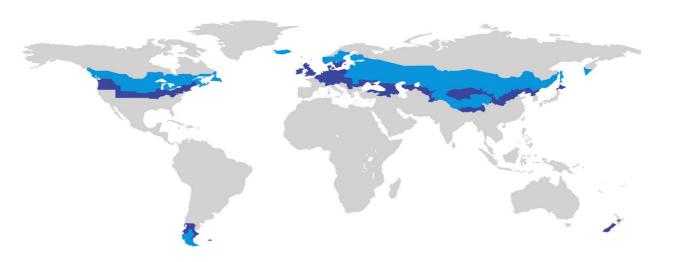
CERTIFICATE

Certified Passive House Component

ID: 1555wa02 valid until 31. December 2025

Passive House Institute
Dr. Wolfgang Feist
64342 Darmstadt
GERMANY



Category Wall system | Lightweight timber construction

Manufacturer Quantum Passivhaus

Minden Canada

Product name Quantum Wall System - Type 1.1

This certificate for the cold climate zone was awarded based on the following criteria

Hygiene criterion

The minimum temperature factor of the interior surfaces is $f_{Rsi=0,25m^2K/W} \ge 0,75$

Comfort criterion

The U-value of the installed windows is $U_{W,i} \le 0,65 \text{ W/(m}^2\text{K})$

Efficiency criteria

Heat transfer coefficient of building envelope
Temperature factor of opaque junctions

Thermal bridge-free design for key connection details

An airtightness concept for all components and connection details was provided

CERTIFIED COMPONENT
Passive House Institute

0,12 W/(m²K)

0,01 W/(m²K)

0,88

U*f_{PHI} ≤

Ψ≤

f_{Rsi=0,25m²K/W} ≥

Page 4/4 cold climate

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Opaque building envelope

The Quantum Wall System is a lightweight timber frame construction system, insulated with mineral wool (0,036 / 0,046 W/(mK)) and cellulose (0,045 W/(mK)). The system is intended to be used with a ventilated rainscreen to the exterior, for which additional point thermal bridges may need to be taken into account in the design phase. The system has been designed to meet the Passive House Institute criteria for opaque components in the cold (Types A1, A1.1) and cool-temperate (Types A2, A2.1) climate zone, and is also suitable for use in the warm-temperate zone.

Windows

Analysis was undertaken using a high quality Passive House window with a Uw-value of 0,60 W/(m²K) using a Ug of 0,52 W/(m²K), a SWISSPACER Ultimate spacer and butyl secondary seal. The installed U-value meets the comfort requirement of Passive House buildings using a reference size of 1,23 by 1,48 m.

Airtightness concept

The airtightness of the construction system is achieved through the use of an airtight membrane, fixed to the inside of the supporting joists and behind the service cavity. Joints are secured with specialist air tightness tape. The system also includes a windand waterproof membrane, fixed to the outside of the exterior insulation, with joints secured as above.

Explanatory notes

The Passive House Institute has defined international component criteria for seven climate zones based on hygiene, comfort and affordability criteria. In principle, components which have been certified for climate zones with higher requirements may also be used in climates with less stringent requirements. Their use might make economic sense in certain circumstances.

