



Passivhusbyrå Ingo Theoboldt
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Sverige

Authorised by:
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Confirmation

The Passivhusbyrå confirms, that if the following building

Hedlunda Förskola, Lilla Gatan 1, 903 22 Umeå, Sweden

was to be built to the latest design available to the Passivhusbyrå, it would meet the Passive House criteria as defined by the Passive House Institute. With appropriate on-site implementation, this building would have the following characteristics:

- Excellent thermal insulation and optimised connection details with respect to building physics. The building has been carefully designed with respect to summer comfort as well. The heating demand would be limited to

15 kWh per m² of living area and year.

- 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, would have to be less than

0.3 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 would be present.
- A total primary energy demand for heating, hot water, ventilation and all other electric appliances during normal use would be a maximum of

120 kWh per m² of living area and year.

Passive Houses offer high comfort throughout the year and can be heated or cooled with little effort, for example, by heating/cooling the supply air. Even in times of cold outdoor temperatures 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 high quality. Energy costs for ensuring excellent thermal comfort in a Passive House are very low. Thanks to this, 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 air pollutants.

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Ingo Theoboldt

