

CERTIFICATE

Certified Passive House Component

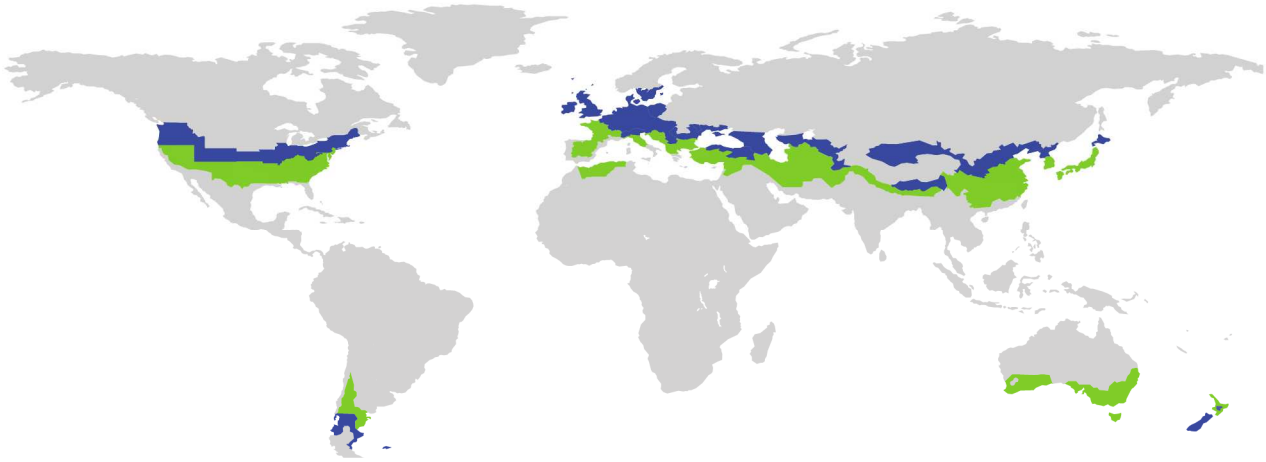
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Passive House Institute

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

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/(m ² 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