

# CERTIFICATE

Certified Passive House Component

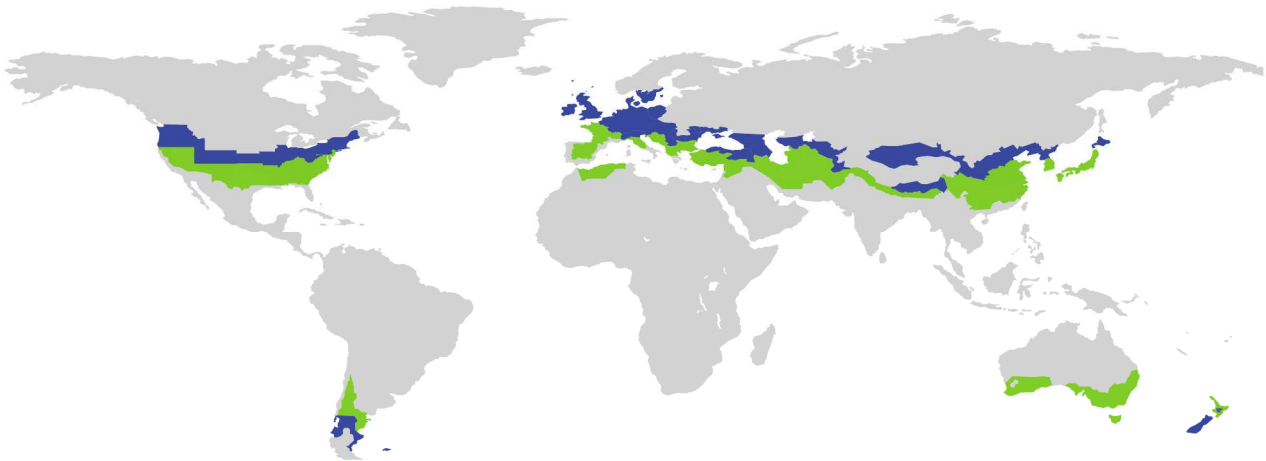
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Passive House Institute

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Category	<b>Construction system   Solid construction</b>
Manufacturer	<b>Kingspan Insulation B.V. TIEL NETHERLANDS</b>
Product name	<b>WDV-System mit Kooltherm K5 022</b>

**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

[www.passivehouse.com](http://www.passivehouse.com)

## Determined values

Thermal heat transfer coefficient	Dimension [m]	U-Wert [W/(m <sup>2</sup> K)]
EW01 - External Wall	0.34	0.148
EW02 - External Wall	0.32	0.274
EW03 - External Wall	0.34	0.237
RO01 - Roof	0.33	0.131
FR01 - Flat Roof	0.51	0.097
BC01 - Basement Ceiling	0.51	0.159
FS01 - Floor Slab	0.56	0.162
Thermal bridge coefficient opaque envelop	fRsi [-]	Ψ [W/(mK)]
EWHB01 - External Wall Heated Basement Ceiling	0.96	0.002
FSEW01 - Floor Slab External Wall	0.96	0.032
EWCE01 - External Wall internal CEiling	0.95	0.014
EWFJ01 - 0	0.95	0.008
EWIW01 - External Wall Internal Wall	0.96	0.007
EWEJ01 - External Wall Element Junction	0.95	0.016
EWFI01 - External Fireprotective wall	0.92	0.020
RORI01 - Roof Ridge	0.93	-0.024
RORI02 - Roof Ridge	0.95	-0.019
ROEA01 - Roof Eaves	0.91	-0.021
ROEA02 - Roof Eaves	0.91	-0.025
ROVE01 - Roof Verge	0.91	-0.066
ROVE02 - Roof Verge	0.91	-0.068
MRRIO1 - Monopitched Roof Ridge	0.87	-0.110
MRRIO2 - Monopitched Roof Ridge	0.88	-0.104
ROFI01 - Roof Firewall	0.93	0.006
ROFI02 - Roof Firewall	0.93	0.009
FSEW01 - Floor Slab External Wall	0.93	-0.046
BFBW01 - Basement Floor Basement Wall	0.91	-0.049
BCEW01 - Basement Ceiling External Wall	0.95	-0.051
BCBW01 - Basement Ceiling Basement Wall	0.96	0.008
BCIW01 - Basement Ceiling Internal Wall	0.99	0.006
BCIW02 - Basement Ceiling Internal Wall	0.98	0.058
EWEC02 - External Wall Outer Corner	0.89	-0.053
EWIC02 - External Wall Inner Corner	0.97	0.029
EWCE02 - External Wall internal CEiling	0.95	0.012
EWFJ02 - 0	0.95	0.008
EWIW02 - External Wall Internal Wall	0.96	0.007
EWEJ02 - External Wall Element Junction	0.95	0.013
EWFI02 - External Fireprotective wall	0.94	0.023
RORI03 - Roof Ridge	0.93	-0.024
RORI04 - Roof Ridge	0.95	-0.019
ROEA03 - Roof Eaves	0.91	-0.021
ROEA04 - Roof Eaves	0.92	-0.023
ROVE03 - Roof Verge	0.91	-0.063