

CERTIFICATE

Certified Passive House Component

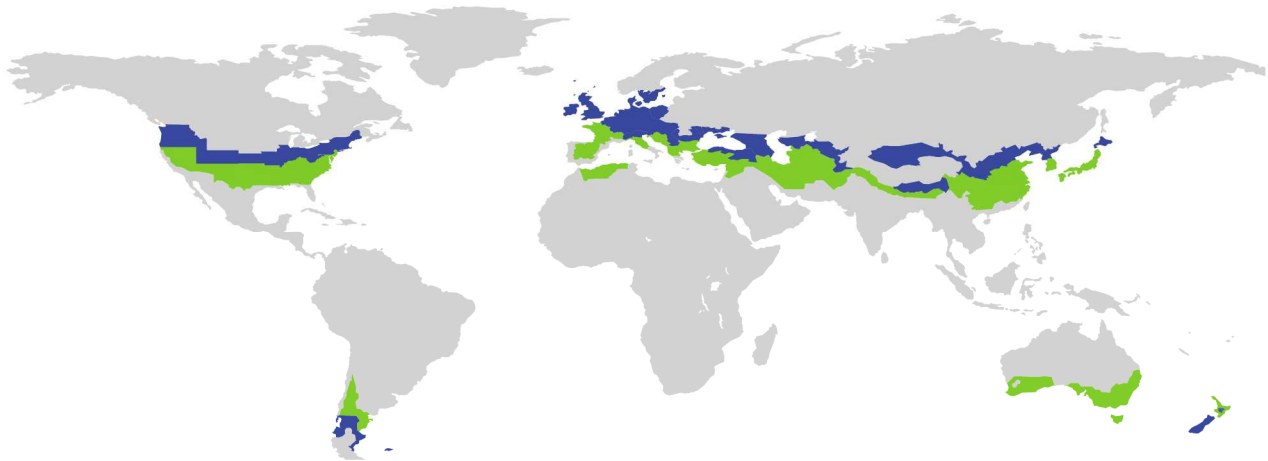
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Passive House Institute

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Category **Construction system | Timber frame construction**
Manufacturer **Cygnum Timber Frame Ltd.**
Cork
IRELAND
Product name **Cygnum Passive 350**

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

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

Efficiency criteria

Heat transfer coefficient of building envelope

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

Temperaturfactor of opaque junctions

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

Thermal bridge free design for key connection details

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

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 | 0.36 | 0.128 |
| FR01 - Flat Roof | 0.54 | 0.148 |
| MR01 - Monopitched Roof | 0.31 | 0.135 |
| FS01 - Floor Slab | 0.35 | 0.145 |
| BC01 - Basement Ceiling | 0.38 | 0.141 |

| Thermal bridge coefficient opaque envelop | fRsi [-] | Ψ [W/(mK)] |
|--|-----------------|-------------------|
| RORI01 - Roof Ridge | 0.91 | -0.027 |
| ROEA01 - Roof Eaves | 0.97 | -0.028 |
| BCEW01 - Basement Ceiling External Wall | 0.89 | -0.006 |
| FSIW01 - Floor Slab Internal Wall | 0.98 | 0.010 |
| FSIW02 - Floor Slab Internal Wall | 0.96 | 0.005 |
| BCIW01 - Basement Ceiling Internal Wall | 0.96 | 0.006 |
| EWEC01 - External Wall Outer Corner | 0.92 | -0.049 |
| EWIC01 - External Wall Inner Corner | 0.98 | 0.025 |
| EWIW01 - External Wall Internal Wall | 0.96 | 0.007 |
| EWCE01 - External Wall internal CEiling | 0.94 | 0.014 |
| ROEA01 - Roof Eaves | 0.94 | -0.014 |
| CCEA01 - Collarbeam Ceiling Eaves | 0.94 | -0.009 |
| ROVE01 - Roof Verge | 0.91 | -0.055 |
| CCIW01 - Collarbeam Ceiling Interior Wall | 0.96 | 0.000 |
| ROIW01 - Roof Internal Wall | 0.96 | 0.000 |
| MRVE01 - Monopitched Roov Verge | 0.91 | -0.035 |
| MRRI01 - Monopitched Roof Ridge | 0.90 | -0.056 |
| MRCB01 - Monopitched Roof Collar beam | 0.95 | -0.033 |
| MRIW01 - Monopitched Roof Interior Wall | 0.96 | 0.000 |