

Certificate

**ENERGIEHAUS ARQUITECTOS awards the seal "Certified Passive House"
to the following building**

Passivhaus Herrera; C/ Miguel Ángel nº4, 41567 Herrera (Sevilla), Spain



Client: Juan Manuel Aragón Quintana
C/ Miguel Ángel, nº4
41567 Herrera, Spain

Architect: F. Ruiz, J.M. Rodríguez Dávila y J. M. Castaño Salvador

Passive House Juan Manuel Castaño Salvador
Design: C/ Leonardo da Vinci , 18 - Planta 2, M2
41092 Sevilla, Spain

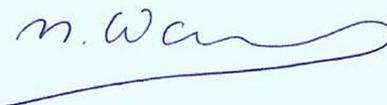
This building was designed to meet Passive House criteria as defined by the Passive House Institute. With appropriate on-site implementation, this building will have the following characteristics:

- Excellent thermal insulation and optimised connection details with respect to building physics. The heating demand or heating load will be limited to
15 kWh per m² of living area and year or a heating load of 10 W/m², respectively
- When outdoor temperatures are high, thermal comfort can be ensured with passive solutions or with minimal energy demand for cooling and dehumidification according to the location-specific Passive House requirements.
- 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 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 excellent 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.

issued: Barcelona, 06.11.2017
Micheel Wassouf

A handwritten signature in blue ink, appearing to read "M. Wassouf", with a long horizontal flourish underneath.