

CERTIFICATE

Certified Passive House Component

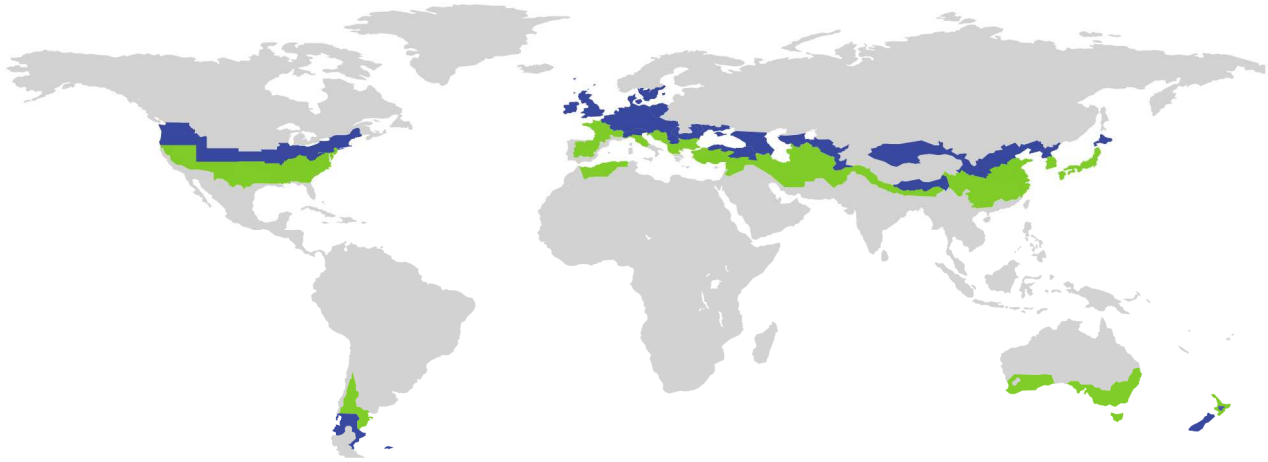
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Passive House Institute

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Category	Construction system Lightweight construction
Manufacturer	Metsäliitto Cooperative, Metsä Wood Lohja Finland
Product name	Kerto-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	0.40	0.119
EW02 - External Wall	0.34	0.143
EW03 - External Wall	0.50	0.154
RO01 - Roof	0.36	0.134
RO02 - Roof	0.37	0.142
FR01 - Flat Roof	0.44	0.111
BC01 - Basement Ceiling	0.39	0.149
FS01 - Floor Slab	0.65	0.128

Thermal bridge coefficient opaque envelop	fRsi [-]	Ψ [W/(mK)]
BCEW01 - Basement Ceiling External Wall	0.97	-0.048
BCEW02 - Basement Ceiling External Wall	0.99	0.000
FSEW01 - Floor Slab External Wall	0.97	-0.029
FSEW02 - Floor Slab External Wall	0.98	-0.022
BCEW01 - Basement Ceiling External Wall	0.97	-0.044
BCEW02 - Basement Ceiling External Wall	0.97	-0.039
EWIC01 - External Wall Inner Corner	0.98	0.025
EWIC02 - External Wall Inner Corner	0.99	0.022
EWEC01 - External Wall Outer Corner	0.98	-0.063
EWEC02 - External Wall Outer Corner	0.99	-0.055
EWIW01 - External Wall Internal Wall	1.00	0.000
EWIW02 - External Wall Internal Wall	1.00	0.000
EWCE01 - External Wall internal CEiling	0.98	0.000
EWCE02 - External Wall internal CEiling	0.98	0.000
ROEA01 - Roof Eaves	0.96	-0.007
ROEA02 - Roof Eaves	0.96	-0.008
ROVE01 - Roof Verge	0.93	-0.016
ROVE02 - Roof Verge	0.94	-0.012
FRRP01 - Flat Roof Roof Parapet	0.96	0.004
FRRP02 - Flat Roof Roof Parapet	0.96	0.007
ROEA03 - Roof Eaves	0.97	-0.064
ROEA04 - Roof Eaves	0.97	-0.060