



133 Union Street,
Brooklyn,
NY 11231.

Authorised by:
Passivhaus Institut
Dr. Wolfgang Feist
Rheinstr. 44/46
D-64283 Darmstadt



Certificate

Passive House Academy hereby certifies the following building as a

Quality Approved Passive House

1535 Oak Crest Dr. Victoria, BC V8P 1K7

Client: **Rob, Susan, Mark, Julie Bernhardt**

Architect: **Greg Damant, Cascadia Architects Inc.**

Contractor: **Bernhardt Contracting Ltd.**

Consultant: **Rob Bernhardt**

This building was designed to meet Passive House criteria as defined by the Passive House Institute. With appropriate on-site implementation, this building will have the following characteristics:

- Excellent thermal insulation and optimised connection details with respect to building physics. High thermal comfort during the summer has been considered and the heating demand or heating load will be limited to
 - **15 kWh per m² of living area and year or 10 W/m², respectively**
- A highly airtight building envelope, which eliminates draughts and reduces the heating energy demand: The air change rate through the envelope at a 50 Pascal pressure difference, as verified in accordance with ISO 9972, is less than

0.6 air changes per hour with respect to the building's volume

- A controlled ventilation system with high quality filters, highly efficient heat recovery and low electricity consumption, ensuring excellent indoor air quality with low energy consumption
- A total primary energy demand for heating, domestic hot water, ventilation and all other electric appliances during normal use of less than

120 kWh per m² of living area and year

This certificate is to be used only in combination with the associated certification documents, which describe the exact characteristics of the building.

Passive Houses offer high comfort throughout the year and can be heated with little effort, for example, by heating the supply air. The building envelope of a Passive House is evenly warm on the inside and the internal surface temperatures hardly differ from indoor air temperatures. Due to the highly airtight envelope, draughts are eliminated during normal use. The ventilation system constantly provides fresh air of excellent quality. Heating costs in a Passive House are very low. Thanks to their low energy consumption, Passive Houses offer security against energy scarcity and future rises in energy prices. Moreover, the climate impact of Passive Houses is low as they reduce energy use, thereby resulting in the emission of comparatively low levels of carbon dioxide (CO₂) and other pollutants.

issued:
Broomhall Business Park Wicklow, October 21st 2014

Tomás O'Leary
Director
Passive House Academy

Certificate-ID: 9690_MosArt_PH_20141021_TOL

Certification Documentation

Specific building demands with reference to the treated floor area			
	Treated floor area	251.0 m ²	
Space heating	Heating demand	15.40 kWh/(m ² a)	15 kWh/(m ² a)
	Heating load	12 W/m ²	10 W/m ²
Space cooling	Overall specif. space cooling demand	kWh/(m ² a)	-
	Cooling load	W/m ²	-
	Frequency of overheating (> 25 °C)	1.6 %	-
Primary energy	Heating, cooling, dehumidification, DHW, auxiliary electricity, lighting, electrical appliances	106 kWh/(m ² a)	120 kWh/(m ² a)
	DHW, space heating and auxiliary electricity	54 kWh/(m ² a)	-
	Specific primary energy reduction through solar electricity	kWh/(m ² a)	-
Airtightness	Pressurization test result n ₅₀	0.5 1/h	0.6 1/h

* empty field: data missing; ** no requirement

This building has been awarded the

Quality Approved Passive House

certificate by MosArt Ltd.

This certification is based solely on the design data and specifications provided to MosArt Ltd by the client for the purpose of certification. MosArt Ltd has checked and approved the building's energy balances according to these data.

This certification does not cover quality assurance of the construction work or design implementation. MosArt Ltd hereby takes no responsibility for any faults in the above.

