

CERTIFICATE

Certified Passive House Component

ID: 0360cs03 valid until 31. December 2021

Passive House Institute

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| | |
|--------------|--------------------------------------------------------|
| Category | Construction system Lightweight construction |
| Manufacturer | Kingspan Insulation Ltd Herfordshire UK |
| Product name | Kingspan TEK Bausystem |

This certificate for the cool, temperate climate zone was awarded based on the following criteria

Hygiene criterion

The minimum temperature factor of the interior surfaces is

$$f_{R_{si}=0,25m^2K/W} \geq 0.70$$

Comfort criterion

The U-value of the installed windows is

$$U_{W,i} \leq 0.85 \text{ W}/(m^2K)$$

Efficiency criteria

Heat transfer coefficient of building envelope

$$U \cdot f_{PHI} \leq 0.15 \text{ W}/(m^2K)$$

Temperaturfactor of opaque junctions

$$f_{R_{si}=0,25m^2K/W} \geq 0.86$$

Thermal bridge free design for key connection details

$$\Psi \leq 0.01 \text{ W}/(m^2K)$$

An airtightness concept for all components and connection details was provided.



cool, temperate climate

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Determined values

| Thermal heat transfer coefficient | Dimension [m] | U-Wert [W/(m²K)] |
|------------------------------------------|----------------------|------------------------------------|
| EW01 - External Wall | 0.29 | 0.128 |
| RO01 - Roof | 0.28 | 0.129 |
| BC01 - Basement Ceiling | 0.46 | 0.118 |
| FS01 - Floor Slab | 0.54 | 0.120 |
| BW01 - Basement Wall | 0.51 | 0.133 |

| Thermal bridge coefficient opaque envelop | fRsi [-] | Ψ [W/(mK)] |
|--------------------------------------------------|-----------------|-------------------|
| EWEC01 - External Wall Outer Corner | 0.93 | -0.038 |
| EWIC01 - External Wall Inner Corner | 0.87 | -0.012 |
| FSIW01 - Floor Slab Internal Wall | 0.98 | 0.031 |
| BFBW01 - Basement Floor Basement Wall | 0.90 | -0.049 |
| BFIW01 - Basement Floor Internal Wall | 0.97 | 0.015 |
| BCEW01 - Basement Ceiling External Wall | 0.92 | -0.016 |
| BCEW02 - Basement Ceiling External Wall | 0.93 | -0.053 |
| BCIW01 - Basement Ceiling Internal Wall | 0.98 | 0.041 |
| BCIW01 - Basement Ceiling Internal Wall | 0.98 | 0.041 |
| BWBC01 - Basement Wall Basement Ceiling | 0.95 | 0.013 |
| BWBC02 - Basement Wall Basement Ceiling | 0.95 | 0.023 |
| EWCE01 - External Wall internal CEiling | 0.96 | 0.009 |
| EWEC01 - External Wall Outer Corner | 0.91 | -0.086 |
| EWIC01 - External Wall Inner Corner | 1.00 | 0.061 |
| EWIW01 - External Wall Internal Wall | 0.97 | 0.002 |
| ROEA01 - Roof Eaves | 0.90 | -0.032 |
| ROVE01 - Roof Verge | 0.90 | -0.058 |
| ROIW01 - Roof Internal Wall | 0.96 | 0.022 |