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PSI-VALUE PATTERN BOOK

YOUR GUIDE TO PART L COMPLIANCE

Thermal | Fire Safety | Acoustic | Sustainability | Real Performance

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INTRODUCTION

Psi-value calculations – what's changing?

To help housebuilders and SAP assessors calculate their Psi-values more accurately, we have developed a 'Psi-value Pattern Book', including product-specific details for a range of different junction types.

Psi-values measure the rate of heat lost through junctions where two elements meet, for example where a floor meets an external wall, or a window interrupts a wall. Psi-values are measured in watts per metre Kelvin (W/mK).

Both U-values and Psi-values must be taken into account, when assessing the energy efficiency of a building. The lower the U-values and Psi-values of a build, the better the building is detailed and will retain heat.

How the ADL updates affect calculations

In the past, SAP assessors had the option to use 'Accredited Construction Details' to calculate Psi-values. These are standardised details, based on different types of thermal element and junction, which the assessor can select from a pre-set list (Annex K).

Under the updated regulations, assessors are required to produce Psi-value calculations using SAP 10.2 software, which no longer includes the option to use Accredited Construction Details. Instead, housebuilders and SAP assessors need to work with suppliers who can provide up-to-date, technical information, specific to their products.

How to use the Pattern Book

The Psi-value Pattern Book includes a range of external wall and party wall details. Each junction includes an illustration to demonstrate the recommended Knauf Insulation product, other components and detailing considerations. A check list is also provided to help ensure the requirements have been followed.

For the external wall junctions, Psi-values are provided across a range of cavity widths and block thermal conductivities with either DriTherm® Cavity Slab 32, DriTherm® Cavity Slab 34 or Supafil® 34 installed in the external cavity wall.

For the party wall junctions, Psi-values are provided with either Masonry Party Wall Slab or Supafil® Party Wall installed in the party wall cavity.

YOU CAN ALSO CALCULATE YOUR PSI-VALUE WITH OUR NEW ONLINE CALCULATOR
https://www.knaufinsulation.co.uk/psi-value-calculator

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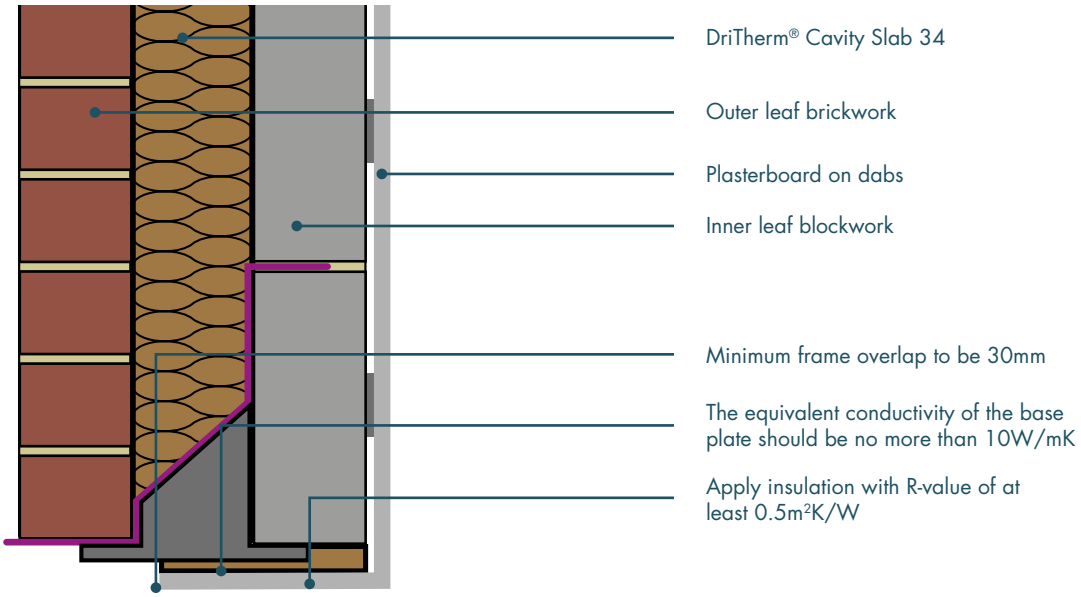
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E1 - Steel lintel with perforated steel base plate

Ref:	KI_PSI_E1_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The materials are as in the wall shown in Table 1 with the additional materials shown in the Figure. To deal with the diagonal element of the lintel, the Trisco model was developed with a second Physibel package, Bisco, this means that the Trisco model has non standard scaling: 1 grid unit = 0.395mm.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.274	0.858	0.291	0.859	0.292	0.861
Standard aircrete	0.15	0.292	0.861	0.308	0.862	0.305	0.863
High strength aircrete	0.19	0.308	0.863	0.322	0.864	0.316	0.864
Ultra lightweight aggregate	0.31	0.340	0.867	0.351	0.867	0.339	0.867
Lightweight aggregate	0.50	0.371	0.871	0.379	0.870	0.361	0.869

Table Ref: E1a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Minimum frame overlap of 30mm
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the soffit
- ☐ Equivalent conductivity of the baseplate no more than 10 W/mK

Site manager/supervisor:

Site name:

Plot number:

Date:

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

Junction reference:
E1 - Steel lintel with perforated steel base plate

Ref:	KI_PSI_E1_DT32_0001	**Dated:**	May 2021
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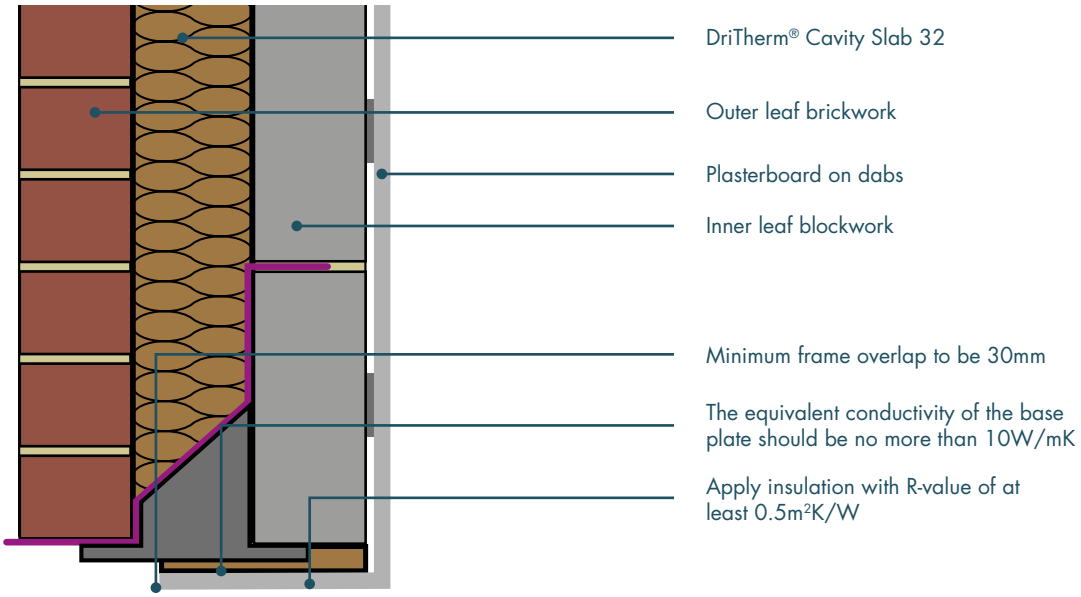

The materials are as in the wall shown in Table 1 with the additional materials shown in the Figure. To deal with the diagonal element of the lintel, the Trisco model was developed with a second Physibel package, Bisco, this means that the Trisco model has non standard scaling: 1 grid unit = 0.395mm.

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Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.276	0.858	0.293	0.859	0.294	0.861
Standard aircrete	0.15	0.295	0.861	0.311	0.862	0.307	0.863
High strength aircrete	0.19	0.311	0.863	0.324	0.864	0.318	0.864
Ultra lightweight aggregate	0.31	0.343	0.868	0.354	0.867	0.341	0.867
Lightweight aggregate	0.50	0.374	0.871	0.382	0.870	0.363	0.869

Table Ref: E1b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Minimum frame overlap of 30mm
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the soffit
- ☐ Equivalent conductivity of the baseplate no more than 10 W/mK

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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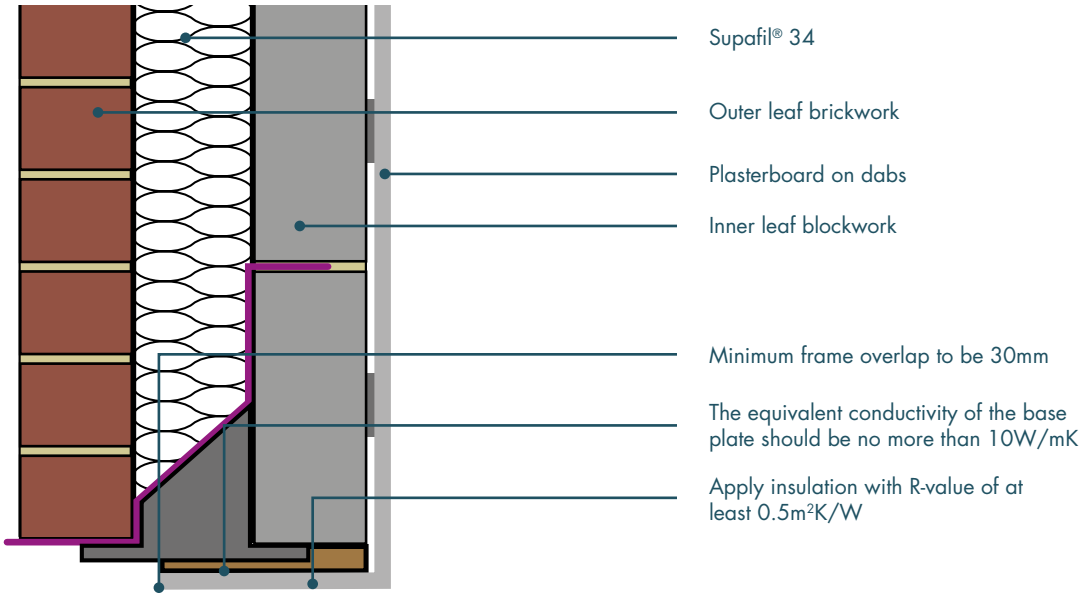
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E1 - Steel lintel with perforated steel base plate

Ref:	KI_PSI_E1_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The materials are as in the wall shown in Table 1 with the additional materials shown in the Figure. To deal with the diagonal element of the lintel, the Trisco model was developed with a second Physibel package, Bisco, this means that the Trisco model has non standard scaling: 1 grid unit = 0.395mm.

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Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.274	0.858	0.291	0.859	0.292	0.861
Standard aircrete	0.15	0.292	0.861	0.308	0.862	0.305	0.863
High strength aircrete	0.19	0.308	0.863	0.322	0.864	0.316	0.864
Ultra lightweight aggregate	0.31	0.340	0.867	0.351	0.867	0.339	0.867
Lightweight aggregate	0.50	0.371	0.871	0.379	0.870	0.361	0.869

Table Ref: E1c

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Minimum frame overlap of 30mm
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the soffit
- ☐ Equivalent conductivity of the baseplate no more than 10 W/mK

Site manager/supervisor:

Site name:

Plot number:

Date:

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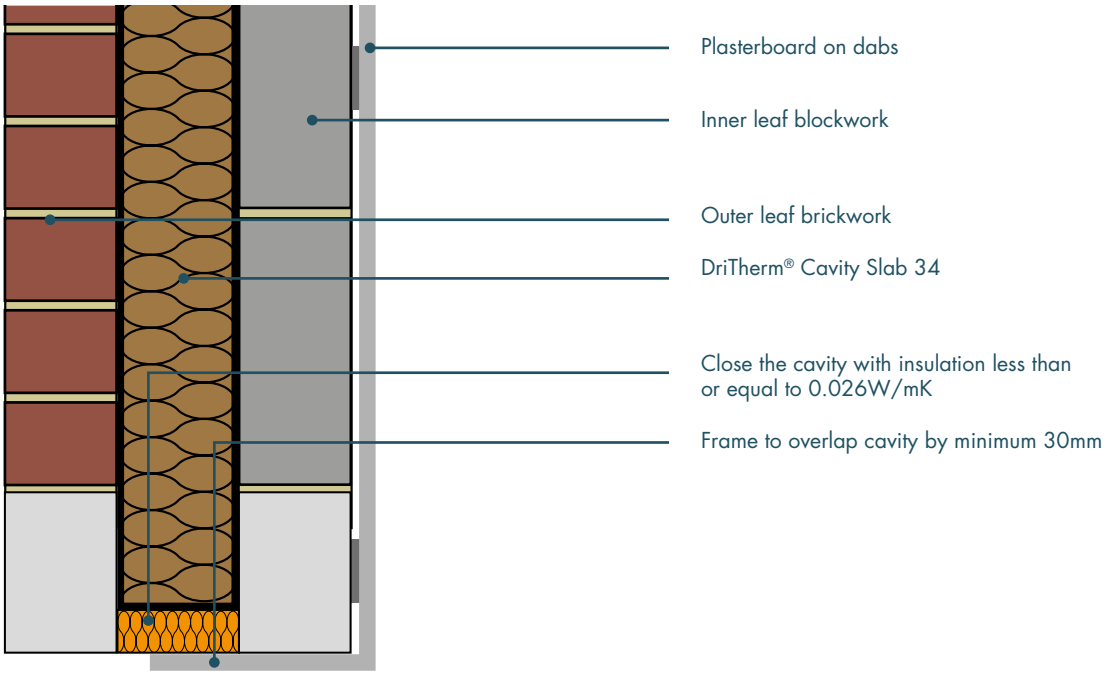
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E2A - Independent concrete lintels

Ref:	KI_PSI_E2A_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Construction Details

Material	Width (mm)	Thermal conductivity (W/mK)
Brick	102.5	0.77
Insulated cavity	Widths and thermal conductivities as shown in tables above	
Blockwork	100	Values as shown in tables above
Cavity	15	0.088
Plasterboard	12.5	0.19

The independent lintels are of concrete with conductivity 1.33 W/mK. They are 215mm high. The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK. The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.038	0.912	0.035	0.910	0.035	0.909
Standard aircrete	0.15	0.035	0.912	0.033	0.910	0.033	0.909
High strength aircrete	0.19	0.032	0.912	0.031	0.910	0.032	0.909
Ultra lightweight aggregate	0.31	0.029	0.912	0.029	0.910	0.030	0.909
Lightweight aggregate	0.50	0.027	0.912	0.028	0.910	0.029	0.909

Table Ref: E2Aa

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Minimum frame overlap of 30mm
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the soffit
- ☐ Equivalent conductivity of the baseplate no more than 10 W/mK

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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

Junction reference:
E2A - Independent concrete lintels

Ref:	KI_PSI_E2A_DT32_0001	**Dated:**	May 2021
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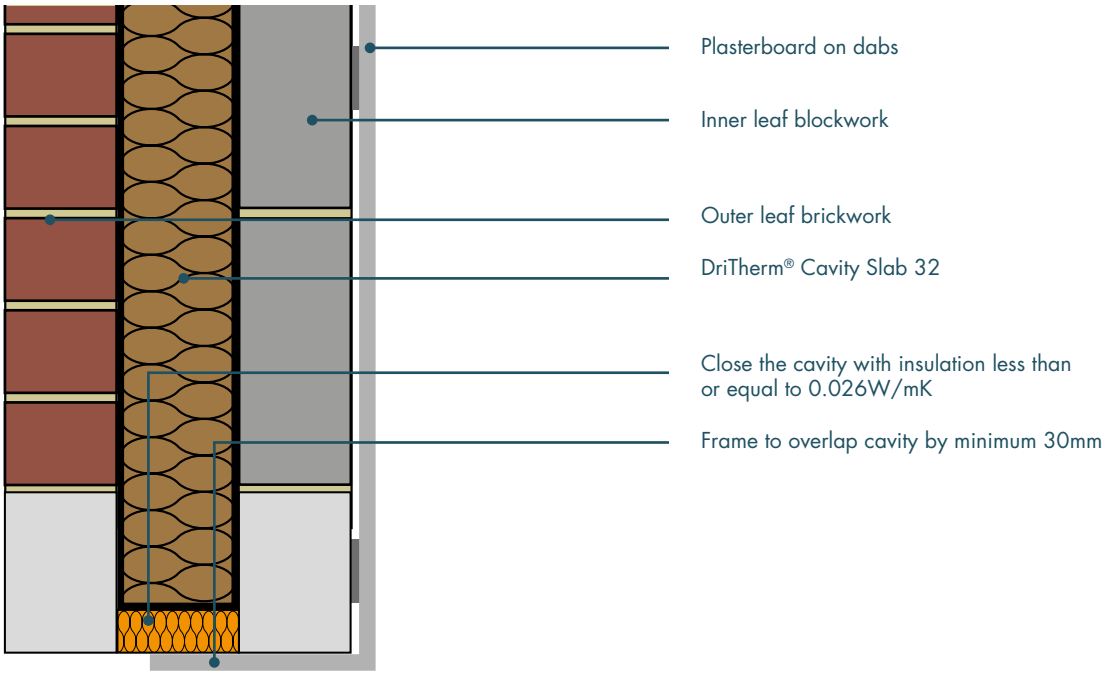

Construction Details

Material	Width (mm)	Thermal conductivity (W/mK)
Brick	102.5	0.77
Insulated cavity	Widths and thermal conductivities as shown in tables above	
Blockwork	100	Values as shown in tables above
Cavity	15	0.088
Plasterboard	12.5	0.19

The independent lintels are of concrete with conductivity 1.33 W/mK. They are 215mm high. The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK. The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.037	0.912	0.035	0.910	0.034	0.909
Standard aircrete	0.15	0.034	0.912	0.032	0.910	0.032	0.909
High strength aircrete	0.19	0.032	0.912	0.031	0.910	0.031	0.909
Ultra lightweight aggregate	0.31	0.028	0.912	0.029	0.910	0.030	0.909
Lightweight aggregate	0.50	0.027	0.912	0.027	0.910	0.028	0.909

Table Ref: E2Ab

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Minimum frame overlap of 30mm
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the soffit
- ☐ Equivalent conductivity of the baseplate no more than 10 W/mK

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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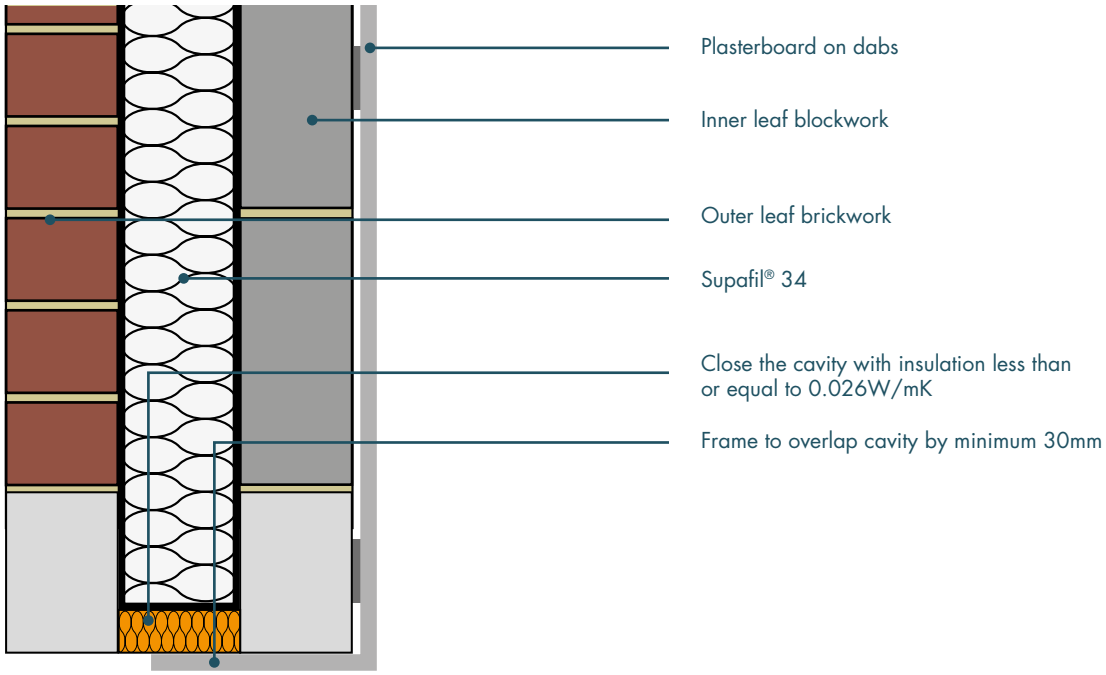
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E2A - Independent concrete lintels

Ref:	KI_PSI_E2A_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Construction Details

Material	Width (mm)	Thermal conductivity (W/mK)
Brick	102.5	0.77
Insulated cavity	Widths and thermal conductivities as shown in tables above	
Blockwork	100	Values as shown in tables above
Cavity	15	0.088
Plasterboard	12.5	0.19

The independent lintels are of concrete with conductivity 1.33 W/mK. They are 215mm high. The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK. The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.038	0.912	0.035	0.910	0.035	0.909
Standard aircrete	0.15	0.035	0.912	0.033	0.910	0.033	0.909
High strength aircrete	0.19	0.032	0.912	0.031	0.910	0.032	0.909
Ultra lightweight aggregate	0.31	0.029	0.912	0.029	0.910	0.030	0.909
Lightweight aggregate	0.50	0.027	0.912	0.028	0.910	0.029	0.909

Table Ref: E2c

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Minimum frame overlap of 30mm
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the soffit
- ☐ Equivalent conductivity of the baseplate no more than 10 W/mK

Site manager/supervisor:

Site name:

Plot number:

Date:

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

Junction reference:
E3 - Window sill

Ref:	KI_PSI_E3_DT34_0001	**Dated:**	May 2021
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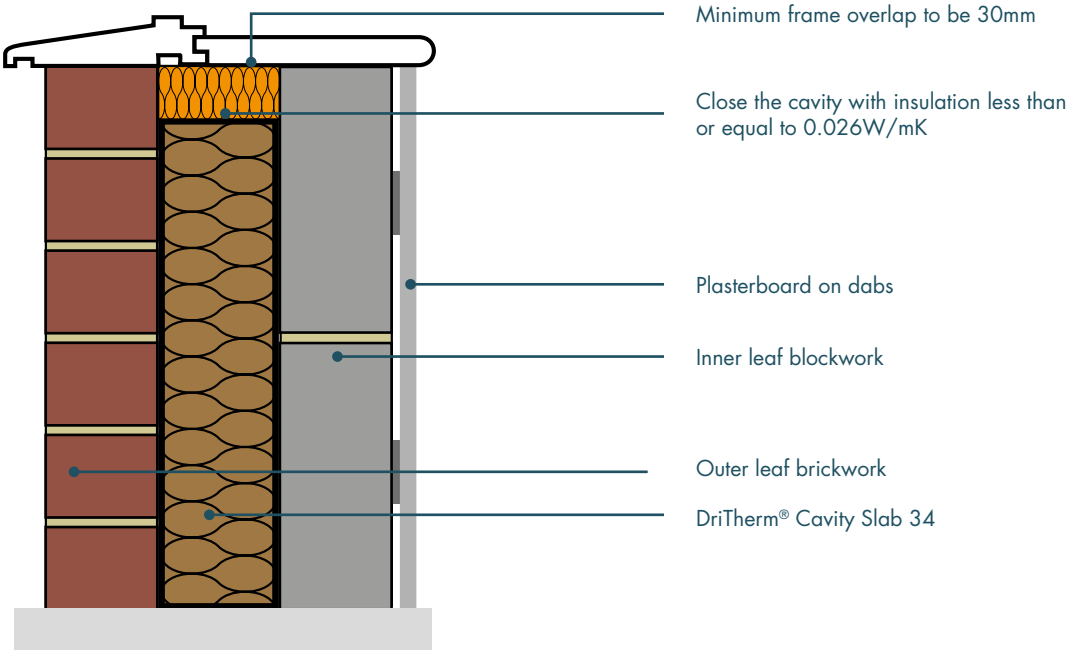

The internal sill is 20mm softwood with conductivity 0.12 W/mK
The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK.
The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.021	0.899	0.023	0.897	0.025	0.895
Standard aircrete	0.15	0.020	0.900	0.022	0.897	0.024	0.896
High strength aircrete	0.19	0.020	0.900	0.021	0.898	0.024	0.896
Ultra lightweight aggregate	0.31	0.019	0.901	0.021	0.898	0.023	0.896
Lightweight aggregate	0.50	0.019	0.901	0.021	0.899	0.023	0.896

Table Ref: E3a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Frame overlap at least 30mm
- ☐ Cavity closed with insulation with ≤ 0.026 W/mK

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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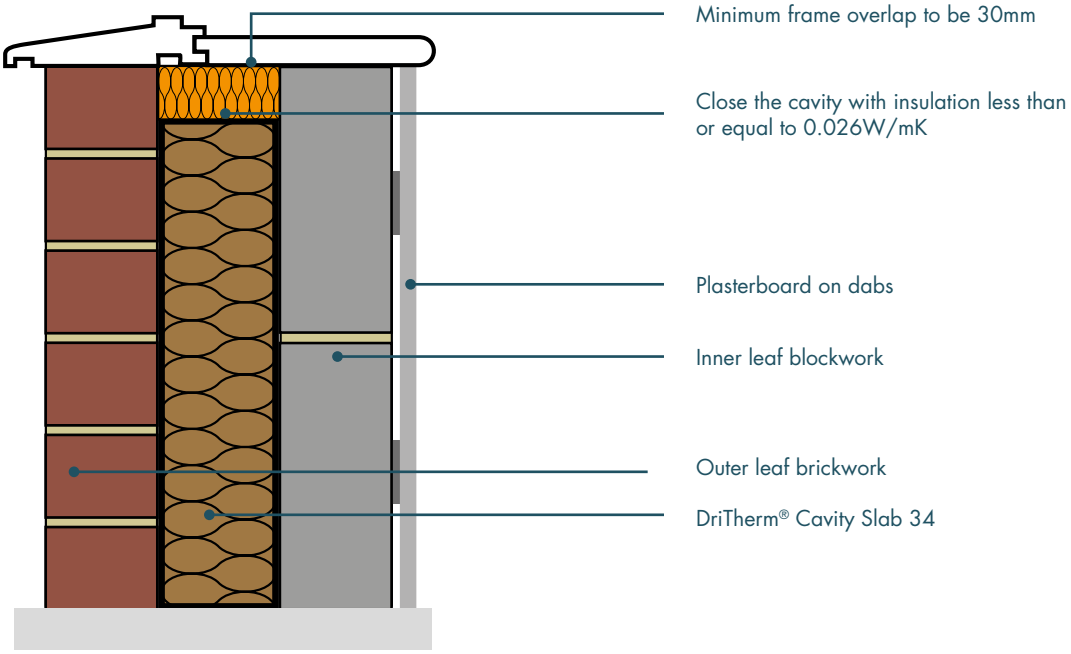
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E3 - Window sill

Ref:	KI_PSI_E3_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The internal sill is 20mm softwood with conductivity 0.12 W/mK
The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK.
The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.021	0.899	0.023	0.897	0.025	0.896
Standard aircrete	0.15	0.020	0.900	0.022	0.898	0.024	0.896
High strength aircrete	0.19	0.020	0.900	0.022	0.898	0.024	0.896
Ultra lightweight aggregate	0.31	0.020	0.901	0.022	0.898	0.023	0.896
Lightweight aggregate	0.50	0.019	0.902	0.021	0.899	0.023	0.897

Table Ref: E3b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Frame overlap at least 30mm
- ☐ Cavity closed with insulation with ≤ 0.026 W/mK

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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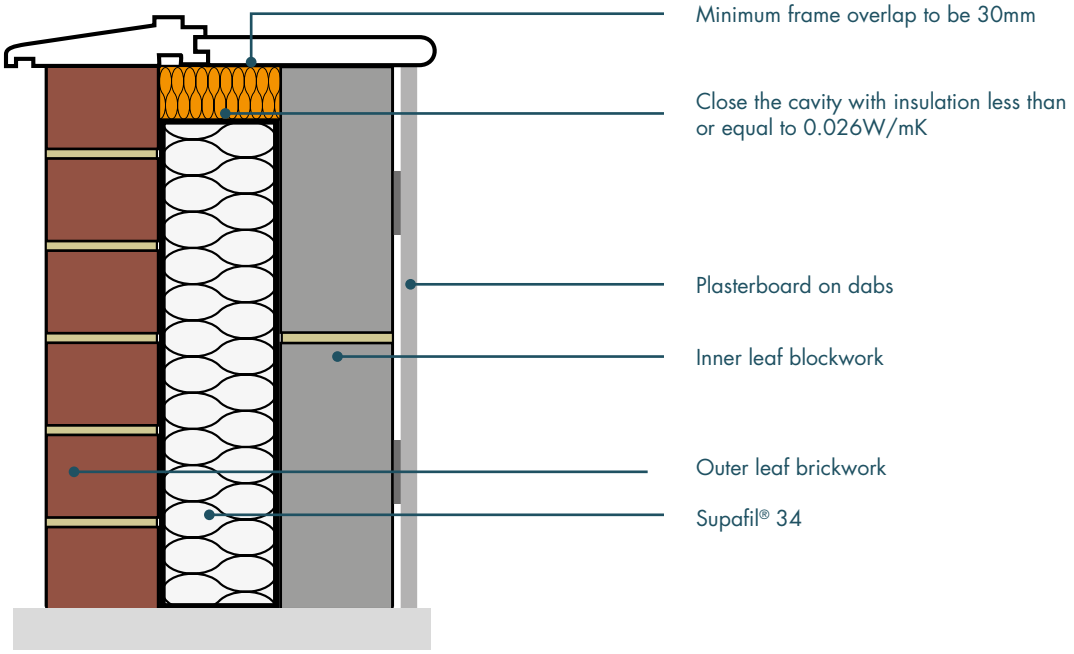
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E3 - Window sill

Ref:	KI_PSI_E3_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The internal sill is 20mm softwood with conductivity 0.12 W/mK
The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK.
The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.021	0.899	0.023	0.897	0.025	0.895
Standard aircrete	0.15	0.020	0.900	0.022	0.897	0.024	0.896
High strength aircrete	0.19	0.020	0.900	0.021	0.898	0.024	0.896
Ultra lightweight aggregate	0.31	0.019	0.901	0.021	0.898	0.023	0.896
Lightweight aggregate	0.50	0.019	0.901	0.021	0.899	0.023	0.896

Table Ref: E3c

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Frame overlap at least 30mm
- ☐ Cavity closed with insulation with ≤ 0.026 W/mK

Site manager/supervisor:

Site name:

Plot number:

Date:

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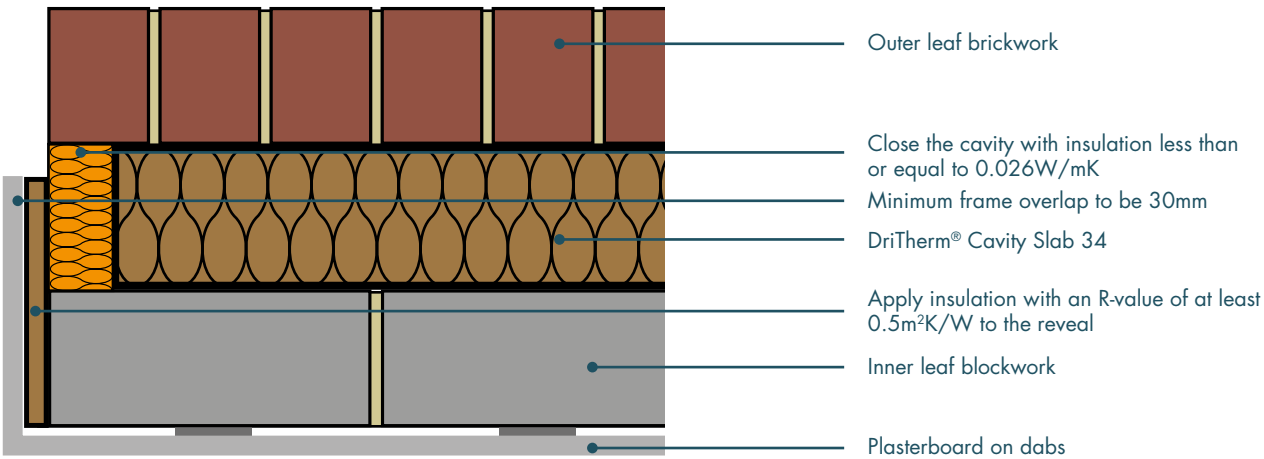
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E4- Window jamb

Ref:	KI_PSI_E4_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The jamb is lined with 10mm of insulation with conductivity 0.022 W/mK, covered with 12.5mm of plasterboard with conductivity 0.19 W/mK.
The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK.
The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.016	0.944	0.017	0.943	0.019	0.942
Standard aircrete	0.15	0.015	0.945	0.017	0.943	0.019	0.942
High strength aircrete	0.19	0.015	0.945	0.016	0.943	0.018	0.942
Ultra lightweight aggregate	0.31	0.014	0.946	0.016	0.944	0.018	0.942
Lightweight aggregate	0.50	0.014	0.946	0.016	0.944	0.017	0.943

Table Ref: E4a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Frame overlap at least 30mm
- ☐ Cavity closed with insulation with ≤ 0.026 W/mK
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the reveal

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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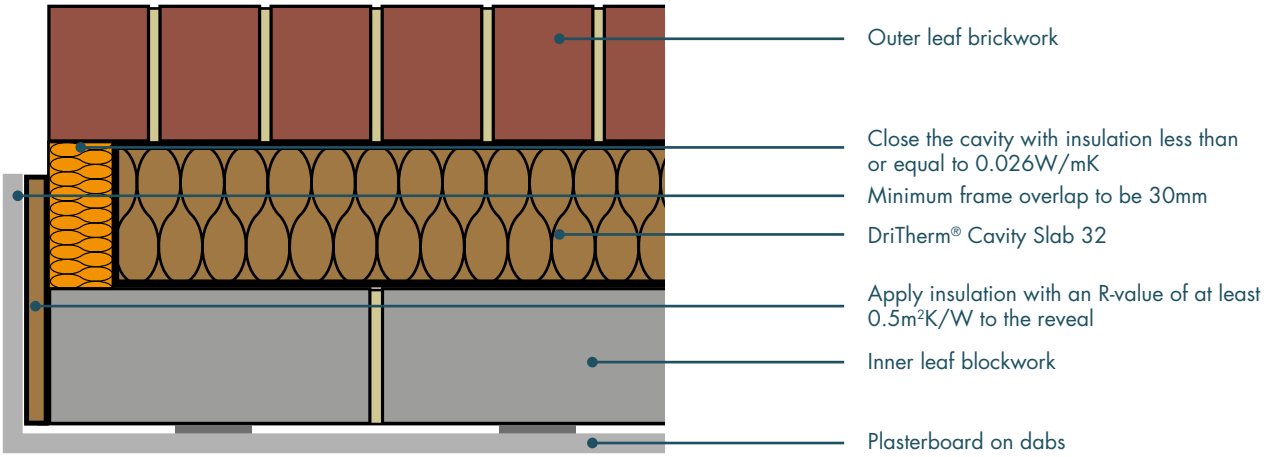
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E4- Window jamb

Ref:	KI_PSI_E4_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The jamb is lined with 10mm of insulation with conductivity 0.022 W/mK, covered with 12.5mm of plasterboard with conductivity 0.19 W/mK.
The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK.
The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.016	0.944	0.018	0.943	0.020	0.942
Standard aircrete	0.15	0.015	0.945	0.017	0.943	0.019	0.942
High strength aircrete	0.19	0.015	0.945	0.017	0.944	0.019	0.942
Ultra lightweight aggregate	0.31	0.015	0.946	0.016	0.944	0.018	0.943
Lightweight aggregate	0.50	0.014	0.946	0.015	0.944	0.018	0.943

Table Ref: E4b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Frame overlap at least 30mm
- ☐ Cavity closed with insulation with ≤ 0.026 W/mK
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the reveal

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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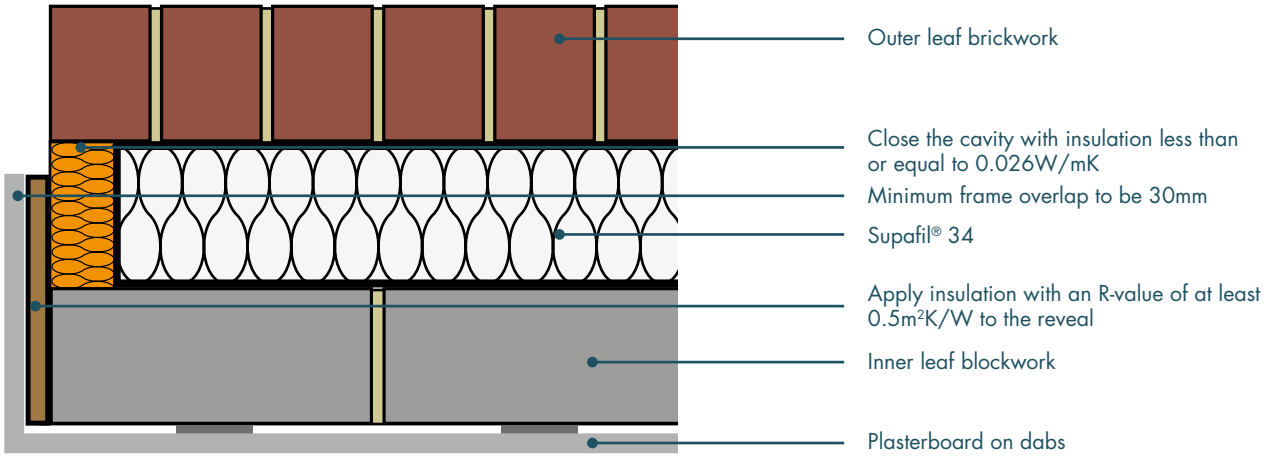
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E4- Window jamb

Ref:	KI_PSI_E4_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The jamb is lined with 10mm of insulation with conductivity 0.022 W/mK, covered with 12.5mm of plasterboard with conductivity 0.19 W/mK.
The cavity closer is 45mm high, consisting of insulation with conductivity 0.022 W/mK, within 2mm of PVC with conductivity 0.20 W/mK.
The adiabatic frame is 70mm wide and the distance from the face of the brick to the frame is 60mm.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.016	0.944	0.017	0.943	0.019	0.942
Standard aircrete	0.15	0.015	0.945	0.017	0.943	0.019	0.942
High strength aircrete	0.19	0.015	0.945	0.016	0.943	0.018	0.942
Ultra lightweight aggregate	0.31	0.014	0.946	0.016	0.944	0.018	0.942
Lightweight aggregate	0.50	0.014	0.946	0.016	0.944	0.017	0.943

Table Ref: E4a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Frame overlap at least 30mm
- ☐ Cavity closed with insulation with ≤ 0.026 W/mK
- ☐ Insulation with an R-value of at least 0.5 m^2K/W applied to the reveal

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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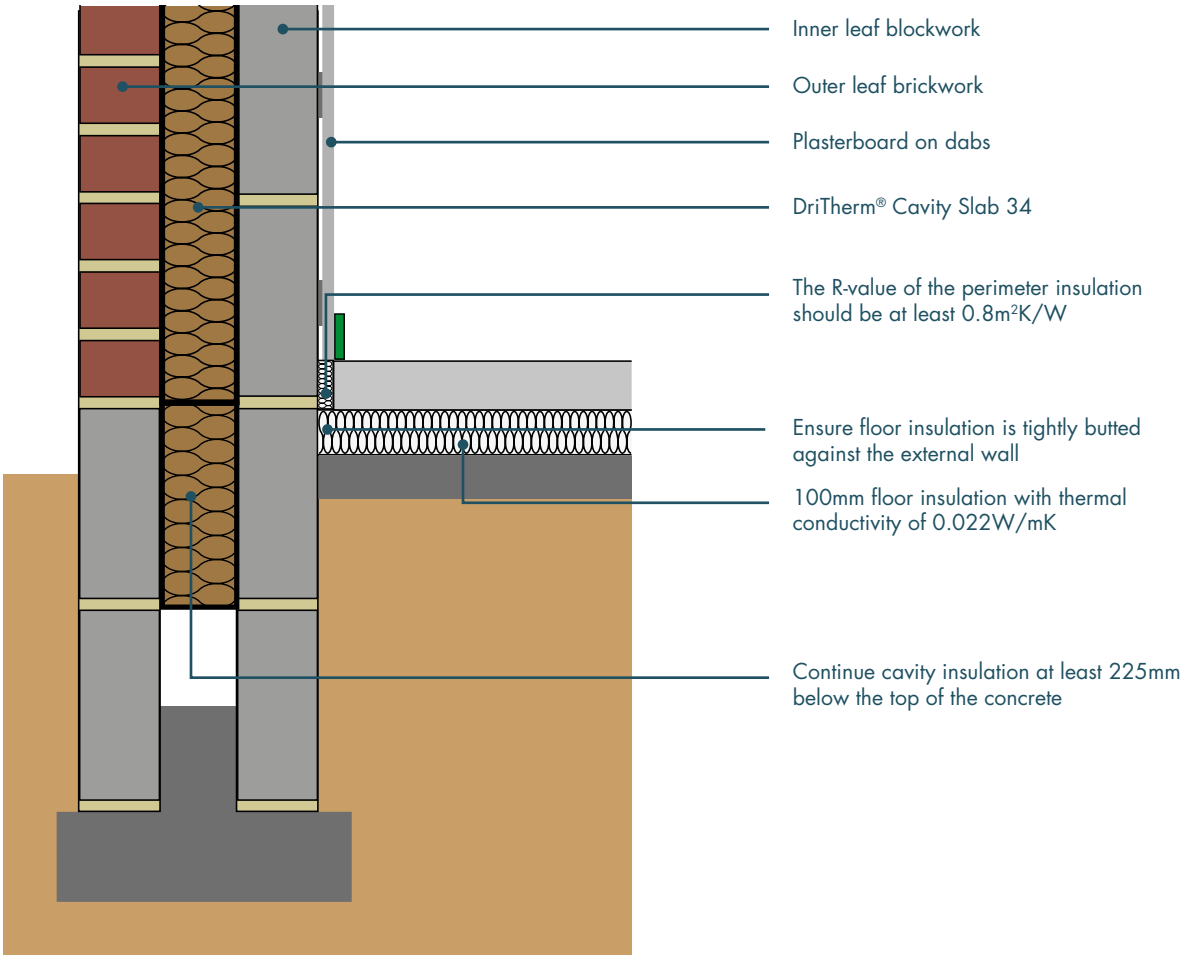
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E5A - Slab on ground floor

Ref:	KI_PSI_E5A_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.146 W/m²K

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.037	0.940	0.034	0.943	0.033	0.944
Standard aircrete	0.15	0.045	0.938	0.042	0.940	0.041	0.942
High strength aircrete	0.19	0.051	0.936	0.049	0.938	0.048	0.940
Ultra lightweight aggregate	0.31	0.069	0.932	0.067	0.934	0.066	0.936
Lightweight aggregate	0.50	0.091	0.928	0.090	0.931	0.088	0.933

Table Ref: ESAa

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Perimeter insulation with a resistance of at least 0.8 W/m²K installed
- ☐ Floor insulation is tightly butted against the external wall
- ☐ Cavity insulation continues at least 225mm below the top of the concrete

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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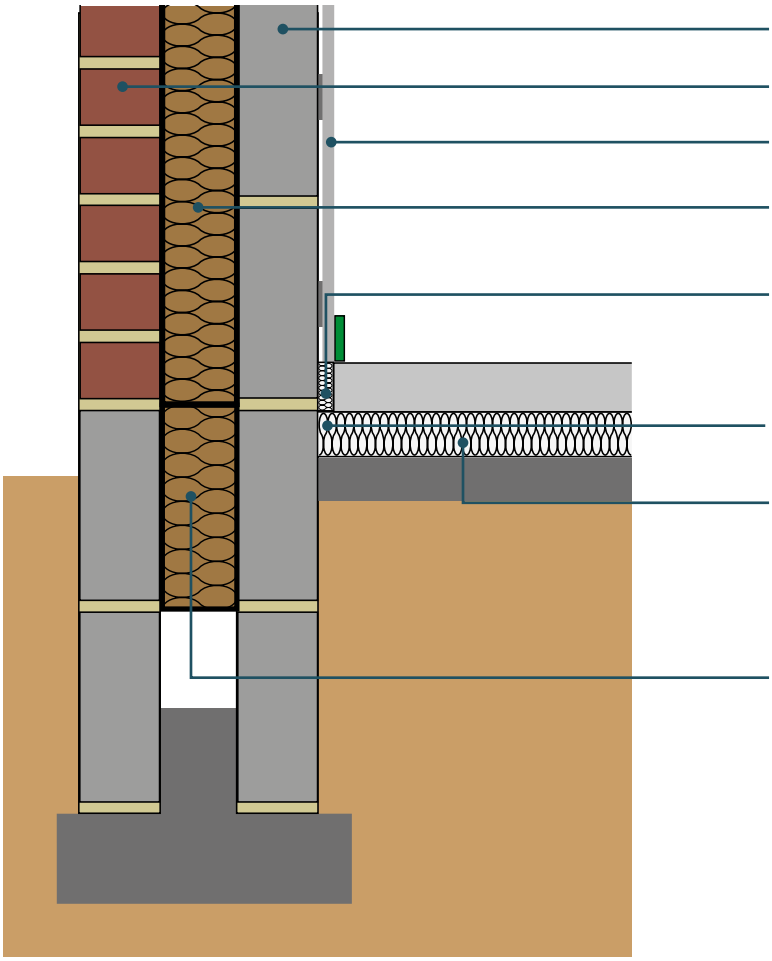
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E5A - Slab on ground floor

Ref:	KI_PSI_E5A_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.146 W/m²K

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.037	0.941	0.035	0.943	0.033	0.945
Standard aircrete	0.15	0.044	0.938	0.042	0.941	0.041	0.942
High strength aircrete	0.19	0.051	0.936	0.049	0.939	0.048	0.940
Ultra lightweight aggregate	0.31	0.069	0.932	0.067	0.935	0.065	0.936
Lightweight aggregate	0.50	0.092	0.929	0.090	0.931	0.089	0.933

Table Ref: ESAb

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Perimeter insulation with a resistance of at least 0.8 W/m²K installed
- ☐ Floor insulation is tightly butted against the external wall
- ☐ Cavity insulation continues at least 225mm below the top of the concrete

Site manager/supervisor:

Site name:

Plot number:

Date:

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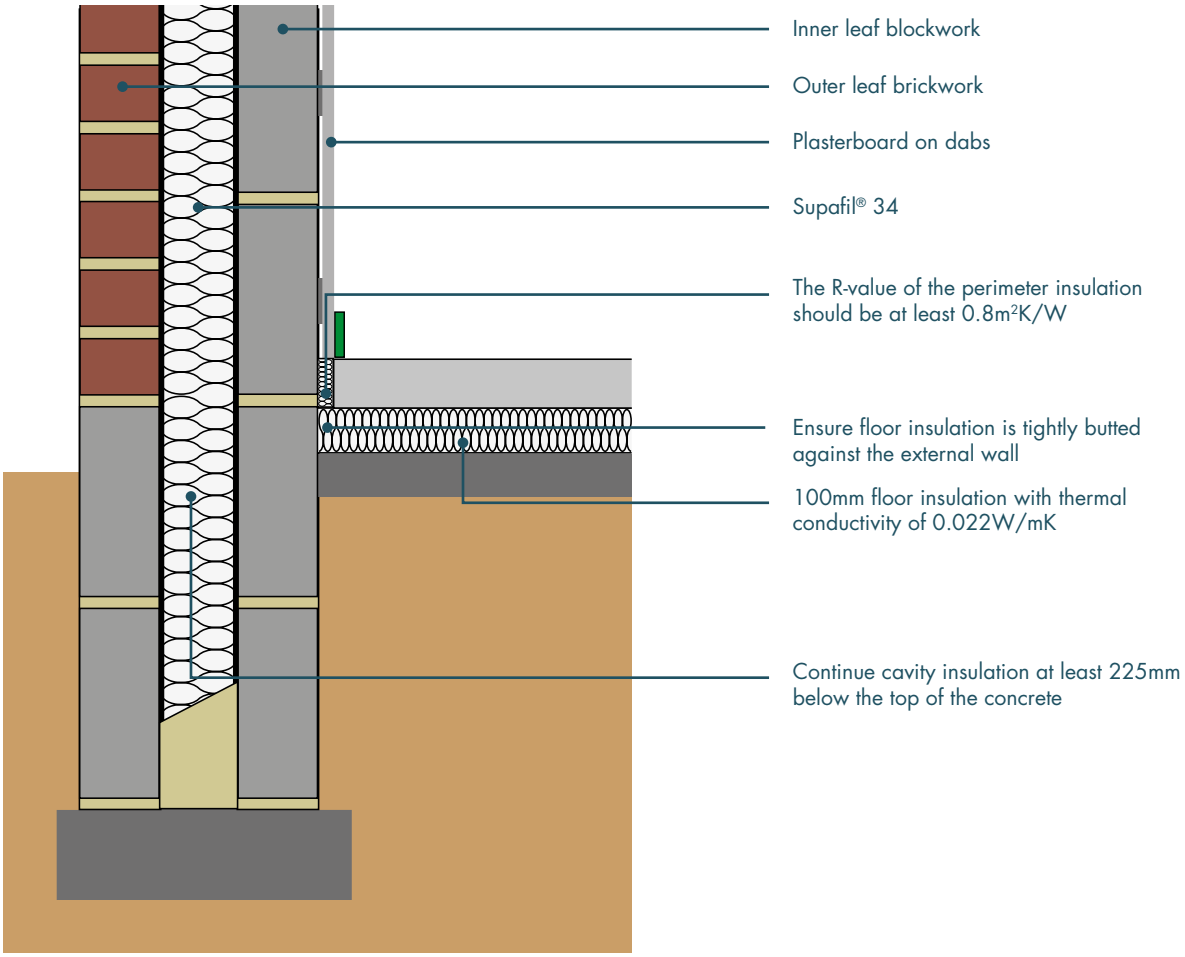
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E5A - Slab on ground floor

Ref:	KI_PSI_E5A_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.146 W/m²K

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.037	0.940	0.034	0.943	0.033	0.944
Standard aircrete	0.15	0.045	0.938	0.042	0.940	0.041	0.942
High strength aircrete	0.19	0.051	0.936	0.049	0.938	0.048	0.940
Ultra lightweight aggregate	0.31	0.069	0.932	0.067	0.934	0.066	0.936
Lightweight aggregate	0.50	0.091	0.928	0.090	0.931	0.088	0.933

Table Ref: ESAa

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Perimeter insulation with a resistance of at least 0.8 W/m²K installed
- ☐ Floor insulation is tightly butted against the external wall
- ☐ Cavity insulation continues at least 225mm below the top of the concrete

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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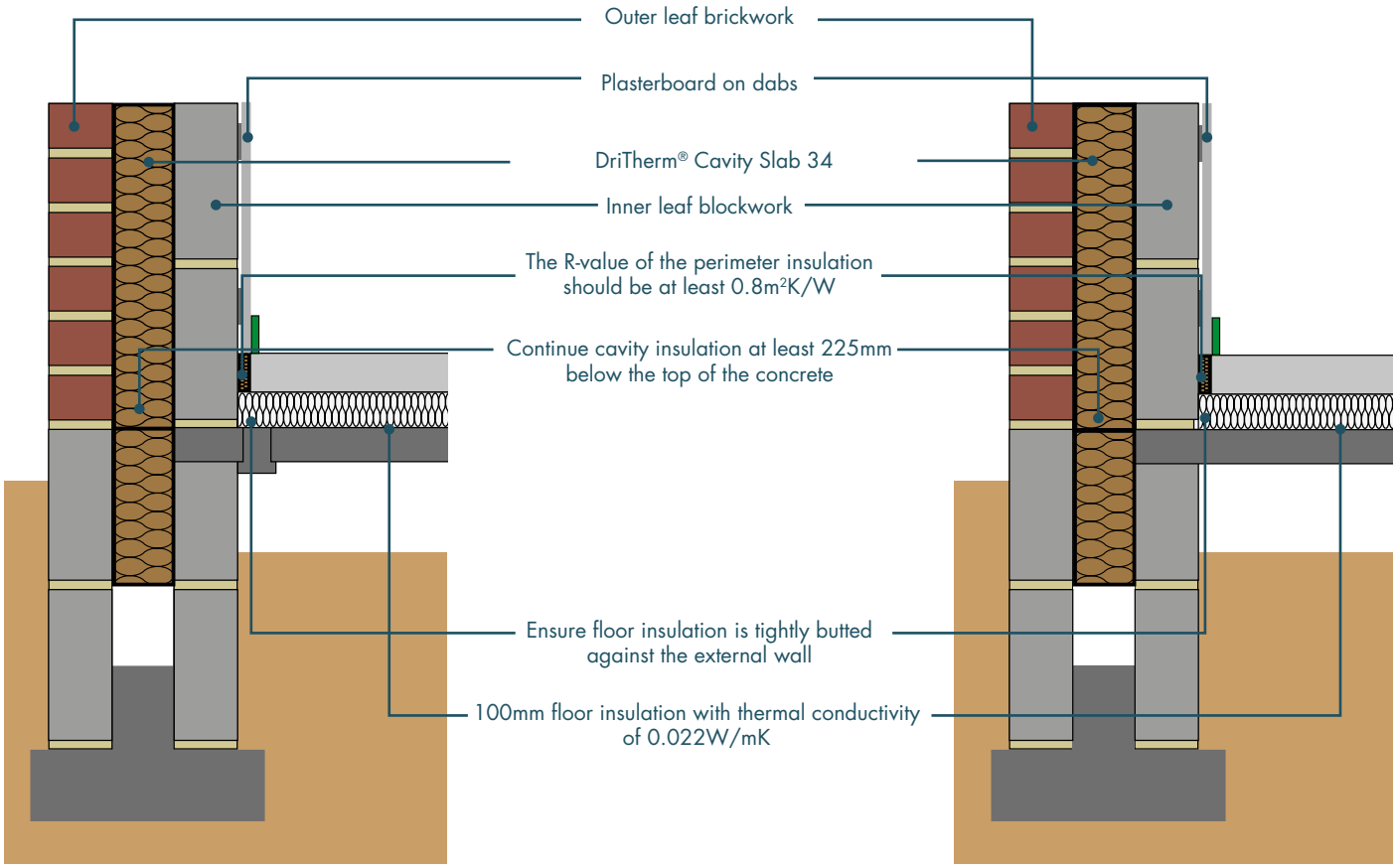
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E5B - Beam and block floor

Ref:	KI_PSI_E5B_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		

There are two cases, with beams parallel to and perpendicular to the wall. The resultant y-values and f-values can be averaged to provide values for the floor.



Only the beam closest to the wall is included as the others contribute to the U-value of the real floor.
The modelling ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.150 W/m²K.
The modelling ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.150 W/m²K

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

Average or parallel and perpendicular		**For DriTherm® Cavity Slab 34**					
		100mm cavity		**125mm cavity**		**150mm cavity**	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.022	0.942	0.023	0.944	0.023	0.945
Standard aircrete	0.15	0.030	0.939	0.030	0.941	0.030	0.943
High strength aircrete	0.19	0.036	0.937	0.036	0.939	0.037	0.941
Ultra lightweight aggregate	0.31	0.053	0.934	0.054	0.936	0.055	0.938
Lightweight aggregate	0.50	0.074	0.931	0.076	0.933	0.077	0.935

Table Ref: E5Ba3
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.

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Perimeter insulation with R-value of at least 0.80 m^2K/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: .....

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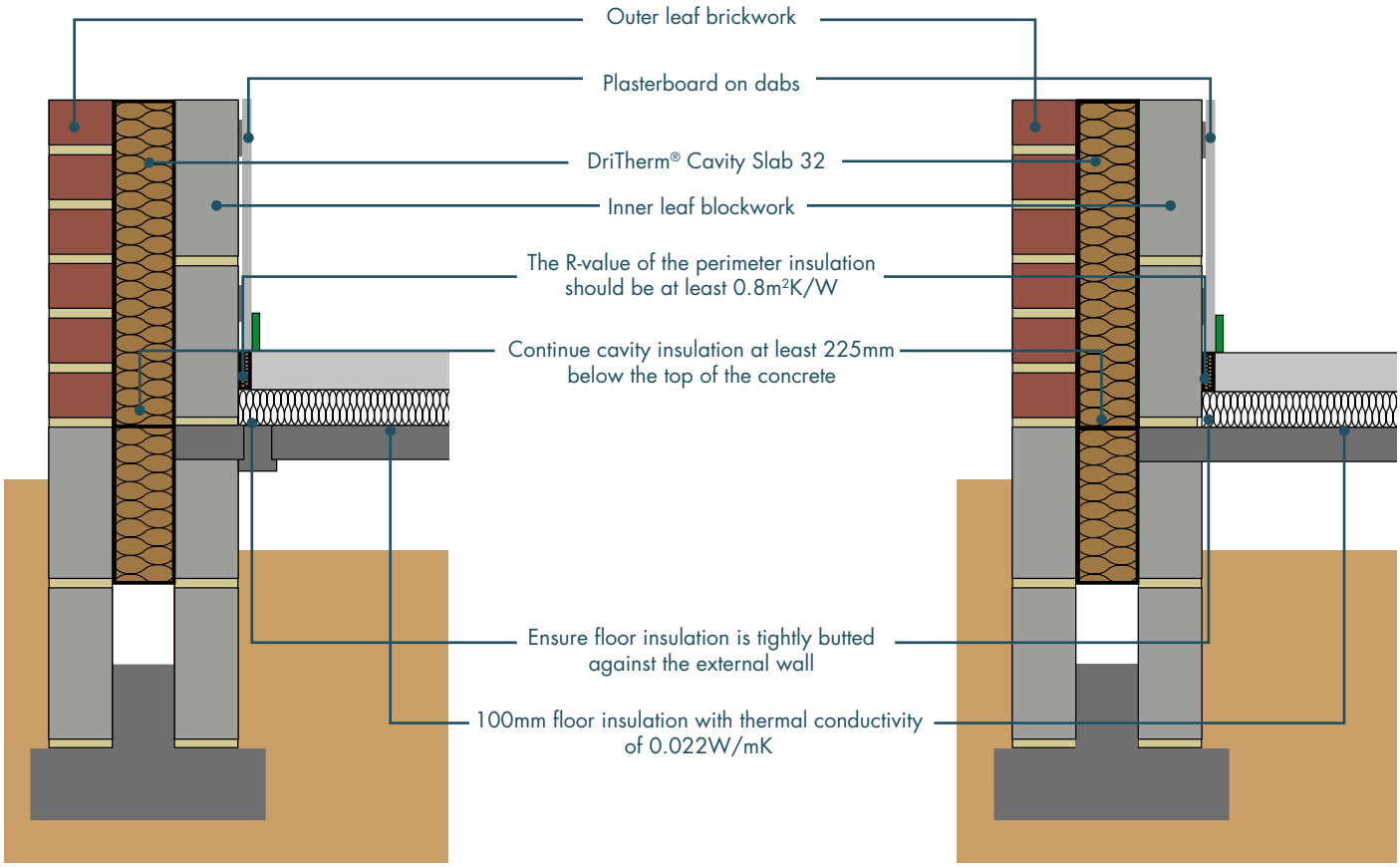
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E5B - Beam and block floor

Ref:	KI_PSI_E5B_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		

There are two cases, with beams parallel to and perpendicular to the wall. The resultant y-values and f-values can be averaged to provide values for the floor.



Only the beam closest to the wall is included as the others contribute to the U-value of the real floor.
The modelling ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.150 W/m²K.
The modelling ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.150 W/m²K

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

Average or parallel and perpendicular		**For DriTherm® Cavity Slab 32**					
		100mm cavity		**125mm cavity**		**150mm cavity**	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.022	0.942	0.022	0.944	0.023	0.946
Standard aircrete	0.15	0.030	0.940	0.030	0.942	0.031	0.943
High strength aircrete	0.19	0.036	0.938	0.037	0.940	0.037	0.941
Ultra lightweight aggregate	0.31	0.053	0.934	0.054	0.937	0.055	0.938
Lightweight aggregate	0.50	0.075	0.932	0.076	0.934	0.077	0.935

Table Ref: ESBb3
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.

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Perimeter insulation with R-value of at least 0.80 m^2K/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: .....

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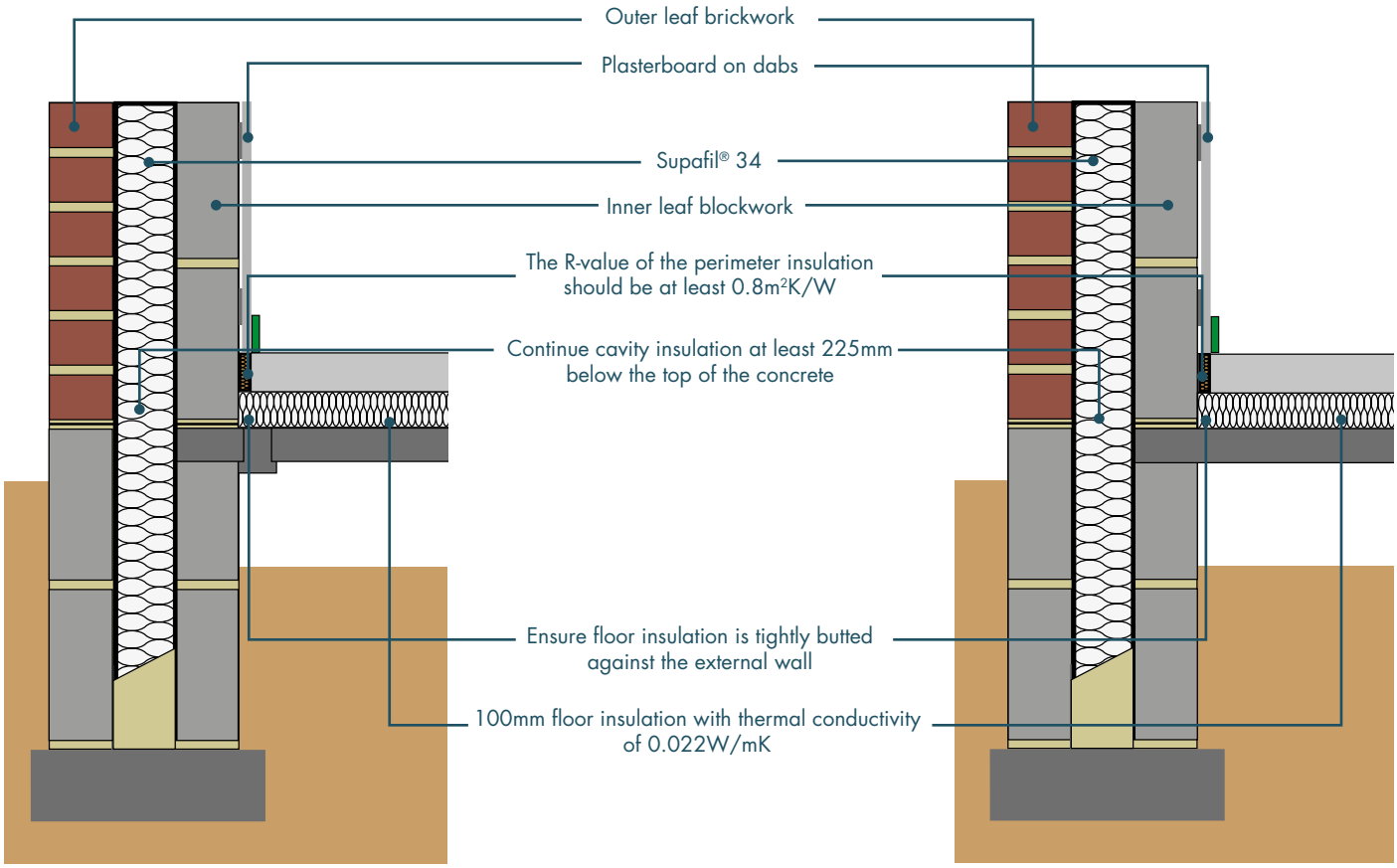
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E5B - Beam and block floor

Ref:	KI_PSI_E5B_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		

There are two cases, with beams parallel to and perpendicular to the wall. The resultant y-values and f-values can be averaged to provide values for the floor.



Only the beam closest to the wall is included as the others contribute to the U-value of the real floor.
The modelling ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.150 W/m²K.
The modelling ground floor U-value is found from the BRE U-value calculator with P =1m and A = 4m². Ufloor = 0.150 W/m²K

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

Average or parallel and perpendicular		**For Supafil® 34**					
		100mm cavity		**125mm cavity**		**150mm cavity**	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.022	0.942	0.023	0.944	0.023	0.945
Standard aircrete	0.15	0.030	0.939	0.030	0.941	0.030	0.943
High strength aircrete	0.19	0.036	0.937	0.036	0.939	0.037	0.941
Ultra lightweight aggregate	0.31	0.053	0.934	0.054	0.936	0.055	0.938
Lightweight aggregate	0.50	0.074	0.931	0.076	0.933	0.077	0.935

Table Ref: ESBa3
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.

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Perimeter insulation with R-value of at least 0.80 m^2K/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: .....

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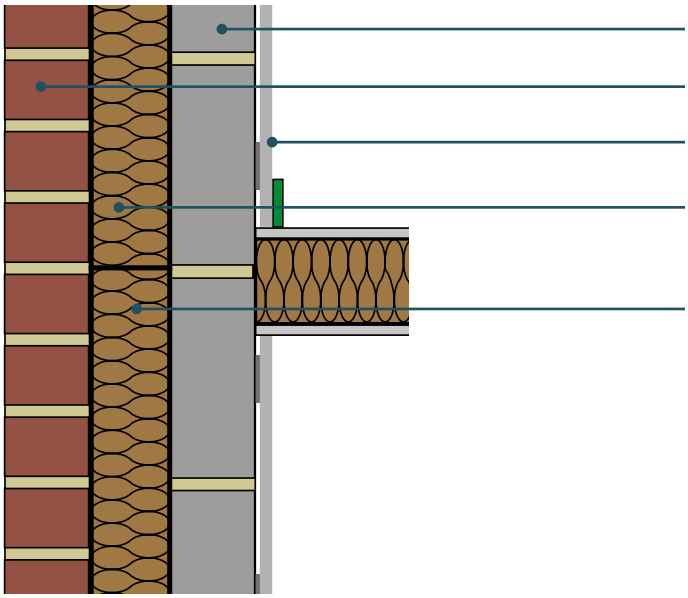
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E6 - Intermediate floor within a dwelling

Ref:	KI_PSI_E6_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.003	0.968	0.002	0.973	0.002	0.976
Standard aircrete	0.15	0.004	0.967	0.002	0.972	0.002	0.976
High strength aircrete	0.19	0.005	0.966	0.002	0.972	0.002	0.976
Ultra lightweight aggregate	0.31	0.005	0.966	0.004	0.971	0.003	0.975
Lightweight aggregate	0.50	0.006	0.965	0.004	0.971	0.003	0.975

Table Ref: E6a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Wall insulation continuous across the floor zone

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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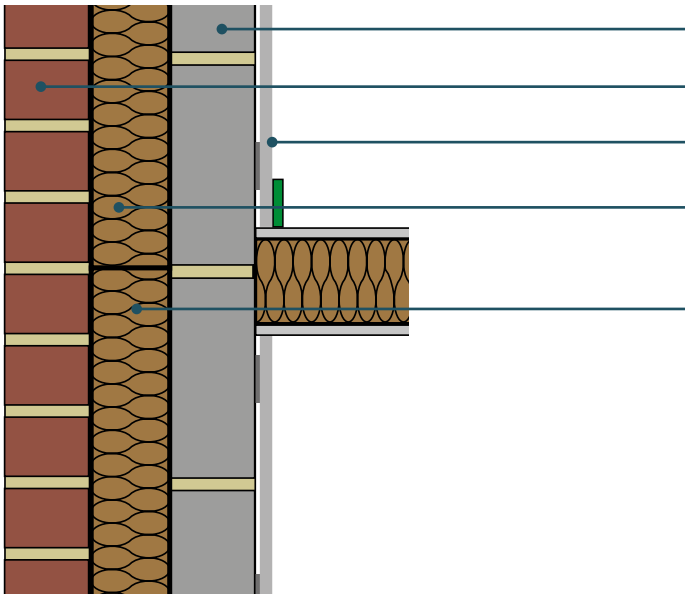
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E6 - Intermediate floor within a dwelling

Ref:	KI_PSI_E6_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.003	0.970	0.002	0.974	0.002	0.977
Standard aircrete	0.15	0.003	0.968	0.002	0.973	0.002	0.977
High strength aircrete	0.19	0.003	0.968	0.003	0.973	0.002	0.977
Ultra lightweight aggregate	0.31	0.005	0.967	0.003	0.973	0.002	0.977
Lightweight aggregate	0.50	0.005	0.966	0.004	0.972	0.003	0.976

Table Ref: E6b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Wall insulation continuous across the floor zone

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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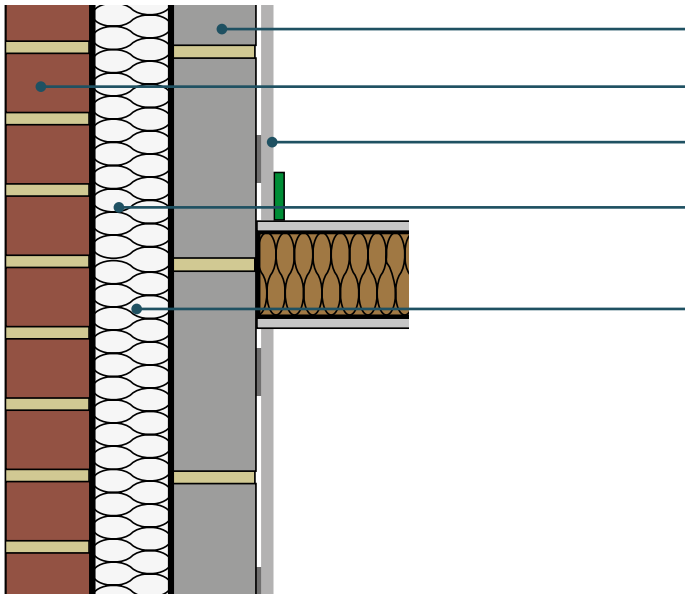
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E6 - Intermediate floor within a dwelling

Ref:	KI_PSI_E6_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.003	0.968	0.002	0.973	0.002	0.976
Standard aircrete	0.15	0.004	0.967	0.002	0.972	0.002	0.976
High strength aircrete	0.19	0.005	0.966	0.002	0.972	0.002	0.976
Ultra lightweight aggregate	0.31	0.005	0.966	0.004	0.971	0.003	0.975
Lightweight aggregate	0.50	0.006	0.965	0.004	0.971	0.003	0.975

Table Ref: E6a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Wall insulation continuous across the floor zone

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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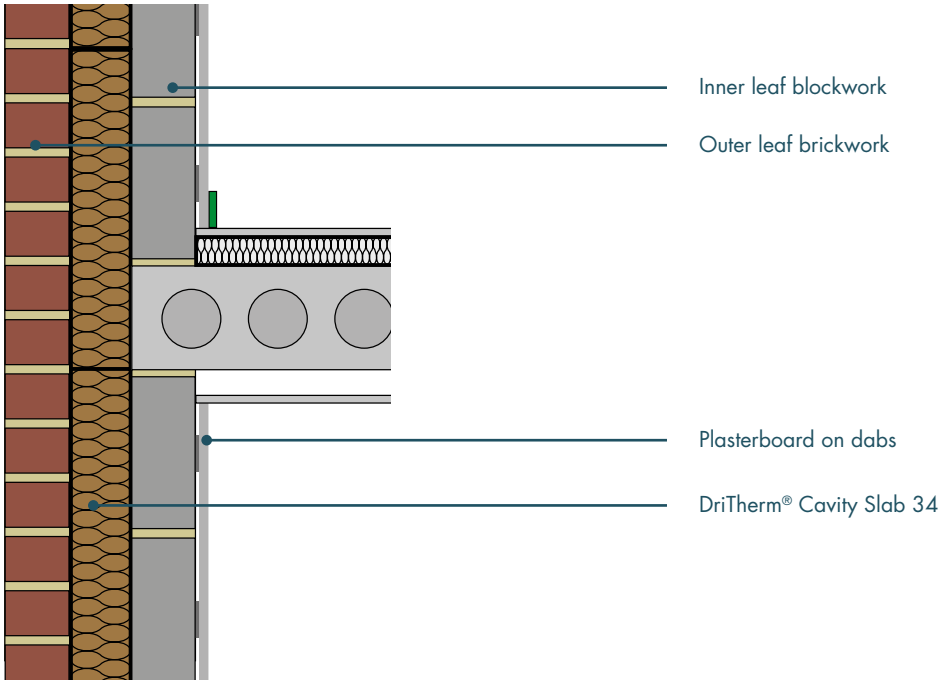
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E7 - Separating floor between dwellings

Ref:	KI_PSI_E7_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.046	0.478	0.038	0.482	0.033	0.484
Standard aircrete	0.15	0.047	0.477	0.039	0.481	0.033	0.484
High strength aircrete	0.19	0.047	0.477	0.039	0.481	0.033	0.483
Ultra lightweight aggregate	0.31	0.048	0.476	0.040	0.480	0.034	0.483
Lightweight aggregate	0.50	0.049	0.475	0.040	0.479	0.034	0.482

Table Ref: E7a

* ψ-values shown above are applicable to each dwelling on either side of the floor.

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Continue the wall insulation to abut the fire stop, where used
- ☐ Proprietary fire stop to be the same W/mK as external wall insulation, where used

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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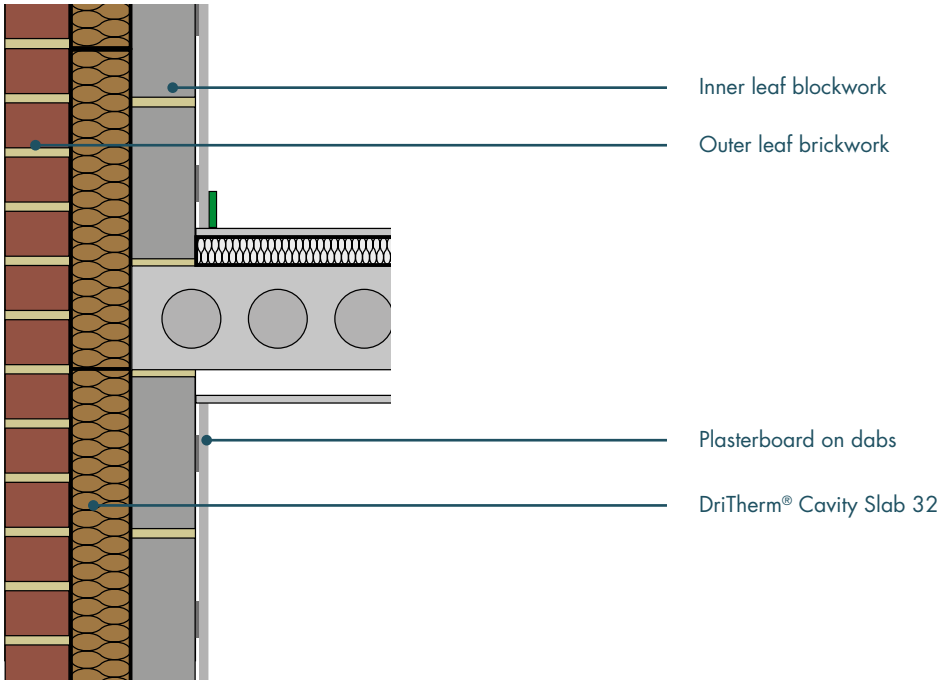
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E7 - Separating floor between dwellings

Ref:	KI_PSI_E7_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.044	0.479	0.036	0.482	0.031	0.485
Standard aircrete	0.15	0.044	0.478	0.037	0.482	0.032	0.485
High strength aircrete	0.19	0.045	0.478	0.037	0.482	0.032	0.484
Ultra lightweight aggregate	0.31	0.046	0.477	0.037	0.481	0.032	0.484
Lightweight aggregate	0.50	0.046	0.476	0.038	0.480	0.033	0.483

Table Ref: E7b

* ψ-values shown above are applicable to each dwelling on either side of the floor.

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Continue the wall insulation to abut the fire stop, where used
- ☐ Proprietary fire stop to be the same W/mK as external wall insulation, where used

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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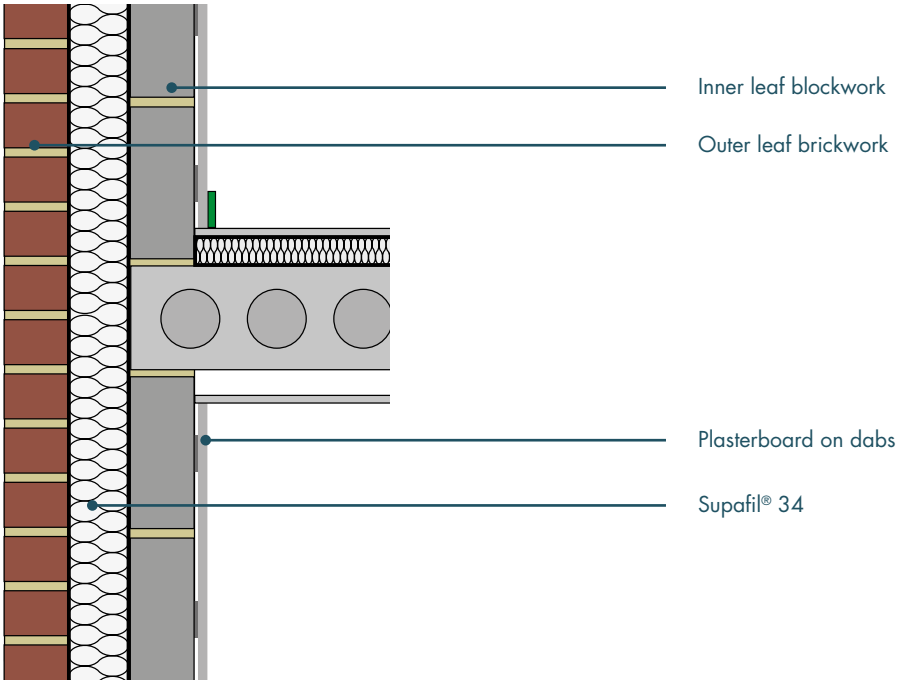
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E7 - Separating floor between dwellings

Ref:	KI_PSI_E7_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.046	0.478	0.038	0.482	0.033	0.484
Standard aircrete	0.15	0.047	0.477	0.039	0.481	0.033	0.484
High strength aircrete	0.19	0.047	0.477	0.039	0.481	0.033	0.483
Ultra lightweight aggregate	0.31	0.048	0.476	0.040	0.480	0.034	0.483
Lightweight aggregate	0.50	0.049	0.475	0.040	0.479	0.034	0.482

Table Ref: E7a

* ψ-values shown above are applicable to each dwelling on either side of the floor.

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Continue the wall insulation to abut the fire stop, where used
- ☐ Proprietary fire stop to be the same W/mK as external wall insulation, where used

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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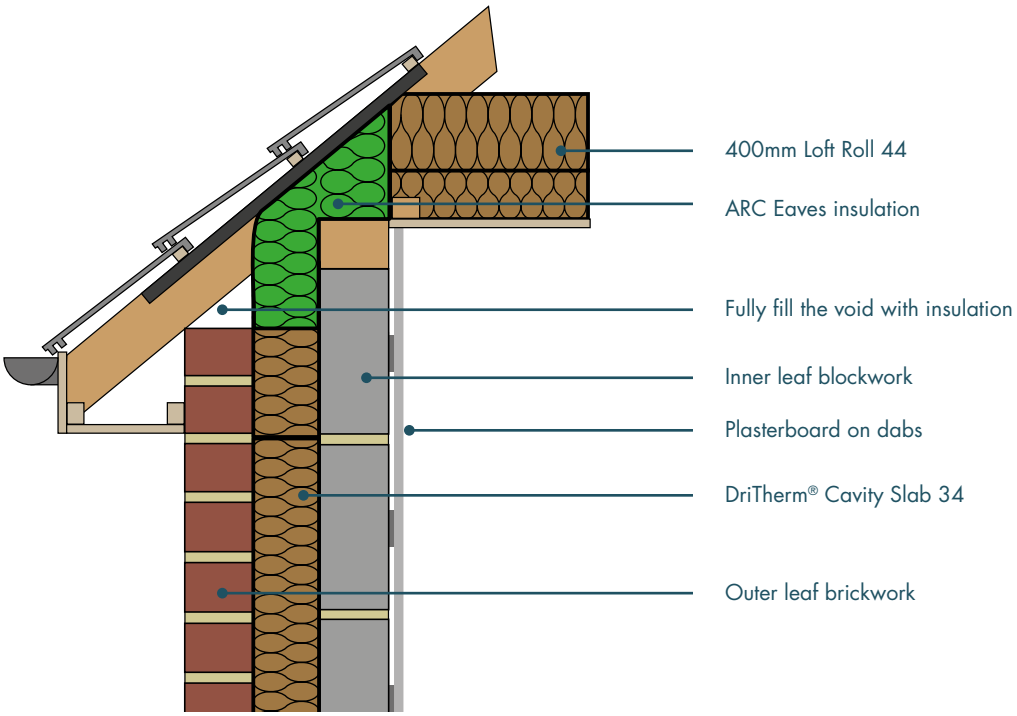
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E10 - Eaves insulation at ceiling level (roof slope 35°)

Ref:	KI_PSI_E10_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.061	0.927	0.071	0.927	0.079	0.927
Standard aircrete	0.15	0.061	0.929	0.073	0.928	0.082	0.928
High strength aircrete	0.19	0.062	0.930	0.075	0.930	0.084	0.930
Ultra lightweight aggregate	0.31	0.063	0.932	0.077	0.933	0.087	0.933
Lightweight aggregate	0.50	0.064	0.934	0.079	0.935	0.090	0.935

Table Ref: E10a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ ARC Eaves Insulator
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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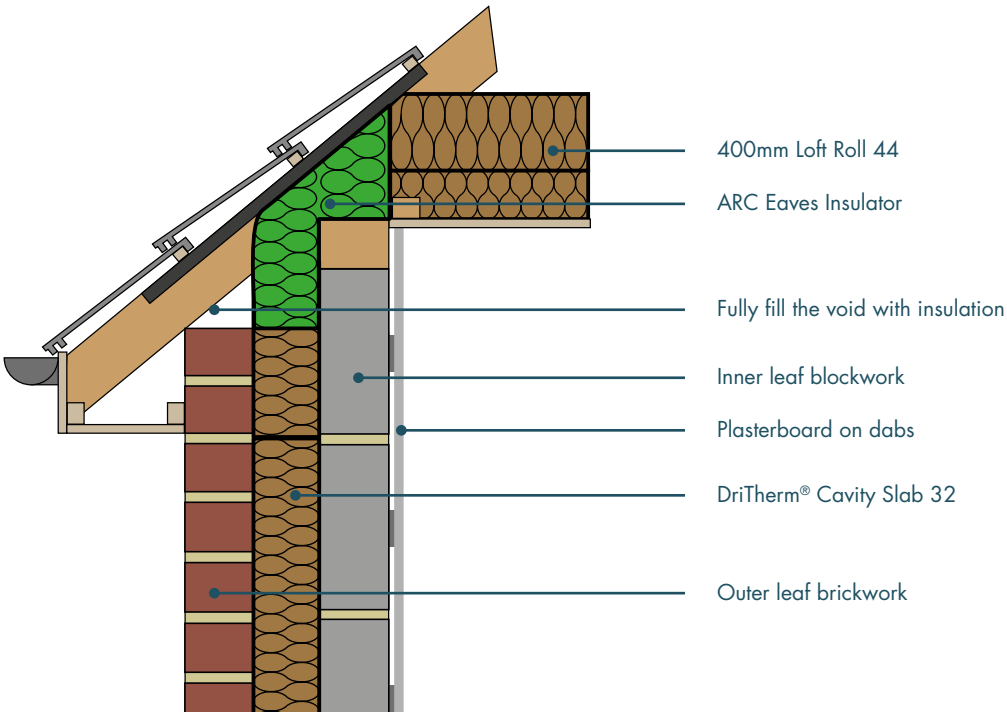
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E10 - Eaves insulation at ceiling level (roof slope 35°)

Ref:	KI_PSI_E10_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.063	0.927	0.073	0.927	0.927	0.924
Standard aircrete	0.15	0.064	0.929	0.075	0.929	0.084	0.929
High strength aircrete	0.19	0.065	0.930	0.077	0.930	0.086	0.930
Ultra lightweight aggregate	0.31	0.067	0.932	0.080	0.933	0.090	0.933
Lightweight aggregate	0.50	0.068	0.934	0.082	0.935	0.935	0.927

Table Ref: E10b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ ARC Eaves Insulator
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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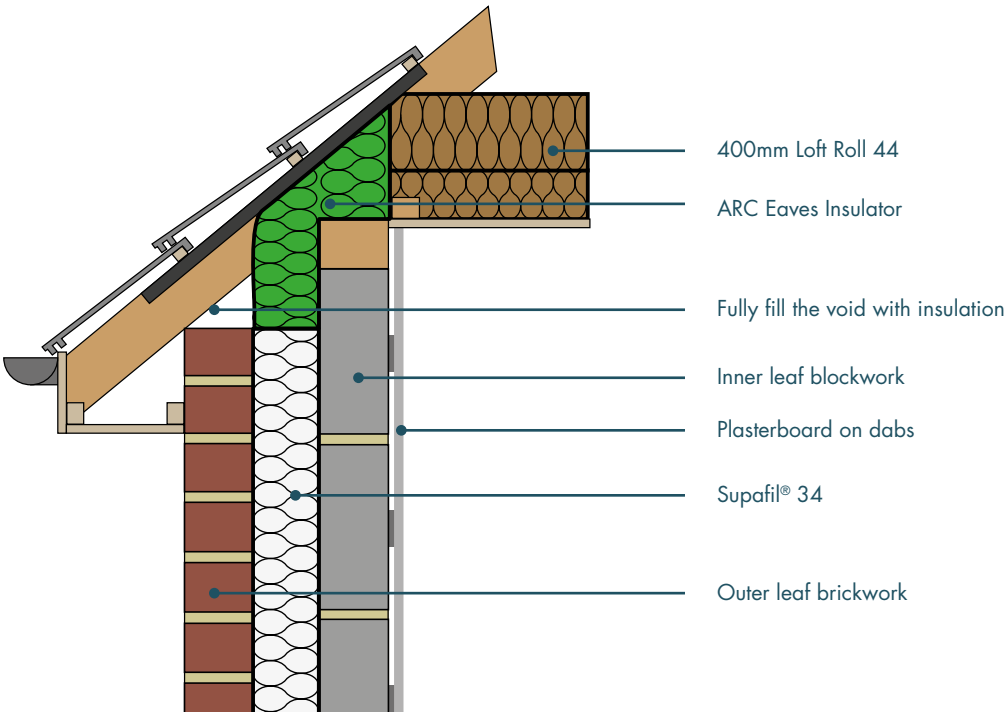
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E10 - Eaves insulation at ceiling level (roof slope 35°)

Ref:	KI_PSI_E10_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.061	0.927	0.071	0.927	0.079	0.927
Standard aircrete	0.15	0.061	0.929	0.073	0.928	0.082	0.928
High strength aircrete	0.19	0.062	0.930	0.075	0.930	0.084	0.930
Ultra lightweight aggregate	0.31	0.063	0.932	0.077	0.933	0.087	0.933
Lightweight aggregate	0.50	0.064	0.934	0.079	0.935	0.090	0.935

Table Ref: E10a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ ARC Eaves Insulator
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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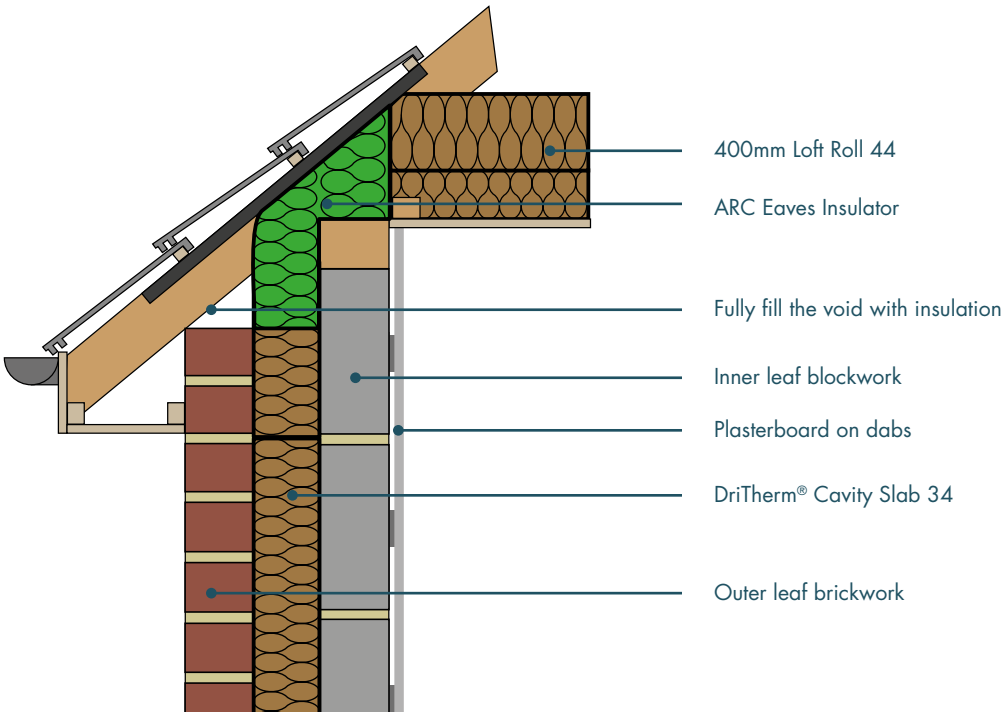
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E10 - Eaves insulation at ceiling level (roof slope 35°)

Ref:	KI_PSI_E10_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.061	0.927	0.071	0.927	0.079	0.927
Standard aircrete	0.15	0.061	0.929	0.073	0.929	0.082	0.929
High strength aircrete	0.19	0.062	0.930	0.075	0.930	0.084	0.930
Ultra lightweight aggregate	0.31	0.063	0.932	0.077	0.933	0.087	0.933
Lightweight aggregate	0.50	0.064	0.934	0.079	0.935	0.090	0.935

Table Ref: E10a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Continuity of insulation between the loft and the external wall using ARC Eaves Insulator
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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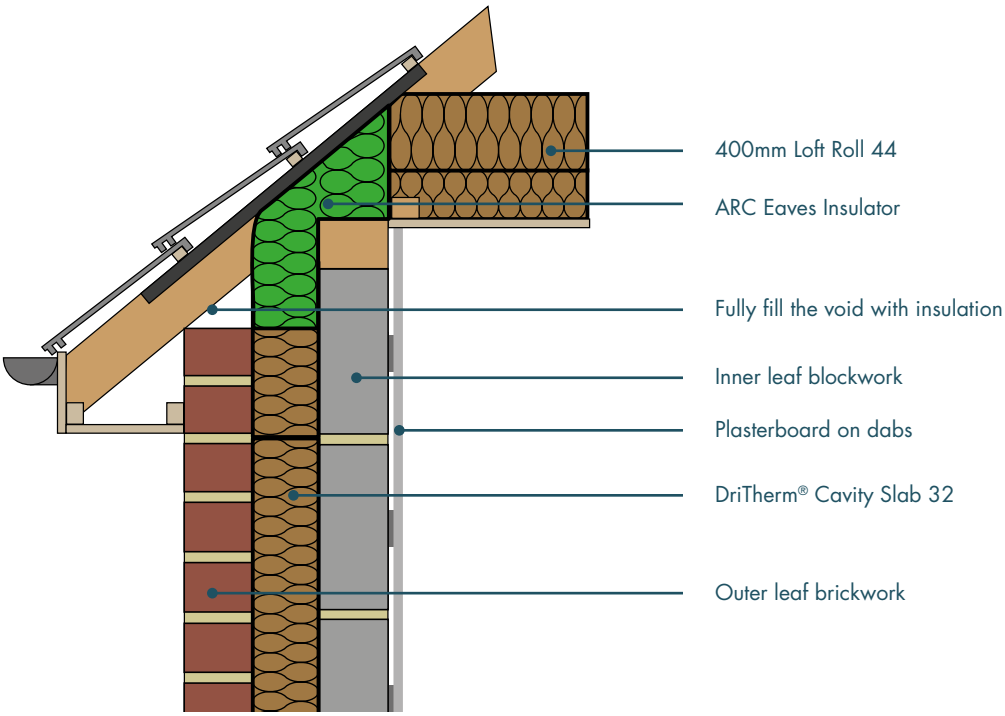
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E10 - Eaves insulation at ceiling level (roof slope 35°)

Ref:	KI_PSI_E10_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.063	0.927	0.073	0.927	0.081	0.927
Standard aircrete	0.15	0.064	0.929	0.075	0.929	0.084	0.929
High strength aircrete	0.19	0.065	0.930	0.077	0.930	0.086	0.930
Ultra lightweight aggregate	0.31	0.067	0.932	0.080	0.933	0.090	0.933
Lightweight aggregate	0.50	0.068	0.934	0.082	0.935	0.092	0.935

Table Ref: E10b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Continuity of insulation between the loft and the external wall using ARC Eaves Insulator
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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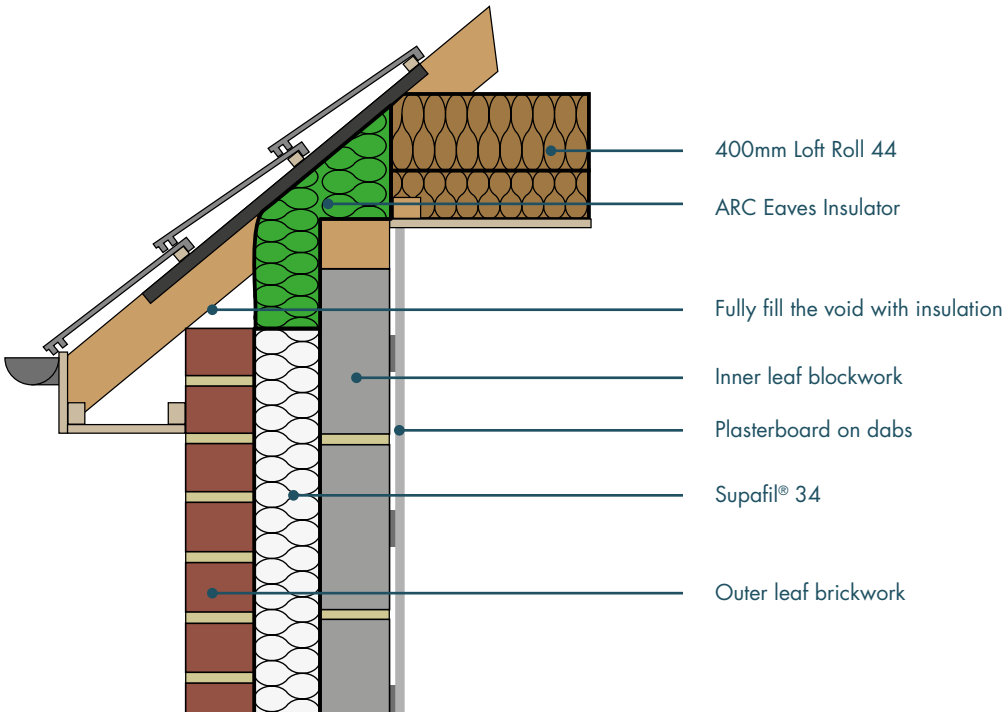
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E10 - Eaves insulation at ceiling level (roof slope 35°)

Ref:	KI_PSI_E10_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.061	0.927	0.071	0.927	0.079	0.927
Standard aircrete	0.15	0.061	0.929	0.073	0.929	0.082	0.929
High strength aircrete	0.19	0.062	0.930	0.075	0.930	0.084	0.930
Ultra lightweight aggregate	0.31	0.063	0.932	0.077	0.933	0.087	0.933
Lightweight aggregate	0.50	0.064	0.934	0.079	0.935	0.090	0.935

Table Ref: E10a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Continuity of insulation between the loft and the external wall using ARC Eaves Insulator
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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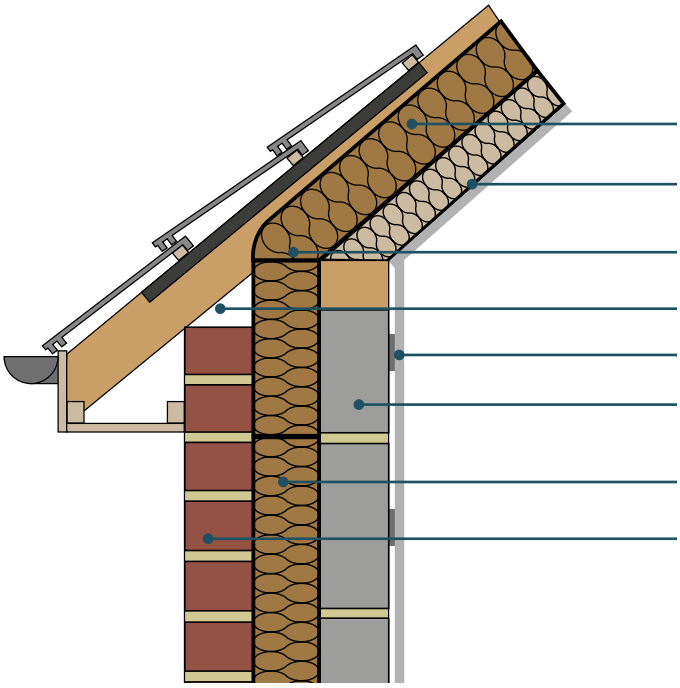
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E11 - Eaves insulation at rafter level

Ref:	KI_PSI_E11_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



As TRISCO does not model diagonal components, the Physibel software SOLIDO was used. The roof U-value was determined by a TRISCO model.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.010	0.950	0.016	0.951	0.020	0.951
Standard aircrete	0.15	0.009	0.951	0.015	0.952	0.020	0.953
High strength aircrete	0.19	0.008	0.952	0.015	0.953	0.020	0.954
Ultra lightweight aggregate	0.31	0.008	0.954	0.015	0.955	0.020	0.956
Lightweight aggregate	0.50	0.008	0.955	0.015	0.957	0.020	0.957

Table Ref: E11a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Continuity of insulation between the roof and external wall
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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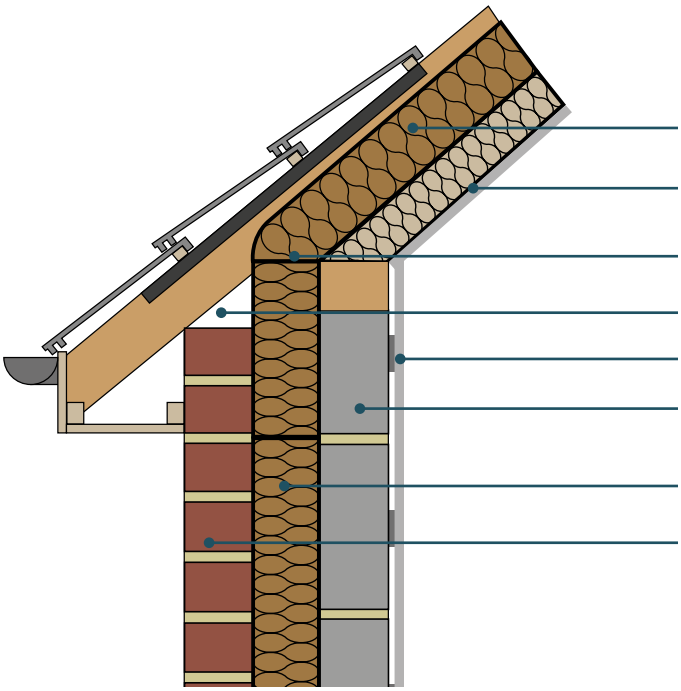
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E11 - Eaves insulation at rafter level

Ref:	KI_PSI_E11_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



As TRISCO does not model diagonal components, the Physibel software SOLIDO was used. The roof U-value was determined by a TRISCO model.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.011	0.952	0.017	0.951	0.021	0.952
Standard aircrete	0.15	0.010	0.953	0.017	0.952	0.020	0.953
High strength aircrete	0.19	0.010	0.954	0.016	0.953	0.021	0.954
Ultra lightweight aggregate	0.31	0.009	0.955	0.016	0.955	0.021	0.956
Lightweight aggregate	0.50	0.009	0.957	0.016	0.957	0.021	0.958

Table Ref: E11b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Continuity of insulation between the roof and external wall
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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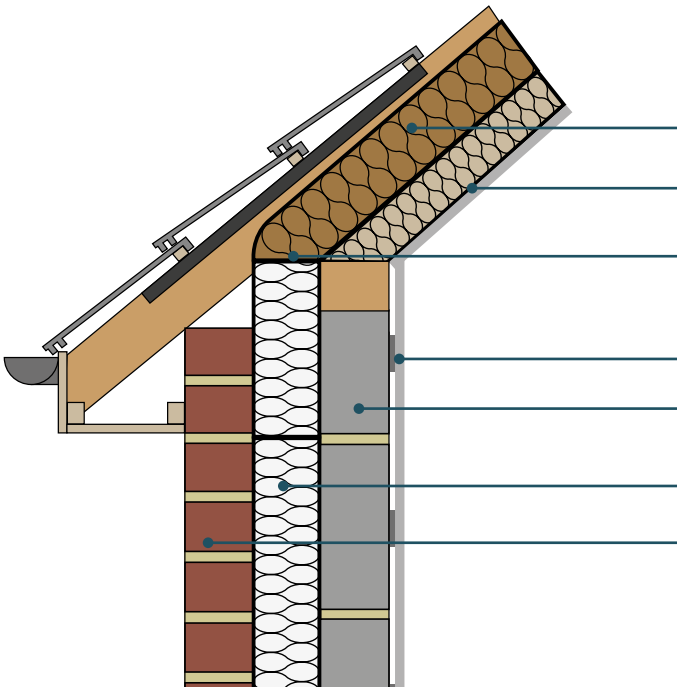
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E11 - Eaves insulation at rafter level

Ref:	KI_PSI_E11_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



As TRISCO does not model diagonal components, the Physibel software SOLIDO was used. The roof U-value was determined by a TRISCO model.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.010	0.950	0.016	0.951	0.020	0.951
Standard aircrete	0.15	0.009	0.951	0.015	0.952	0.020	0.953
High strength aircrete	0.19	0.008	0.952	0.015	0.953	0.020	0.954
Ultra lightweight aggregate	0.31	0.008	0.954	0.015	0.955	0.020	0.956
Lightweight aggregate	0.50	0.008	0.955	0.015	0.957	0.020	0.957

Table Ref: E11a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Continuity of insulation between the roof and external wall
- ☐ Fully fill the void with insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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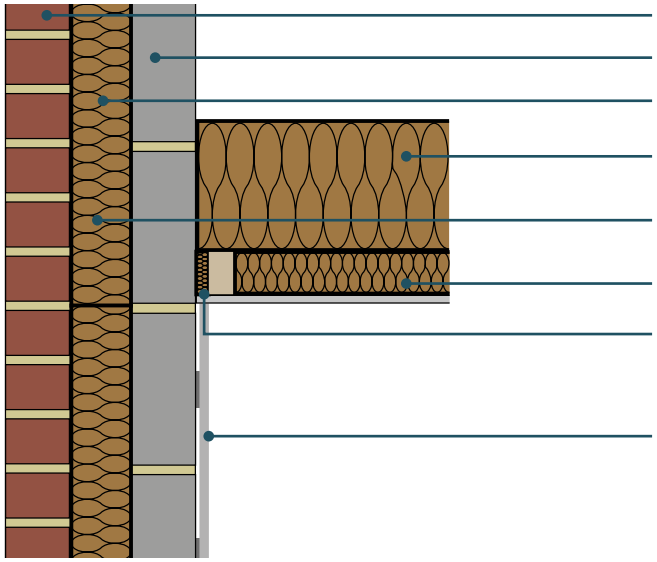
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E12 - Gable insulation at ceiling level

Ref:	KI_PSI_E12_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



As TRISCO does not model diagonal components, the Physibel software SOLIDO was used. The roof U-value was determined by a TRISCO model.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.044	0.930	0.042	0.935	0.040	0.939
Standard aircrete	0.15	0.050	0.925	0.048	0.930	0.046	0.935
High strength aircrete	0.19	0.056	0.920	0.053	0.927	0.051	0.931
Ultra lightweight aggregate	0.31	0.069	0.912	0.067	0.919	0.064	0.924
Lightweight aggregate	0.50	0.087	0.905	0.083	0.913	0.081	0.918

Table Ref: E12a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Loft Roll 44 packed between the final truss and the wall
- ☐ Cavity insulation continued at least 200mm above the top of the loft insulation

Site manager/supervisor:

Site name:

Plot number:

Date:

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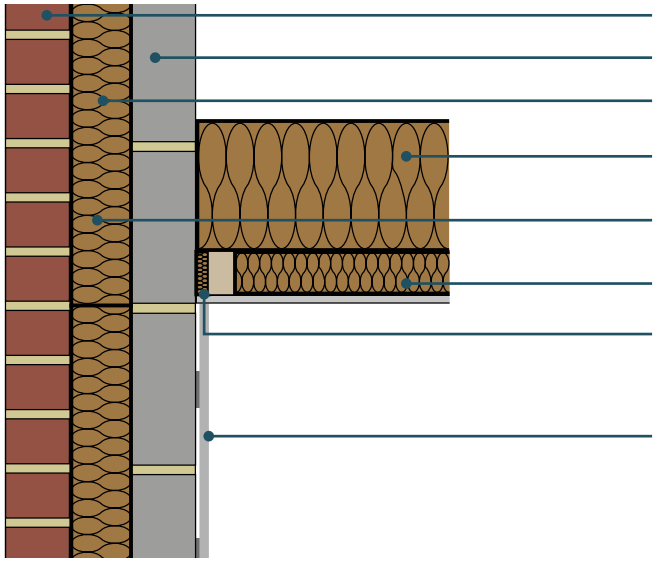
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E12 - Gable insulation at ceiling level

Ref:	KI_PSI_E12_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.043	0.932	0.041	0.937	0.039	0.941
Standard aircrete	0.15	0.049	0.926	0.047	0.932	0.045	0.936
High strength aircrete	0.19	0.054	0.922	0.052	0.928	0.050	0.933
Ultra lightweight aggregate	0.31	0.069	0.914	0.066	0.921	0.063	0.926
Lightweight aggregate	0.50	0.086	0.907	0.082	0.915	0.080	0.920

Table Ref: E12b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Loft Roll 44 packed between the final truss and the wall
- ☐ Cavity insulation continued at least 200mm above the top of the loft insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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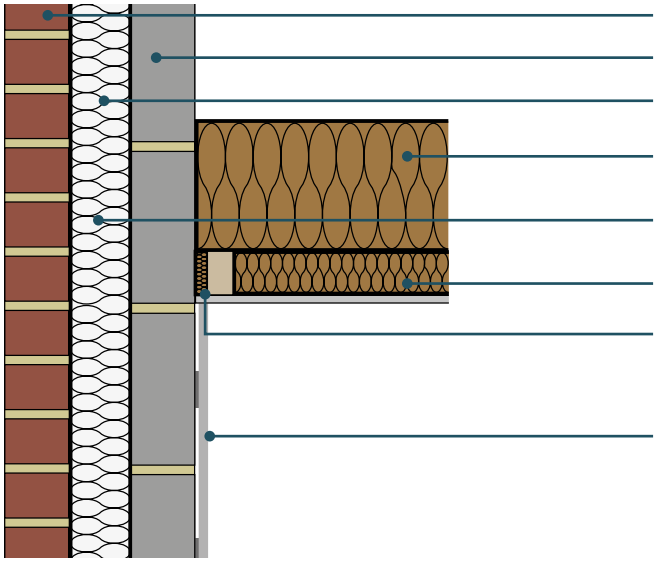
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E12 - Gable insulation at ceiling level

Ref:	KI_PSI_E12_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



As TRISCO does not model diagonal components, the Physibel software SOLIDO was used. The roof U-value was determined by a TRISCO model.

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.044	0.930	0.042	0.935	0.040	0.939
Standard aircrete	0.15	0.050	0.925	0.048	0.930	0.046	0.935
High strength aircrete	0.19	0.056	0.920	0.053	0.927	0.051	0.931
Ultra lightweight aggregate	0.31	0.069	0.912	0.067	0.919	0.064	0.924
Lightweight aggregate	0.50	0.087	0.905	0.083	0.913	0.081	0.918

Table Ref: E12a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Loft Roll 44 packed between the final truss and the wall
- ☐ Cavity insulation continued at least 200mm above the top of the loft insulation

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

Knauf Insulation Technical Support Team

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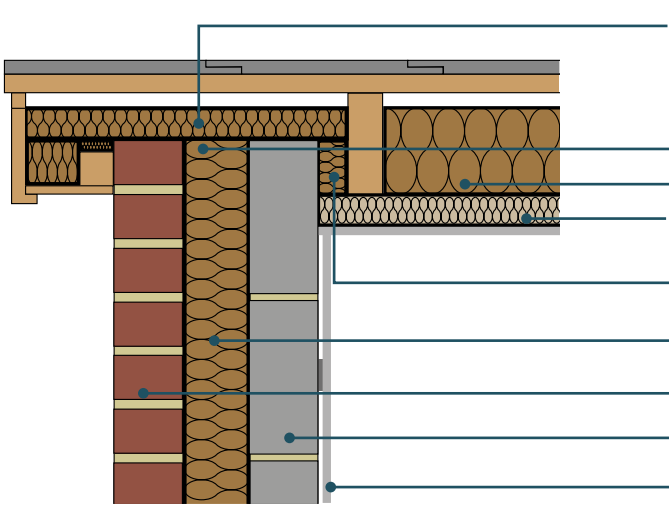
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E13 - Gable insulation at rafter level

Ref:	KI_PSI_E13_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Wall head covered with 50mm of insulation k = 0.035 W/mK

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Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.046	0.917	0.047	0.920	0.048	0.922
Standard aircrete	0.15	0.053	0.912	0.053	0.916	0.055	0.918
High strength aircrete	0.19	0.058	0.909	0.059	0.913	0.060	0.916
Ultra lightweight aggregate	0.31	0.069	0.905	0.070	0.910	0.071	0.913
Lightweight aggregate	0.50	0.080	0.905	0.081	0.910	0.082	0.913

Table Ref: E13a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Cavity insulation continued up to the wall head
- ☐ Void above the wall head filled with 50mm OmniFit® Slab 35
- ☐ OmniFit® Slab 35 packed between the final rafter and the wall

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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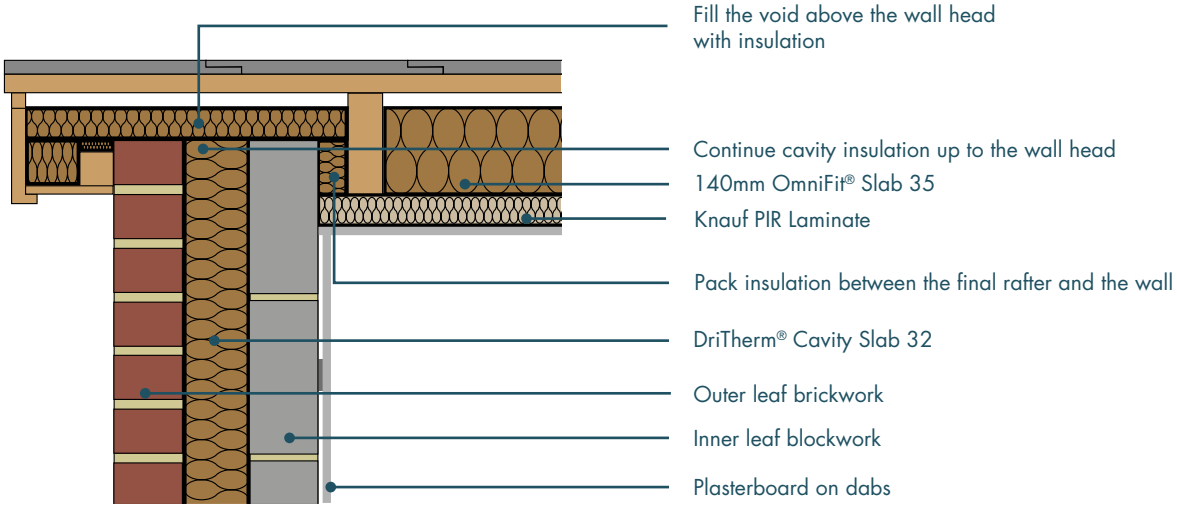
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E13 - Gable insulation at rafter level

Ref:	KI_PSI_E13_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Wall head covered with 50mm of insulation k = 0.035 W/mK

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.046	0.918	0.047	0.921	0.048	0.923
Standard aircrete	0.15	0.052	0.913	0.053	0.917	0.055	0.919
High strength aircrete	0.19	0.058	0.910	0.059	0.914	0.060	0.917
Ultra lightweight aggregate	0.31	0.070	0.907	0.070	0.911	0.071	0.914
Lightweight aggregate	0.50	0.080	0.906	0.081	0.911	0.083	0.914

Table Ref: E13b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Cavity insulation continued up to the wall head
- ☐ Void above the wall head filled with 50mm OmniFit® Slab 35
- ☐ OmniFit® Slab 35 packed between the final rafter and the wall

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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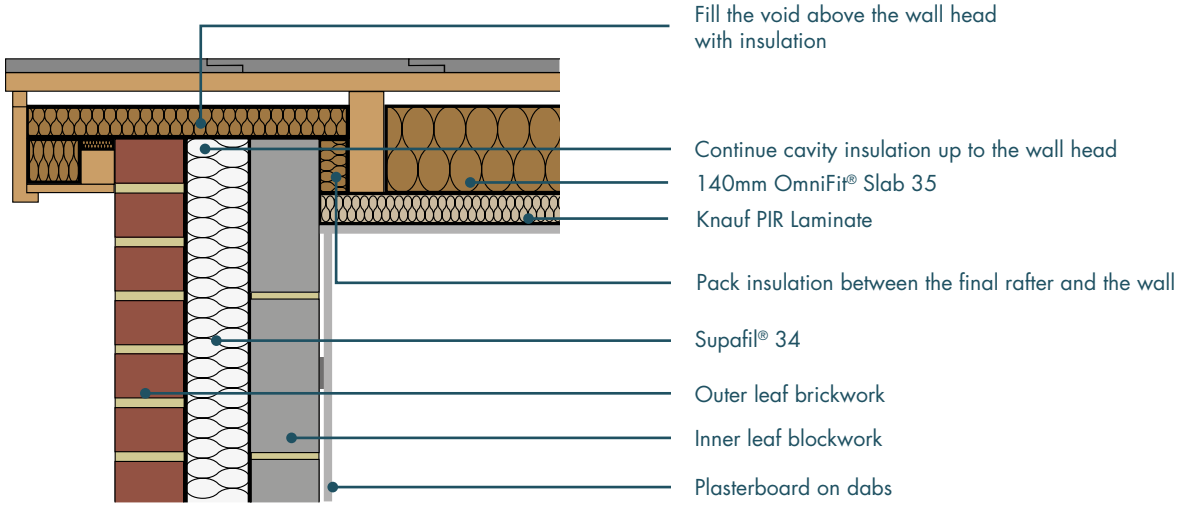
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E13 - Gable insulation at rafter level

Ref:	KI_PSI_E13_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Wall head covered with 50mm of insulation k = 0.035 W/mK

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.046	0.917	0.047	0.920	0.048	0.922
Standard aircrete	0.15	0.053	0.912	0.053	0.916	0.055	0.918
High strength aircrete	0.19	0.058	0.909	0.059	0.913	0.060	0.916
Ultra lightweight aggregate	0.31	0.069	0.905	0.070	0.910	0.071	0.913
Lightweight aggregate	0.50	0.080	0.905	0.081	0.910	0.082	0.913

Table Ref: E13a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Cavity insulation continued up to the wall head
- ☐ Void above the wall head filled with 50mm OmniFit® Slab 35
- ☐ OmniFit® Slab 35 packed between the final rafter and the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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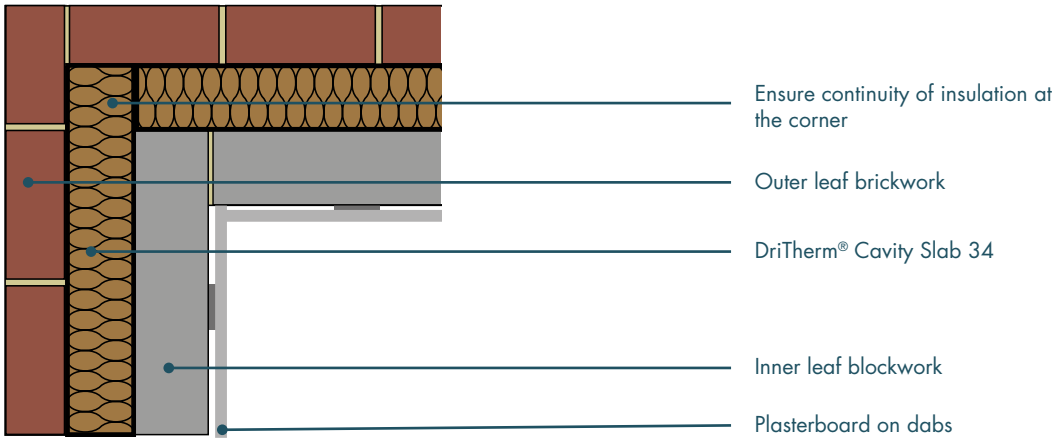
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E16 - Corner - normal

Ref:	KI_PSI_E16_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.039	0.912	0.037	0.922	0.036	0.929
Standard aircrete	0.15	0.045	0.909	0.042	0.920	0.040	0.928
High strength aircrete	0.19	0.048	0.908	0.045	0.919	0.042	0.928
Ultra lightweight aggregate	0.31	0.055	0.908	0.050	0.920	0.047	0.929
Lightweight aggregate	0.50	0.061	0.911	0.055	0.924	0.050	0.933

Table Ref: E16a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Continuity of insulation at the corner

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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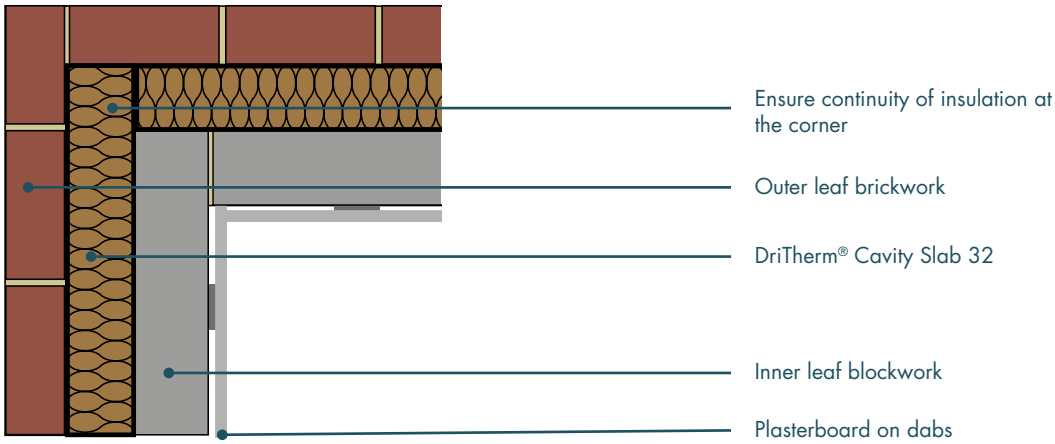
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E16 - Corner - normal

Ref:	KI_PSI_E16_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.039	0.912	0.037	0.922	0.036	0.929
Standard aircrete	0.15	0.045	0.909	0.042	0.920	0.040	0.928
High strength aircrete	0.19	0.048	0.908	0.045	0.919	0.042	0.928
Ultra lightweight aggregate	0.31	0.055	0.908	0.050	0.920	0.047	0.929
Lightweight aggregate	0.50	0.061	0.911	0.055	0.924	0.050	0.933

Table Ref: E16b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Continuity of insulation at the corner

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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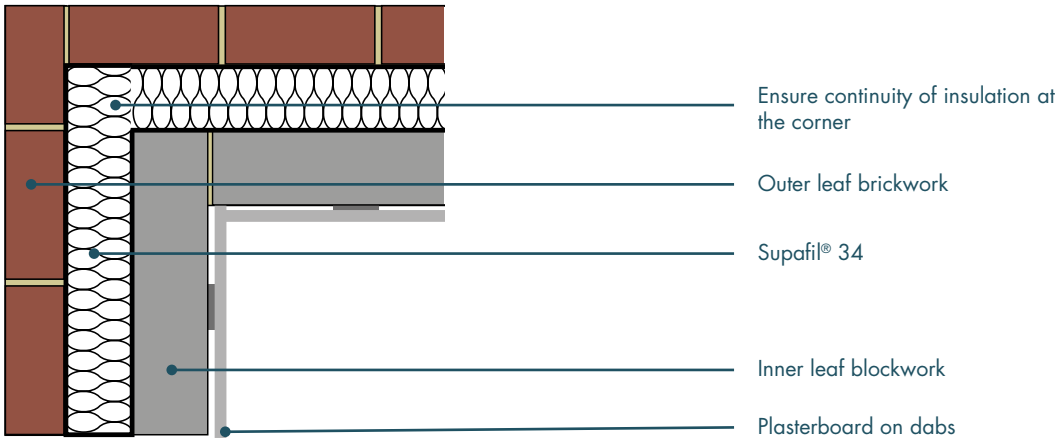
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E16 - Corner - normal

Ref:	KI_PSI_E16_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.039	0.912	0.037	0.922	0.036	0.929
Standard aircrete	0.15	0.045	0.909	0.042	0.920	0.040	0.928
High strength aircrete	0.19	0.048	0.908	0.045	0.919	0.042	0.928
Ultra lightweight aggregate	0.31	0.055	0.908	0.050	0.920	0.047	0.929
Lightweight aggregate	0.50	0.061	0.911	0.055	0.924	0.050	0.933

Table Ref: E16a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Continuity of insulation at the corner

Site manager/supervisor:

Site name:

Plot number:

Date:

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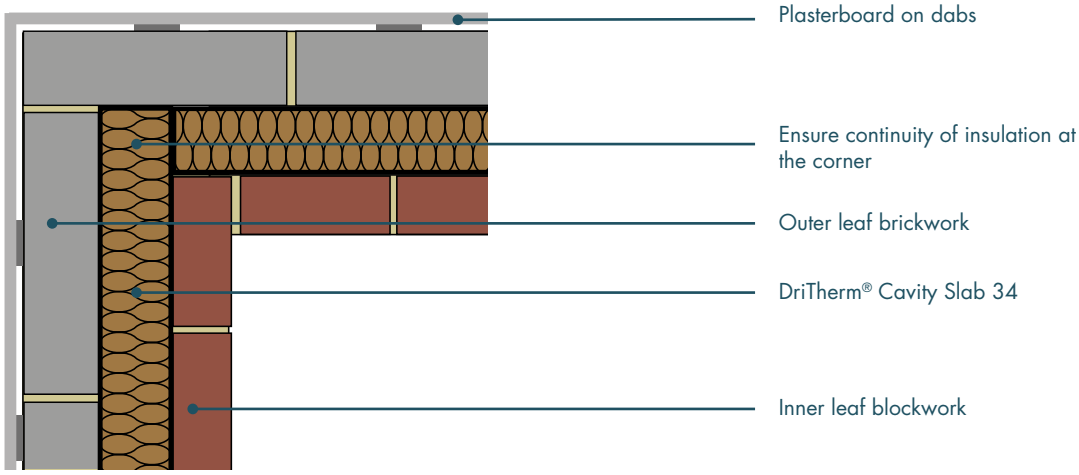
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E17 - Corner - inverted

Ref:	KI_PSI_E17_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	-0.091	0.970	-0.086	0.974	-0.082	0.978
Standard aircrete	0.15	-0.098	0.968	-0.091	0.973	-0.086	0.977
High strength aircrete	0.19	-0.102	0.967	-0.095	0.972	-0.089	0.976
Ultra lightweight aggregate	0.31	-0.109	0.966	-0.100	0.971	-0.092	0.975
Lightweight aggregate	0.50	-0.113	0.964	-0.103	0.970	-0.095	0.975

Table Ref: E17a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Continuity of insulation at the corner

Site manager/supervisor:

Site name:

Plot number:

Date:

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

Junction reference:
E17 - Corner - inverted

Ref:	KI_PSI_E17_DT32_0001	**Dated:**	May 2021
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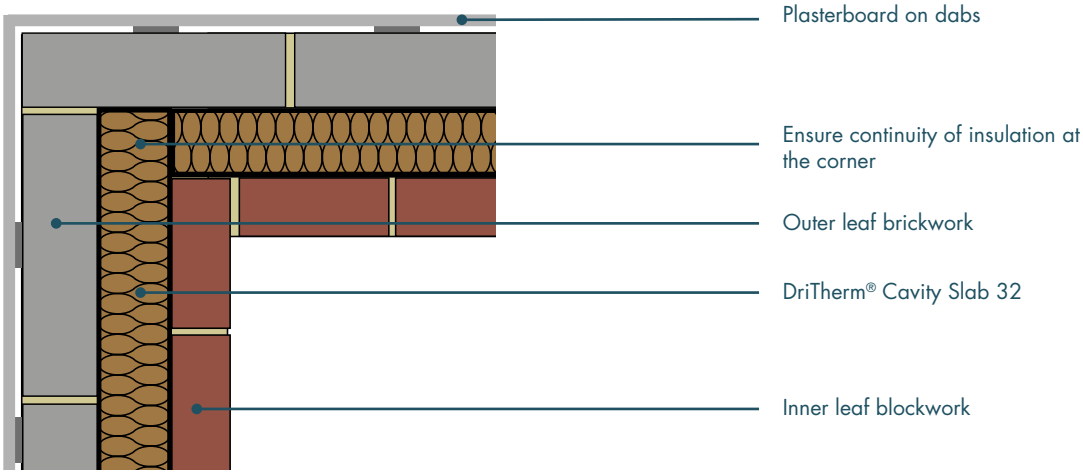

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	-0.088	0.971	-0.083	0.976	-0.078	0.979
Standard aircrete	0.15	-0.094	0.970	-0.087	0.974	-0.082	0.978
High strength aircrete	0.19	-0.099	0.969	-0.091	0.974	-0.084	0.977
Ultra lightweight aggregate	0.31	-0.105	0.967	-0.095	0.973	-0.088	0.976
Lightweight aggregate	0.50	-0.107	0.966	-0.098	0.972	-0.090	0.976

Table Ref: E17b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Continuity of insulation at the corner

Site manager/supervisor:

Site name:

Plot number:

Date:

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

Junction reference:
E17 - Corner - inverted

Ref:	KI_PSI_E17_SF34_0001	**Dated:**	May 2021
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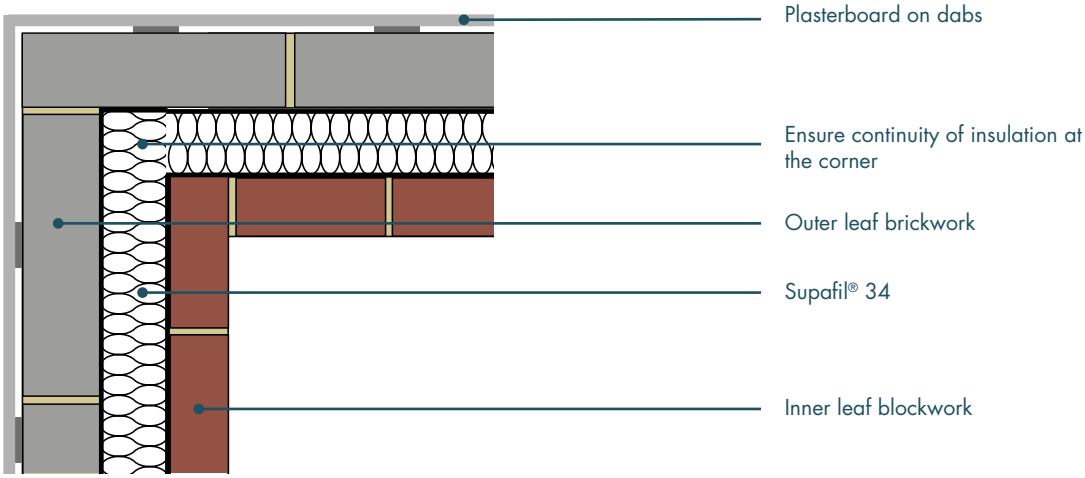

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	-0.091	0.970	-0.086	0.974	-0.082	0.978
Standard aircrete	0.15	-0.098	0.968	-0.091	0.973	-0.086	0.977
High strength aircrete	0.19	-0.102	0.967	-0.095	0.972	-0.089	0.976
Ultra lightweight aggregate	0.31	-0.109	0.966	-0.100	0.971	-0.092	0.975
Lightweight aggregate	0.50	-0.113	0.964	-0.103	0.970	-0.095	0.975

Table Ref: E17a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Continuity of insulation at the corner

Site manager/supervisor:

Site name:

Plot number:

Date:

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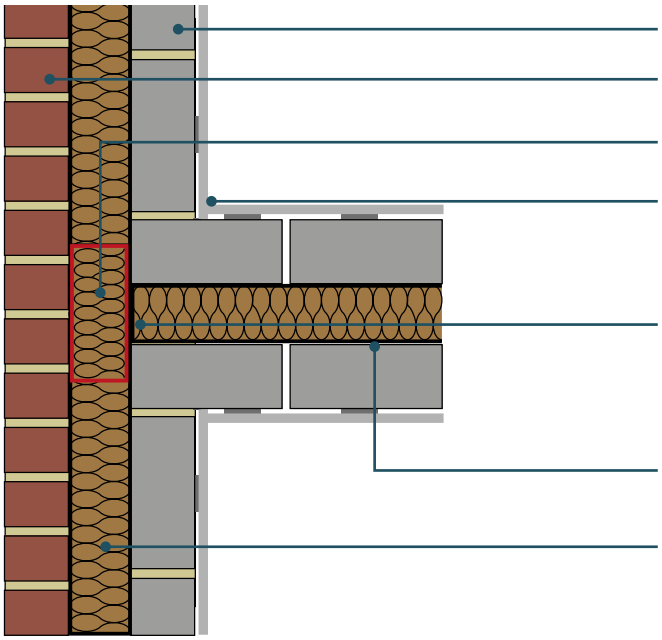
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E18 - Separating wall between dwellings

Ref:	KI_PSI_E18a_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34 Party wall block k = 0.15 W/mK, Party wall insulation = Masonry Party Wall Slab					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.036	0.474	0.031	0.477	0.028	0.480
Standard aircrete	0.15	0.038	0.472	0.033	0.476	0.030	0.479
High strength aircrete	0.19	0.040	0.472	0.034	0.476	0.030	0.479
Ultra lightweight aggregate	0.31	0.042	0.471	0.036	0.475	0.032	0.478
Lightweight aggregate	0.50	0.044	0.471	0.038	0.475	0.033	0.479

Table Ref: E18a1

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Separating wall cavity filled with Masonry Party Wall Slab
- ☐ Continuity of insulation between the external and separating walls

Site manager/supervisor:

Site name:

Plot number:

Date:

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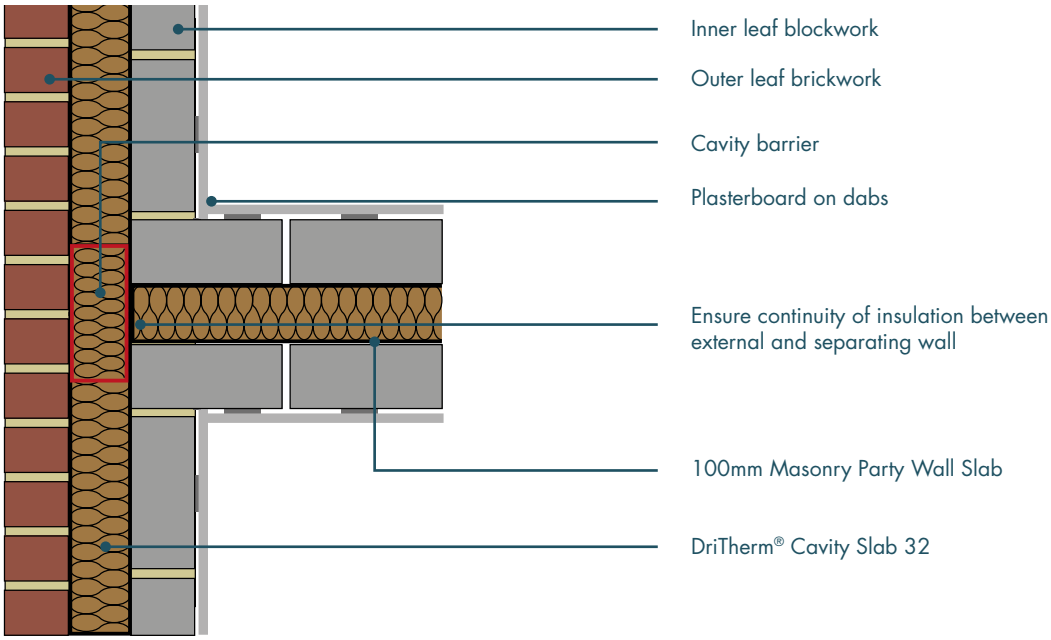
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E18 - Separating wall between dwellings

Ref:	KI_PSI_E18b_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32 Party wall block k = 0.50 W/mK, Party wall insulation = Masonry Party Wall Slab					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.035	0.479	0.031	0.482	0.027	0.485
Standard aircrete	0.15	0.037	0.478	0.032	0.482	0.029	0.484
High strength aircrete	0.19	0.039	0.478	0.033	0.481	0.029	0.484
Ultra lightweight aggregate	0.31	0.041	0.477	0.035	0.481	0.030	0.483
Lightweight aggregate	0.50	0.043	0.476	0.036	0.480	0.031	0.483

Table Ref: E18a3

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Separating wall cavity filled with Masonry Party Wall Slab
- ☐ Continuity of insulation between the external and separating walls

Site manager/supervisor:

Site name:

Plot number:

Date:

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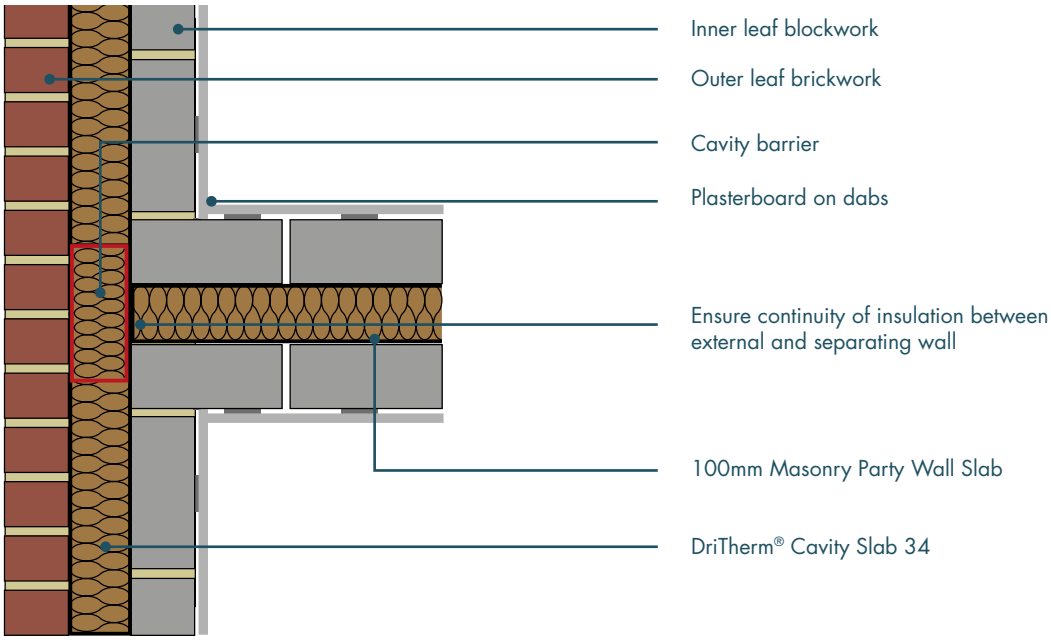
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E18 - Separating wall between dwellings

Ref:	KI_PSI_E18b_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34 Party wall block k = 0.50 W/mK, Party wall insulation = Masonry Party Wall Slab					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.039	0.478	0.034	0.481	0.030	0.483
Standard aircrete	0.15	0.041	0.477	0.035	0.480	0.031	0.483
High strength aircrete	0.19	0.043	0.476	0.036	0.480	0.032	0.482
Ultra lightweight aggregate	0.31	0.045	0.475	0.039	0.479	0.034	0.482
Lightweight aggregate	0.50	0.047	0.474	0.040	0.479	0.035	0.482

Table Ref: E18a2

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Separating wall cavity filled with Masonry Party Wall Slab
- ☐ Continuity of insulation between the external and separating walls

Site manager/supervisor:

Site name:

Plot number:

Date:

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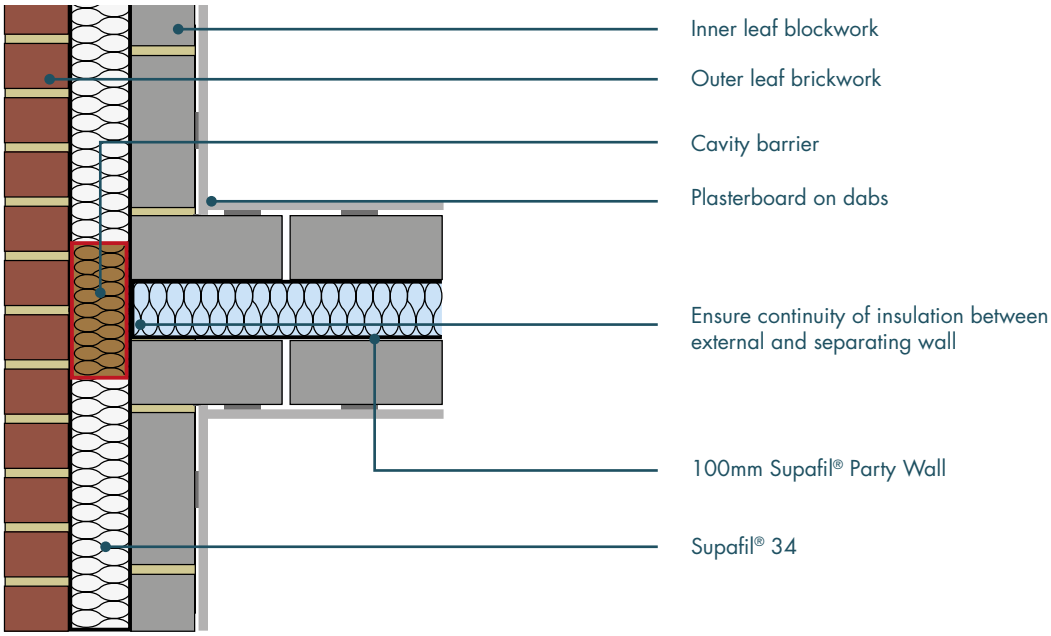
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E18 - Separating wall between dwellings

Ref:	KI_PSI_E18a_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34 Party wall block k = 0.15 W/mK, Party wall insulation = Supafil® Party Wall					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.036	0.474	0.031	0.477	0.028	0.480
Standard aircrete	0.15	0.038	0.472	0.033	0.476	0.030	0.479
High strength aircrete	0.19	0.040	0.472	0.034	0.476	0.030	0.479
Ultra lightweight aggregate	0.31	0.042	0.471	0.036	0.475	0.032	0.478
Lightweight aggregate	0.50	0.044	0.471	0.038	0.475	0.033	0.479

Table Ref: E18a1

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Separating wall cavity filled with Supafil® Party Wall
- ☐ Continuity of insulation between the external and separating walls

Site manager/supervisor:

Site name:

Plot number:

Date:

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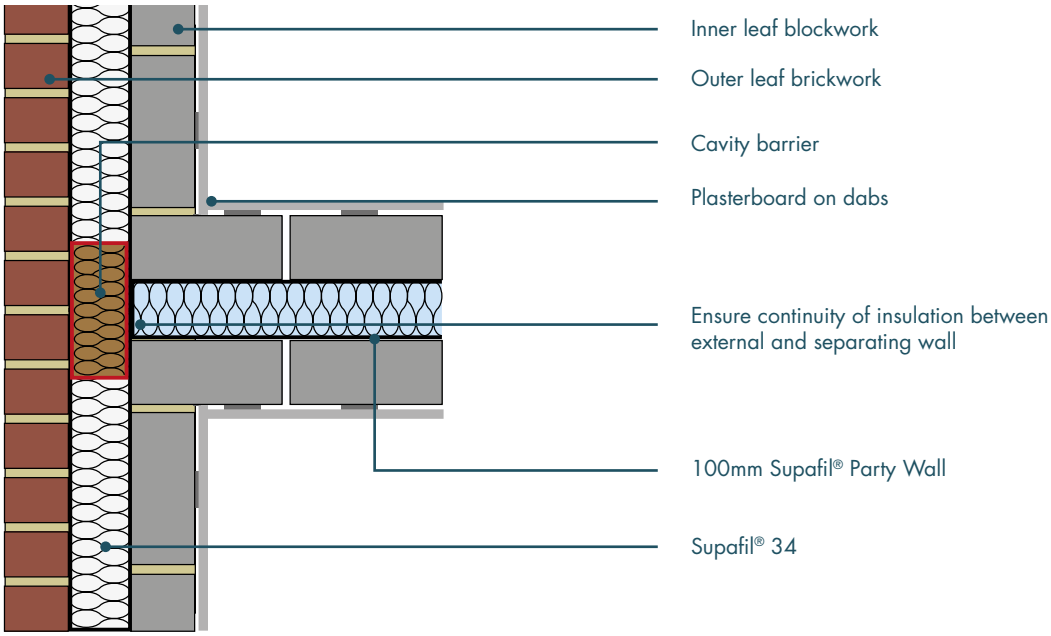
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E18 - Separating wall between dwellings

Ref:	KI_PSI_E18b_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34 Party wall block k = 0.50 W/mK, Party wall insulation = Supafil® Party Wall					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.039	0.478	0.034	0.481	0.030	0.483
Standard aircrete	0.15	0.041	0.477	0.035	0.480	0.031	0.483
High strength aircrete	0.19	0.043	0.476	0.036	0.480	0.032	0.482
Ultra lightweight aggregate	0.31	0.045	0.475	0.039	0.479	0.034	0.482
Lightweight aggregate	0.50	0.047	0.474	0.040	0.479	0.035	0.482

Table Ref: E18a2

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Separating wall cavity filled with Supafil® Party Wall
- ☐ Continuity of insulation between the external and separating walls

Site manager/supervisor:

Site name:

Plot number:

Date:

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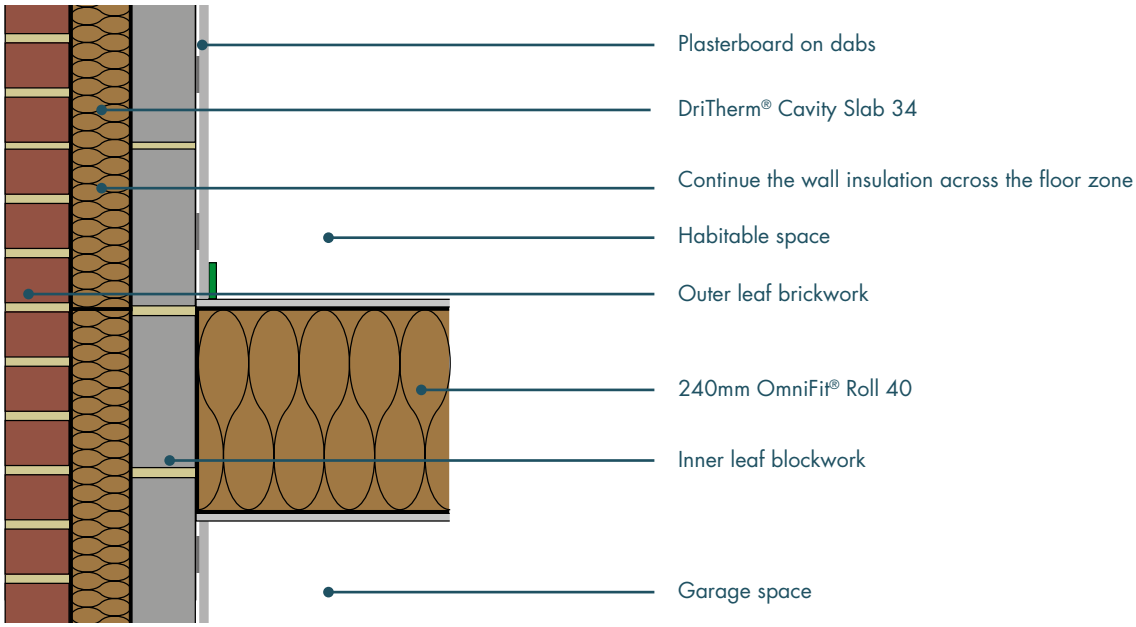
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E20 - Exposed floor normal over garage

Ref:	KI_PSI_E20_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The figure shows the cross section of the the central area of the model, with the imposed temperatures and the surface hear transfer coefficients adopted. The garage is assumed to be at 0°C, but with internal surface transfer coefficients.
The model is 0.6m deep with a cross section of the floor shown in the figure below.
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.034	0.895	0.039	0.900	0.039	0.904
Standard aircrete	0.15	0.047	0.889	0.046	0.894	0.046	0.898
Lightweight aggregate	0.50	0.101	0.861	0.103	0.866	0.103	0.870

Table Ref: E20a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Wall insulation continuous across the floor zone

Site manager/supervisor:

Site name:

Plot number:

Date:

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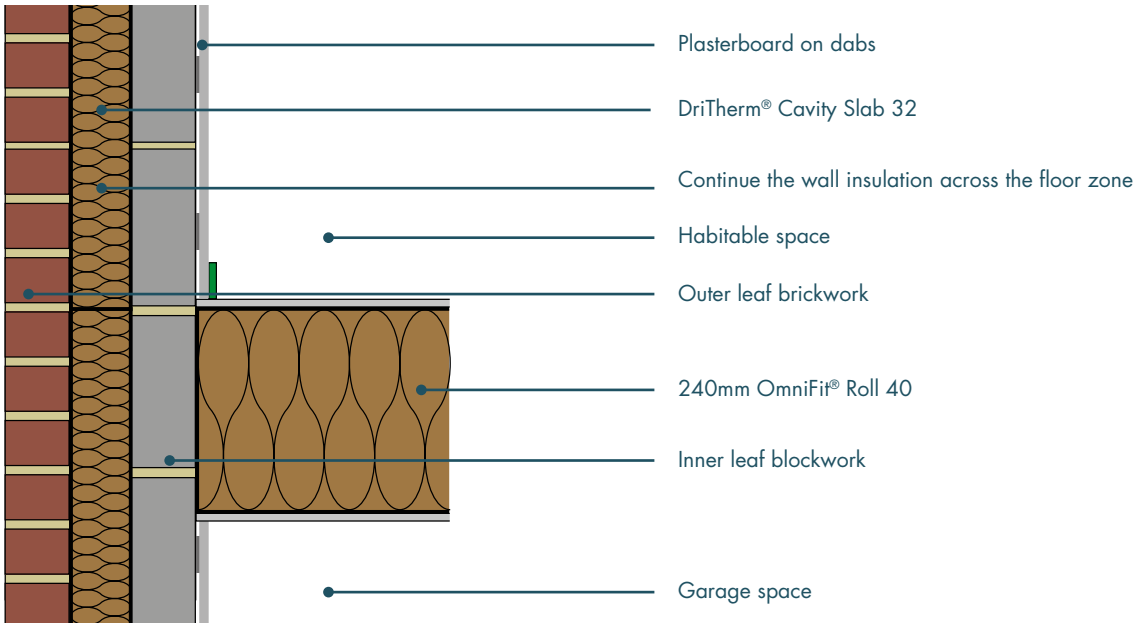
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E20 - Exposed floor normal over garage

Ref:	KI_PSI_E20_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The figure shows the cross section of the the central area of the model, with the imposed temperatures and the surface hear transfer coefficients adopted. The garage is assumed to be at 0°C, but with internal surface transfer coefficients.
The model is 0.6m deep with a cross section of the floor shown in the figure below.
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.036	0.897	0.036	0.902	0.036	0.905
Standard aircrete	0.15	0.043	0.890	0.044	0.895	0.044	0.899
Lightweight aggregate	0.50	0.098	0.862	0.100	0.868	0.101	0.871

Table Ref: E20b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Wall insulation continuous across the floor zone

Site manager/supervisor:

Site name:

Plot number:

Date:

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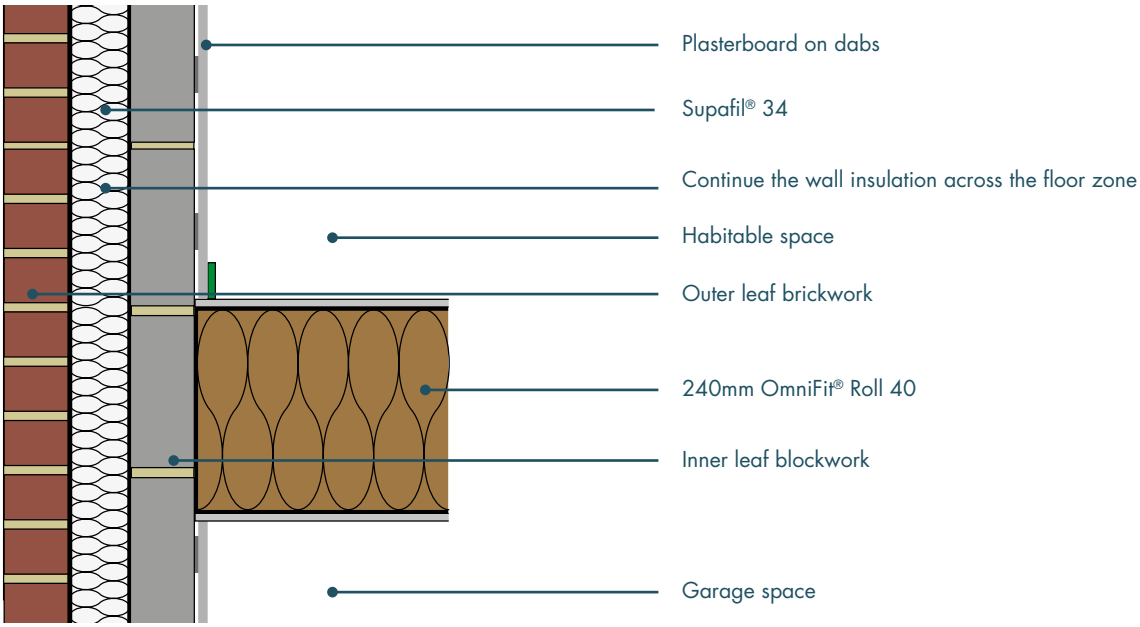
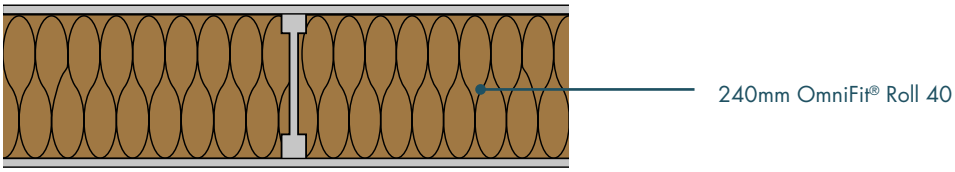
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E20 - Exposed floor normal over garage

Ref:	KI_PSI_E20_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		





The figure shows the cross section of the the central area of the model, with the imposed temperatures and the surface hear transfer coefficients adopted. The garage is assumed to be at 0°C, but with internal surface transfer coefficients.
The model is 0.6m deep with a cross section of the floor shown in the figure below.
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.034	0.895	0.039	0.900	0.039	0.904
Standard aircrete	0.15	0.047	0.889	0.046	0.894	0.046	0.898
Lightweight aggregate	0.50	0.101	0.861	0.103	0.866	0.103	0.870

Table Ref: E20a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Wall insulation continuous across the floor zone

Site manager/supervisor:

Site name:

Plot number:

Date:

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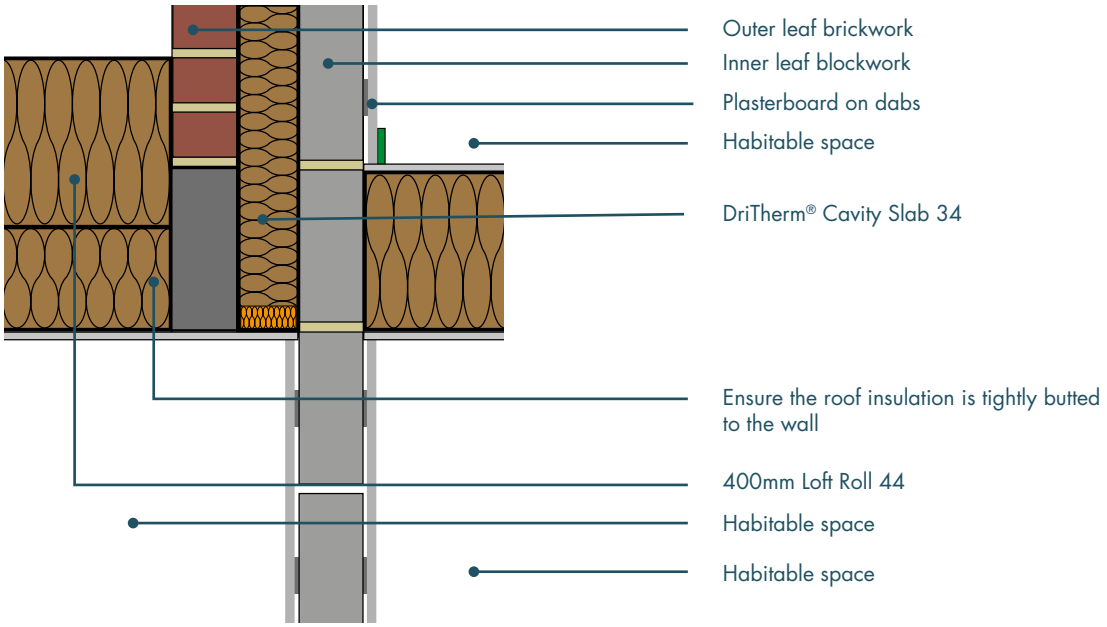
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E24.1 - Eaves insulation at ceiling inverted: Pitched roof concrete lintel

Ref:	KI_PSI_E24.1_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Cross section of model E24.1
The model is 0.6m deep with a cross section of the floor shown in the figure below.
Cross Section of ceiling model
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$

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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.107	0.891	0.110	0.889	0.112	0.887
Standard aircrete	0.15	0.105	0.891	0.108	0.889	0.110	0.888
Lightweight aggregate	0.50	0.099	0.893	0.105	0.891	0.108	0.889

Table Ref: E24.1a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ 400mm Loft Roll 44 is tightly butted to the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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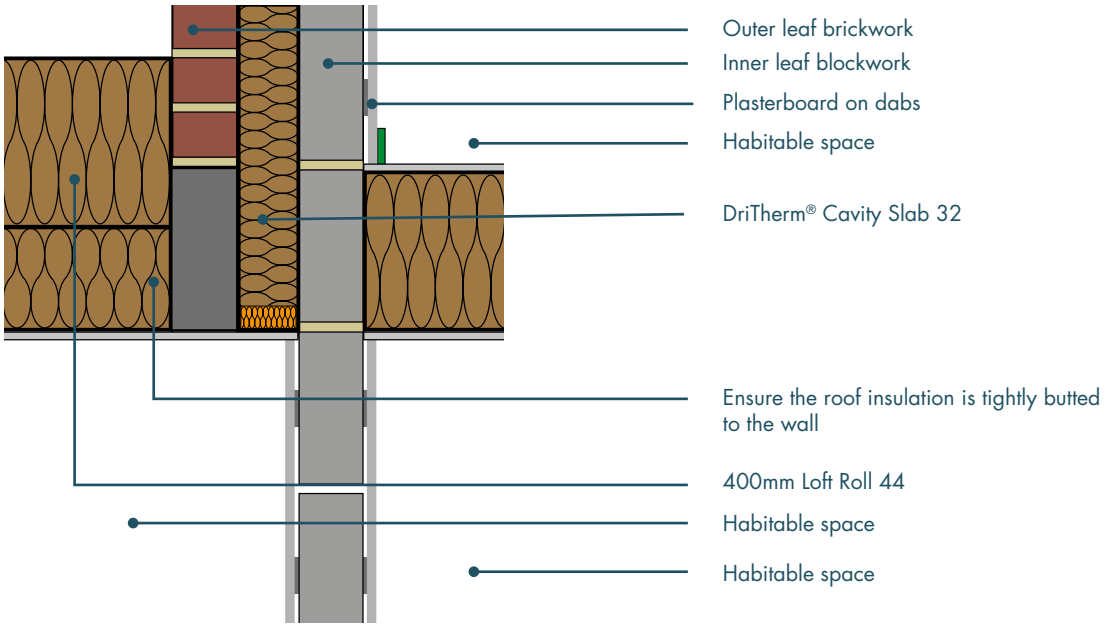
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E24.1 - Eaves insulation at ceiling inverted: Pitched roof concrete lintel

Ref:	KI_PSI_E24.1_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Cross section of model E24.1
The model is 0.6m deep with a cross section of the floor shown in the figure below.
Cross Section of ceiling model
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$

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Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.100	0.890	0.104	0.888	0.107	0.887
Standard aircrete	0.15	0.098	0.891	0.103	0.889	0.106	0.887
Lightweight aggregate	0.50	0.092	0.893	0.098	0.890	0.103	0.888

Table Ref: E24.1b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ 400mm Loft Roll 44 is tightly butted to the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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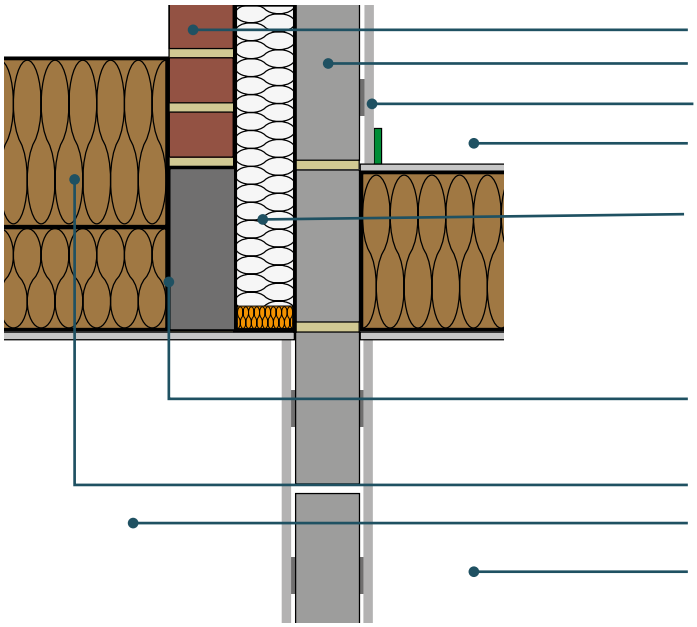
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E24.1 - Eaves insulation at ceiling inverted: Pitched roof concrete lintel

Ref:	KI_PSI_E24.1_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Cross section of model E24.1
The model is 0.6m deep with a cross section of the floor shown in the figure below.
Cross Section of ceiling model
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.107	0.891	0.110	0.889	0.112	0.887
Standard aircrete	0.15	0.105	0.891	0.108	0.889	0.110	0.888
Lightweight aggregate	0.50	0.099	0.893	0.105	0.891	0.108	0.889

Table Ref: E24.1a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ 400mm Loft Roll 44 is tightly butted to the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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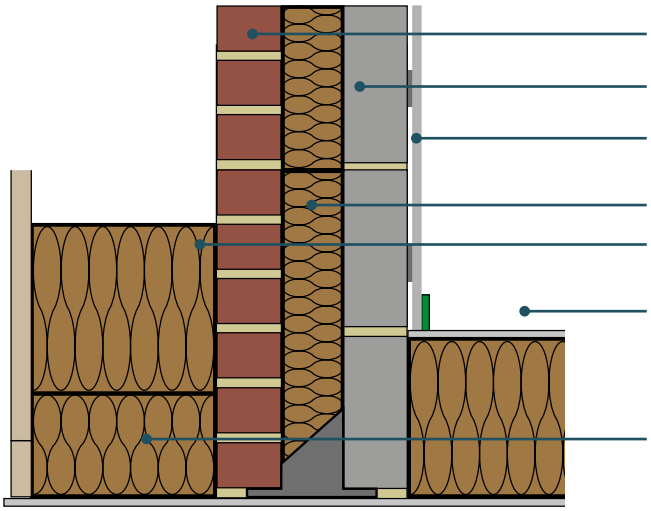
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E24.2 - Eaves insulation at ceiling inverted: Bay window steel lintel

Ref:	KI_PSI_E24.2_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Model of detail E24.2
The model is 0.6m deep with a cross section of the floor shown in 24.1
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$
The folded lintel is 3mm steel with conductivity 50 W/mK. The total height is 260mm and the angle of slope is 30°.
The perforated base plate of the lintel is 3mm thick with conductivity 10 W/mK.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.151	0.928	0.157	0.928	0.161	0.928
Standard aircrete	0.15	0.149	0.929	0.156	0.929	0.161	0.929
Lightweight aggregate	0.50	0.146	0.935	0.154	0.934	0.160	0.933

Table Ref: E24.2a

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ 400mm Loft Roll 44 is tightly butted to the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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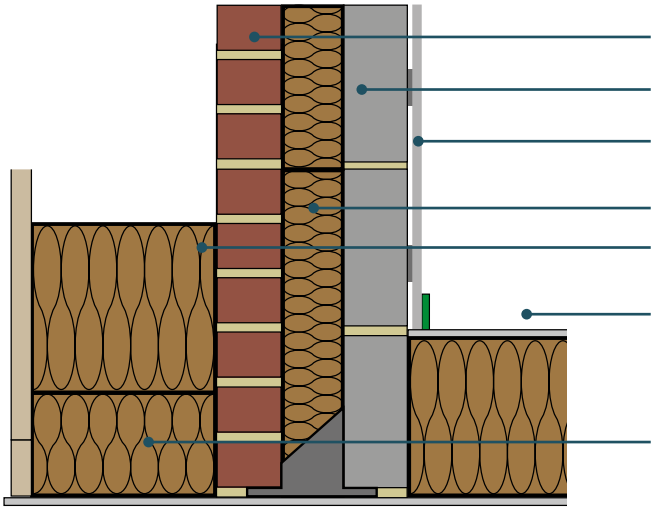
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E24.2 - Eaves insulation at ceiling inverted: Bay window steel lintel

Ref:	KI_PSI_E24.2_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Model of detail E24.2
The model is 0.6m deep with a cross section of the floor shown in 24.1
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$
The folded lintel is 3mm steel with conductivity 50 W/mK. The total height is 260mm and the angle of slope is 30°.
The perforated base plate of the lintel is 3mm thick with conductivity 10 W/mK.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.152	0.928	0.157	0.928	0.163	0.928
Standard aircrete	0.15	0.150	0.929	0.157	0.929	0.162	0.929
Lightweight aggregate	0.50	0.148	0.935	0.155	0.934	0.161	0.933

Table Ref: E24.2b

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ 400mm Loft Roll 44 is tightly butted to the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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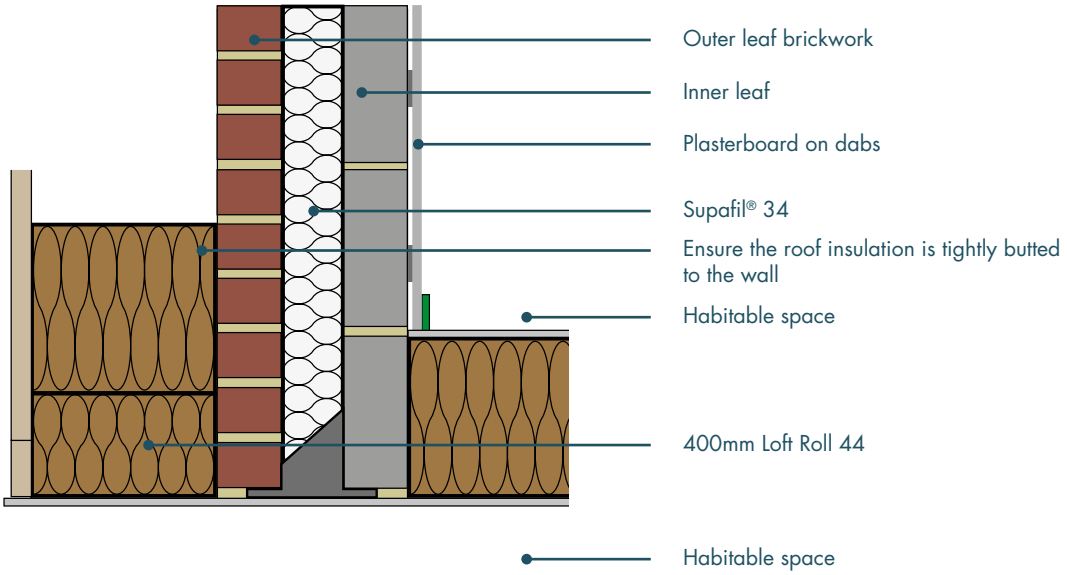
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E24.2 - Eaves insulation at ceiling inverted: Bay window steel lintel

Ref:	KI_PSI_E24.2_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



Model of detail E24.2
The model is 0.6m deep with a cross section of the floor shown in 24.1
The U-value is found from : $U = Q / (0.6 \cdot DT) - L_{wall} \cdot U_{wall} - L_{floor} \cdot U_{floor}$
The folded lintel is 3mm steel with conductivity 50 W/mK. The total height is 260mm and the angle of slope is 30°.
The perforated base plate of the lintel is 3mm thick with conductivity 10 W/mK.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.151	0.928	0.157	0.928	0.161	0.928
Standard aircrete	0.15	0.149	0.929	0.156	0.929	0.161	0.929
Lightweight aggregate	0.50	0.146	0.935	0.154	0.934	0.160	0.933

Table Ref: E24.2a

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ 400mm Loft Roll 44 is tightly butted to the wall

Site manager/supervisor:

Site name:

Plot number:

Date:

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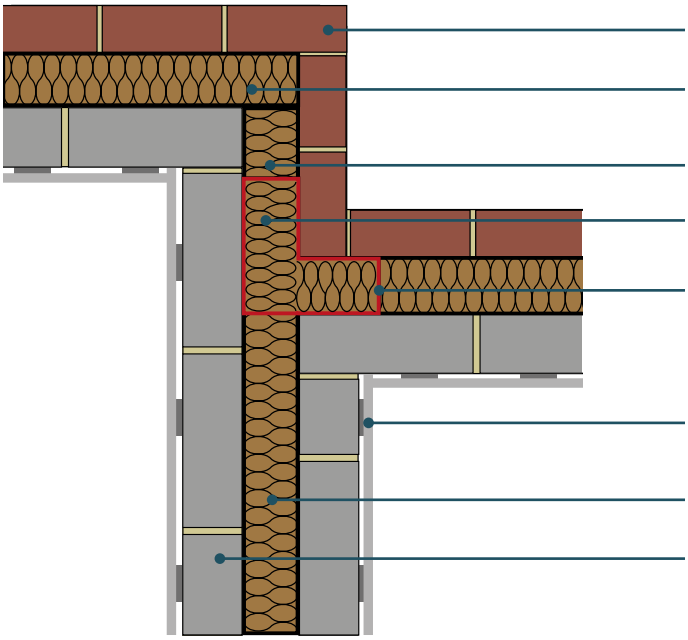
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E25 - Staggered separating wall between dwellings

Ref:	KI_PSI_E25b_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The length of the wall for the y-value calculation = La + Lb + Lc
The width of the insulation in the party wall remains at 100mm as the insulation layer in the external wall increases from 100 to 125 and 150.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34 Party wall block k = 0.50 W/mK, Party wall insulation = Masonry Party Wall Slab					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.056	0.456	0.049	0.461	0.039	0.465
Standard aircrete	0.15	0.060	0.455	0.052	0.460	0.042	0.464
High strength aircrete	0.19	0.063	0.454	0.054	0.460	0.043	0.464
Ultra lightweight aggregate	0.31	0.068	0.454	0.059	0.460	0.047	0.465
Lightweight aggregate	0.50	0.072	0.456	0.062	0.462	0.049	0.467

Table Ref: E25a2

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Cavity insulation is continuous throughout the junction

Site manager/supervisor:

Site name:

Plot number:

Date:

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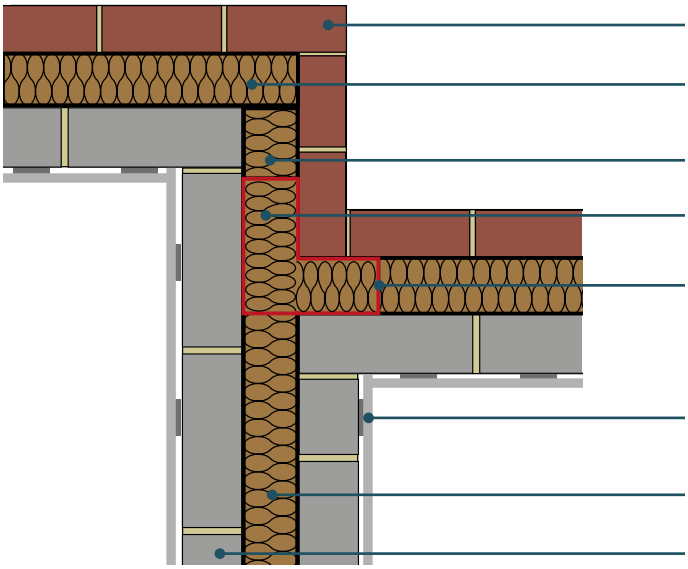
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E25 - Staggered separating wall between dwellings

Ref:	KI_PSI_E25b_DT32_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The length of the wall for the y-value calculation = La + Lb + Lc
The width of the insulation in the party wall remains at 100mm as the insulation layer in the external wall increases from 100 to 125 and 150.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 32 Party wall block k = 0.50 W/mK, Party wall insulation = Masonry Party Wall Slab					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.051	0.458	0.045	0.462	0.036	0.466
Standard aircrete	0.15	0.054	0.456	0.048	0.462	0.038	0.466
High strength aircrete	0.19	0.057	0.456	0.050	0.461	0.040	0.466
Ultra lightweight aggregate	0.31	0.062	0.456	0.053	0.462	0.042	0.467
Lightweight aggregate	0.50	0.065	0.458	0.056	0.464	0.044	0.468

Table Ref: E25a3

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ DriTherm® Cavity Slab 32 installed in cavity
- ☐ Cavity insulation is continuous throughout the junction

Site manager/supervisor:

Site name:

Plot number:

Date:

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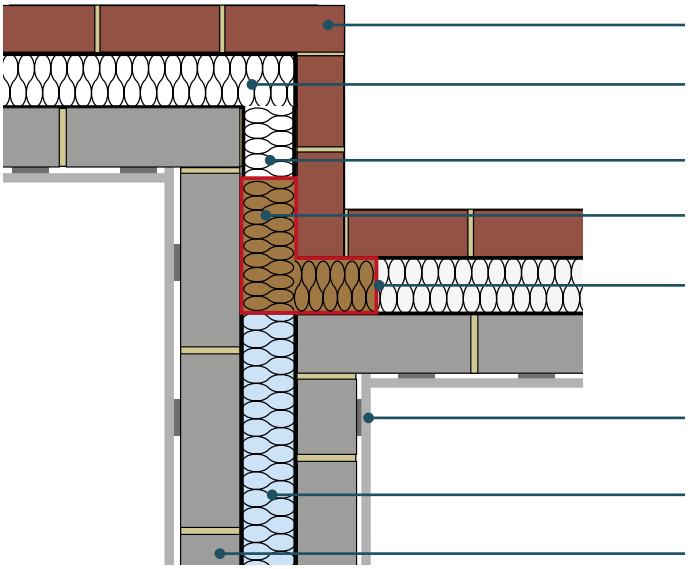
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E25 - Staggered separating wall between dwellings

Ref:	KI_PSI_E25b_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The length of the wall for the y-value calculation = La + Lb + Lc
The width of the insulation in the party wall remains at 100mm as the insulation layer in the external wall increases from 100 to 125 and 150.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34 Party wall block k = 0.50 W/mK, Party wall insulation = Supafil® Party Wall					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.056	0.456	0.049	0.461	0.039	0.465
Standard aircrete	0.15	0.060	0.455	0.052	0.460	0.042	0.464
High strength aircrete	0.19	0.063	0.454	0.054	0.460	0.043	0.464
Ultra lightweight aggregate	0.31	0.068	0.454	0.059	0.460	0.047	0.465
Lightweight aggregate	0.50	0.072	0.456	0.062	0.462	0.049	0.467

Table Ref: E25a2

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Cavity insulation is continuous throughout the junction

Site manager/supervisor:

Site name:

Plot number:

Date:

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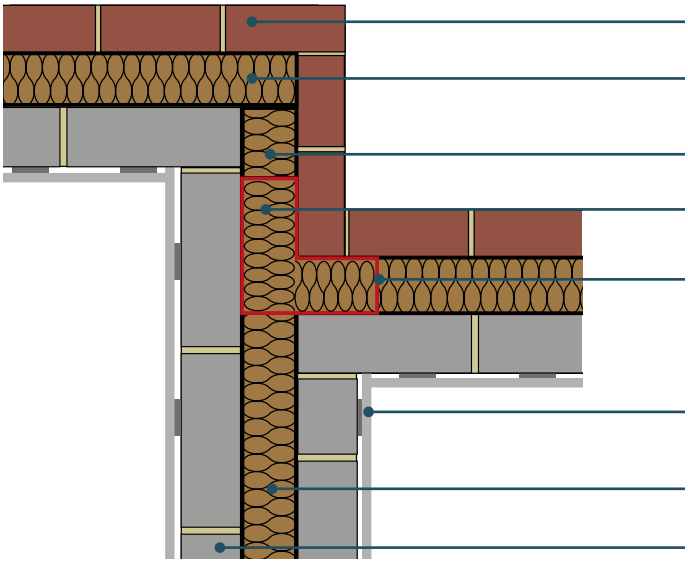
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E25 - Staggered separating wall between dwellings

Ref:	KI_PSI_E25a_DT34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The length of the wall for the y-value calculation = La + Lb + Lc
The width of the insulation in the party wall remains at 100mm as the insulation layer in the external wall increases from 100 to 125 and 150.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For DriTherm® Cavity Slab 34 Party wall block k = 0.15 W/mK, Party wall insulation = Masonry Party Wall Slab					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.055	0.456	0.048	0.461	0.039	0.465
Standard aircrete	0.15	0.059	0.455	0.052	0.460	0.041	0.464
High strength aircrete	0.19	0.062	0.454	0.054	0.460	0.043	0.464
Ultra lightweight aggregate	0.31	0.067	0.454	0.058	0.460	0.046	0.465
Lightweight aggregate	0.50	0.071	0.456	0.061	0.462	0.048	0.467

Table Ref: E25a1

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ DriTherm® Cavity Slab 34 installed in cavity
- ☐ Cavity insulation is continuous throughout the junction

Site manager/supervisor:

Site name:

Plot number:

Date:

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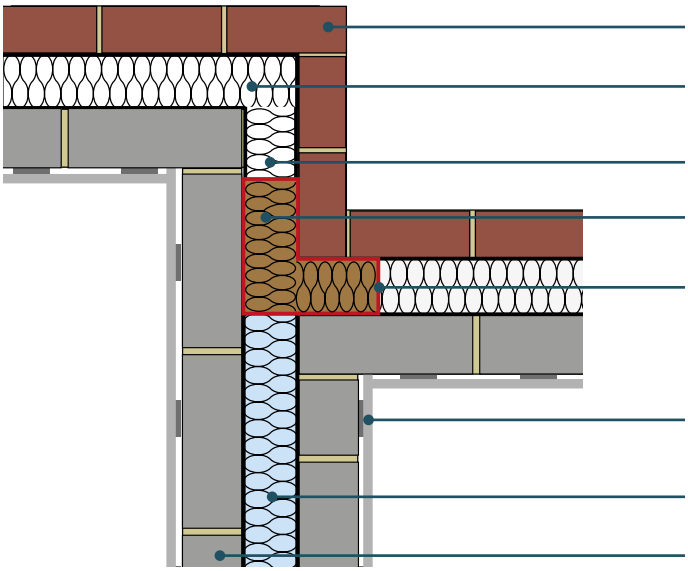
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
E25 - Staggered separating wall between dwellings

Ref:	KI_PSI_E25a_SF34_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



The length of the wall for the y-value calculation = La + Lb + Lc
The width of the insulation in the party wall remains at 100mm as the insulation layer in the external wall increases from 100 to 125 and 150.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		For Supafil® 34 Party wall block k = 0.15 W/mK, Party wall insulation = Supafil® Party Wall					
		100mm cavity		125mm cavity		150mm cavity	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value	ψ-value	f-value	ψ-value	f-value
High performance aircrete	0.11	0.055	0.456	0.048	0.461	0.039	0.465
Standard aircrete	0.15	0.059	0.455	0.052	0.460	0.041	0.464
High strength aircrete	0.19	0.062	0.454	0.054	0.460	0.043	0.464
Ultra lightweight aggregate	0.31	0.067	0.454	0.058	0.460	0.046	0.465
Lightweight aggregate	0.50	0.071	0.456	0.061	0.462	0.048	0.467

Table Ref: E25a1

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Supafil® 34 installed in cavity
- ☐ Cavity insulation is continuous throughout the junction

Site manager/supervisor:

Site name:

Plot number:

Date:

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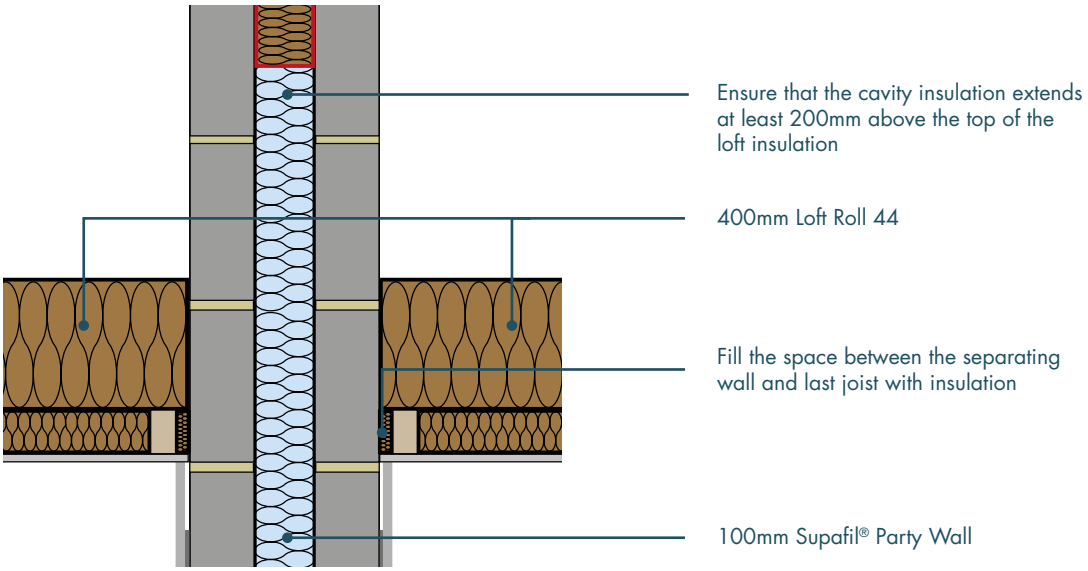
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
P4 - Separating wall and roof with insulation at ceiling level

Ref:	KI_PSI_P4_SFPW_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



TRISCO model of detail P4
The model is 1m deep.
The U-value is found from : $U = Q / (DT) - (L_{ceiling}1 + L_{ceiling}2) \cdot U_{ceiling}$
Half the U-values in the table below are assigned to each dwelling on either side of the wall.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		Supafil® Party Wall	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value
Standard aircrete	0.15	0.035	0.476
Lightweight aggregate	0.50	0.090	0.444

Table Ref: P4

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Supafil® Party Wall installed in party wall cavity
- ☐ Space between the separating wall and last joist filled with insulation
- ☐ Cavity insulation extends at least 200mm above the top of the loft insulation

Site manager/supervisor:

Site name:

Plot number:

Date:

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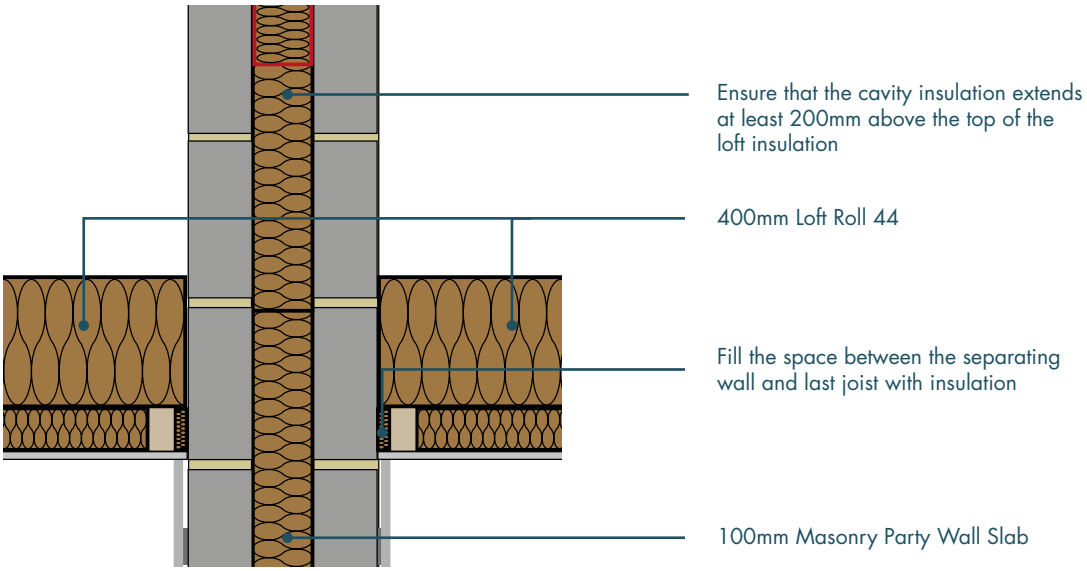
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
P4 - Separating wall and roof with insulation at ceiling level

Ref:	KI_PSI_P4_MPWS_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



TRISCO model of detail P4
The model is 1m deep.
The U-value is found from : $U = Q / (DT) - (L_{ceiling}1 + L_{ceiling}2) \cdot U_{ceiling}$
Half the U-values in the table below are assigned to each dwelling on either side of the wall.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		Masonry Party Wall Slab	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value
Standard aircrete	0.15	0.034	0.476
Lightweight aggregate	0.50	0.090	0.428

Table Ref: P4

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Masonry Party Wall Slab installed in party wall cavity
- ☐ Space between the separating wall and last joist filled with insulation
- ☐ Cavity insulation extends at least 200mm above the top of the loft insulation

Site manager/supervisor:

Site name:

Plot number:

Date:

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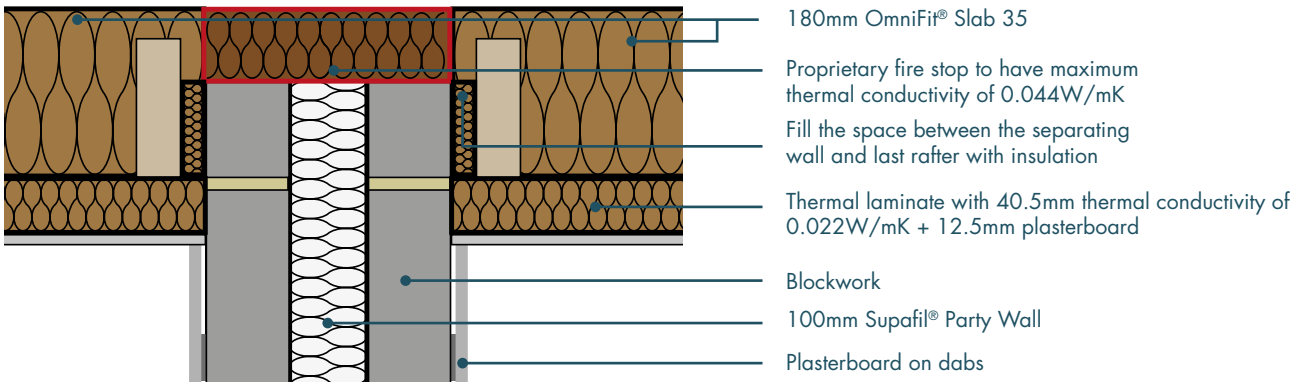
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
P5 - Separating wall and roof at rafter level

Ref:	KI_PSI_P5_SFPW_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



TRISCO model of detail P4
The model is 1m deep.
The U-value is found from : $U = Q / (DT) - (L_{ceiling}1 + L_{ceiling}2) \cdot U_{ceiling}$
Half the U-values in the table below are assigned to each dwelling on either side of the wall.

Calculations completed using methodology outlined in BS EN ISO 10211: 2007, and in accordance with BR 497: Conventions for calculating linear thermal transmittance and temperature factors (2nd edition).
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Diagrams for illustrative purposes only

Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		Supafil® Party Wall	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value
Standard aircrete	0.15	0.043	0.472
Lightweight aggregate	0.50	0.055	0.474

Table Ref: P5

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Supafil® Party Wall installed in party wall cavity
- ☐ Space between the separating wall and last joist filled with OmniFit® Slab 35
- ☐ Proprietary fire stop max 0.044W/mK

Site manager/supervisor:

Site name:

Plot number:

Date:

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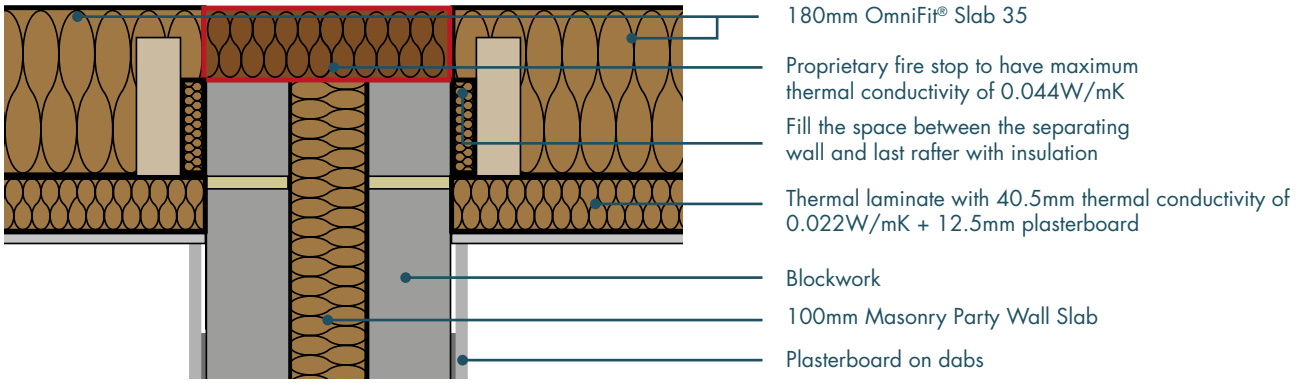
Linear Thermal Transmittance (ψ-value) & Temperature Factor (f-value)

Junction reference:
P5 - Separating wall and roof at rafter level

Ref:	KI_PSI_P5_MPWS_0001	**Dated:**	May 2021
Issued by:	Knauf Insulation Ltd		



TRISCO model of detail P4
The model is 1m deep.
The U-value is found from : $U = Q / (DT) - (L_{ceiling}1 + L_{ceiling}2) \cdot U_{ceiling}$
Half the U-values in the table below are assigned to each dwelling on either side of the wall.

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Linear thermal transmittance (Psi-values) & Temperature factors (f-factors) based on various block types & insulation with varying thicknesses

		Masonry Party Wall Slab	
Block	Thermal Conductivity (W/mK)	ψ-value	f-value
Standard aircrete	0.15	0.042	0.472
Lightweight aggregate	0.50	0.055	0.474

Table Ref: P5

* ψ-values shown above are applicable to each dwelling on either side of the party wall.

On-site checklist

- ☐ Masonry Party Wall Slab installed in party wall cavity
- ☐ Space between the separating wall and last joist filled with OmniFit® Slab 35
- ☐ Proprietary fire stop max 0.044W/mK

Site manager/supervisor: .....

Site name: .....

Plot number: .....

Date: .....

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