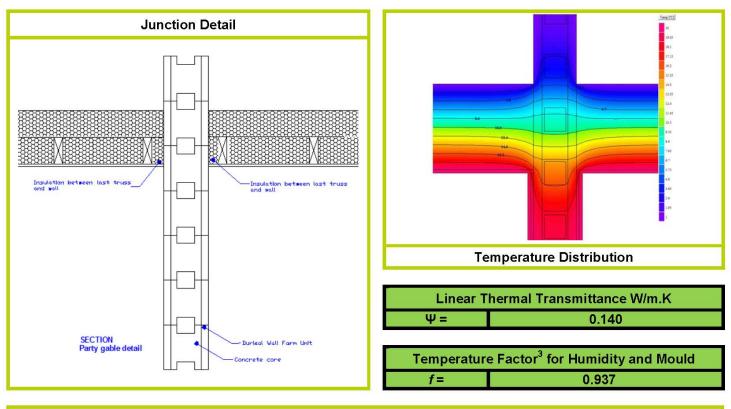


Certificate No:	2638 – BOTH GF B&B	P1 PERPEND Conc	Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	<ul> <li>440mm wide and deer</li> <li>65mm high Aircrete conface and internal face of a conditional face of a conditinal face of a conditional fa</li></ul>	Im.K insulation @ 170mm h	bundation le rests on Treck high between co dicular to wall. Medium Densit ed and structure m top of B&B flow ibed above. Id avoid the risk of ad with reference t	hblock to external bursing block to <mark>y Concrete</mark> or to top edge of of mould growth.
	Description:	Ground Floor Block and Perpendicular with Medi		
	Reference:	2638 - Both GF B&B Par Concrete Infill	ty Wall Perpend	dicular P1





Certificate No:	2638 – Party Gable Ins @ Ceiling P4			Issued:	18/11/2014
<i>Issued to:</i> <i>DURISOL UK</i> Parkway, Pen-y-Fan Industrial Estate, Crumlin, Gwent, NP11 3EF	Notes about Detail: Utilises standard Durisol <u>300mm and</u> <u>365mm</u> block with <u>170mm</u> party wall.		Material Thermal Reinforced Concrete Medium Density Co PIR Insulation: 0.02 PIR Insulation Bridg Durisol Block: 0.13 Plasterboard: 0.21 Vertical High E Plas Durisol Bridged with Mineral wool loft rol	e @ Lintel: 2.3 M ncrete: 1.65 W/n 2 W/m.K ged by Durisol: 0 W/m.K M/m.K ster dabs cavity: n Concrete: 0.8 M	N/m.K m.K 0.064 W/m.K R= 0.125 W/m.K N/m.K
	Description: P4 Party Gable Ins at Ceiling Junction				
	Reference: 2638 – 300mm and 365mm P4 Party Wall Gable Ceiling Junction			all Gable Ins at	



**Calculation Prepared By:** 

**Alan Calcott** 

#### Notes: -1 $\Psi$ and *f* are only valid for the detail drawn and described above. 2 In dwellings, a temperature factor f that is >0.75 would avoid the risk of mould growth. Calculations have been performed in accordance and with reference to the following publications: EN ISO 10211\_2007 (British Standards) IP 1/06 & BR497 (BRE Press) EN ISO 6946 (British Standards) BR443 (BRE Press) N7 9DP CarbonPlan Ltd. **Omnibus Workspace** 39-41 North Road London Tel. / Fax: +44 (0)207 683 1432 E-mail: enquiries@carbonplan.co.uk