

K-Vall d'Or

A 280 m² single-family home in Valldoreix, certified Passivhaus Plus, pairing contemporary architecture with a high degree of energy self-sufficiency.

A premium high-efficiency home

K-Vall d'Or is a 280 m² single-family home in Valldoreix, one of the most exclusive residential areas of Sant Cugat del Vallès. Certified to the Passivhaus Plus standard, it pairs a contemporary look with very low energy use and its own renewable generation.

The project answers a client after the highest thermal and acoustic comfort, fine architecture and minimal running costs, with none of the home's character lost along the way.

Technical data

- **Location:** Valldoreix, Sant Cugat del Vallès
- **Year:** 2023
- **Built area:** 280 m²
- **Levels:** 4 floors
- **Type:** detached single-family, new build
- **Certification:** Passivhaus Plus
- **Construction system:** Eskimohaus, light timber frame
- **Climate control:** aerothermal
- **Ventilation:** dual flow with heat recovery
- **Renewable energy:** photovoltaic installation
- **Storage:** batteries

Site and integration

The plot is steep, with open views over the surrounding countryside. The project turns the slope into an asset: the house steps down to follow the ground, treading more lightly on the site, cutting back on earthworks and opening up distinct outdoor spaces at each level.

Architectural concept

The home speaks a contemporary language of clean lines and horizontal volumes: deep overhangs that keep out the summer sun, generous glazing placed where it counts, an easy flow between inside and out, and terraces across several levels.

The design puts the relationship with the landscape first. The main rooms open towards the views, while the more private areas turn away from the street. The result is a serene, timeless piece of architecture.

Layout

Across roughly 280 m² and four levels, the main floor is where daily life happens: living room, dining room, an integrated kitchen and a direct link to the terraces. The upper floors hold the sleeping quarters, with the best orientations kept for the bedrooms.

The lower levels take the technical and service areas, tucking the building services away without touching the quality of the living spaces.

Construction system

K-Vall d'Or is built with the industrialised Eskimohaus system, based on a light timber frame. It brings manufacturing precision, shorter build times, excellent thermal behaviour and a lower carbon footprint than conventional structures.

The envelope carries thick insulation, carefully resolved thermal bridges, airtightness membranes and high-performance windows, all of it essential to reach the Passivhaus Plus standard.

Systems and energy

The building services work together to keep energy use extremely low. The aerothermal system provides heating, cooling and hot water at high seasonal efficiency, while the dual-flow ventilation with heat recovery keeps the indoor air constantly fresh.

The roof carries a photovoltaic array sized to cover a very large share of the annual demand, and the home has battery storage, which raises self-consumption and brings the house close to running on its own.

Comfort and performance

Passivhaus Plus certification guarantees very low energy demand, high renewable output and steady comfort all year, with even temperatures, no draughts and excellent indoor air quality. The result is a healthy, quiet home that costs very little to run.

The highest energy efficiency, steady year-round comfort and a contemporary architecture shaped by its landscape.

