

Quality Specifications - Terrassa Haus

Façades and Roof

The façades are made of solid brick with a 100 mm thermal insulation SATE, with a thermal conductivity of 0.035 W/m-K.

Hermetic layer through a 10 mm thick plaster on the interior side of the façade and party walls adjacent to neighboring properties, concealed within the installation chamber.

Perimeter drywalling of the dwelling walls with laminated gypsum boards and mineral wool insulation, with a thermal conductivity of 0.035 W/m-K, painted on the interior side.

Walls against sloping areas will be solid brick with mineral wool insulation, with a thermal conductivity of 0.035 W/m-K on the interior side, painted finish.

Inclined roof with XPS insulation, with a thermal conductivity of 0.036 W/m-K, 180 mm thick on a concrete slab. Covered with ceramic tiles.

Interior Partitions

Interior divisions of different rooms in each dwelling with laminated gypsum board partitions and rock wool insulation, painted finish.

Interior Finishes

Laminated gypsum board false ceiling as per installation requirements.

1. Floors and Coverings

Laminate floating floor AC5 in natural matte color, finished with a white baseboard, except in the bathroom where the floor is ceramic matching the laminate floor.

Non-slip ceramic floor matching the laminate floor in common areas.

Walls and ceilings painted with smooth plastic paint.

2. Tiling

Bathroom walls tiled halfway up with porcelain ceramic tiles in white and kitchens tiled between upper and lower cabinets with ceramic tiles in white.

3. Sanitary Ware and Faucets

White low tank toilet from Sensea brand, with a soft-closing lid. Round sink on a natural finished countertop with lower shelf in non-adapted bathrooms. Acrylic shower trays (shower screens not included). Chrome single-lever faucets at the sink. Showers with thermostatic faucet, showerhead, and handheld shower from Sensea brand.

4. Kitchen

Matte white furniture with laminated wood finish countertop. One-bowl sink with high spout single-lever faucet.

Balay brand appliances:

- Decorative recirculating hood
- Induction hob

5. Interior Carpentry

Armored entrance door with 3-point lock and anti-leverage trims, matching the rest of the carpentry.

Solid white lacquered interior doors, hinged or sliding as needed, with chrome handles.

Built-in wardrobe in the main suite bedroom with a hinged door.

6. Exterior Carpentry

Dark gray PVC carpentry, with thermal break with thermal transmittance $U_f < 2.00 \text{ W/m}^2\text{-K}$, Class 4 air tightness, sealed with sealing tapes with the hermetic layer (plaster on walls, slabs). Glass in all windows with air chamber and triple glazing with Argon gas and low emissivity.

Motorized blinds in matching color.

7. Installations

7.1 Electrical Installation

Following the regulations of the low voltage installation. Electrical mechanisms from Simón brand.

7.2 Telecommunications Installation

All rooms in the dwelling have TV, radio, telephone, and computer network outlets, except kitchen and bathroom. Installation of fiber optics to the central box located in the living-dining room, from where the network service is distributed.

7.3 Heating and Ventilation

Heating with aerothermal heat pump with ducts throughout the dwelling, except in sanitary rooms. Continuous mechanical controlled double-flow ventilation with heat recovery.

7.4 Plumbing and Sanitation Installation

Main PVC sanitation network.

Individual plumbing installation with pipes that include water outlets for each sanitary appliance as well as for different elements of the kitchen, with a general shut-off key.

7.5 Domestic Hot Water Installation (DHW)

DHW produced by the aerothermal system.

Common Area Finishes

1. **Accesses:** Entrance door with automatic porter.
2. **Elevator:** Eco elevator (Energy rating A) from Orona for 6 people with automatic doors, complying with accessibility regulations.
3. **Swimming pool, Coworking, Gym, and Bike-Room**

Swimming pool according to plans with salt chlorination.

Coworking has work tables. Internet connection.

The gym has the following equipment: treadmill, elliptical machine, multi-function machine, reclining bench, set of weights, and mats.

Bike-Room for bicycle storage.

Advantages of Passive House Certification

A building with high comfort and almost zero energy consumption under the Passive House standard prioritizes the passive control of heat transfer through the thermal envelope.

The goal is to construct healthy and comfortable buildings with low energy consumption.

A Passive House building results from a rigorous design process and thorough execution control that has demonstrated consumption reductions of up to 90% compared to a conventional building.

Basic Principles of the Standard:

- High thermal insulation without interruptions. In winter, it retains heat, and in summer, it prevents it.
- Absence of thermal bridges that provide heating savings and prevent damage to the building.
- High-quality thermal windows that ensure temperature gains.
- High airtightness to prevent energy losses and improve comfort.
- Controlled mechanical double-flow ventilation with heat recovery that ensures the supply of fresh air to different rooms at almost ambient temperature, with very little need for additional heating.

General Certification Criteria:

- Overheating: with active cooling, the indoor temperature must not exceed 25 °C, 24 hours a day.
- Indoor air humidity: with active cooling, $\leq 10\%$ of the hours of the year with an absolute humidity of indoor air of 12 g/kg.
- Thermal comfort: the difference between the operative indoor temperature and the temperature of all surfaces must be $\leq 4.2^\circ$ K.
- Protection against moisture damage: to avoid flowering and condensation problems, the minimum temperature factor of all surfaces must be $f_{Rsi} \geq 0.65$ (temperate-warm climate zone).
- User well-being: all habitable rooms must have an openable window.
- Mechanical ventilation: all rooms must be ventilated with the ventilation system, with silent operation of ≤ 25 db(A) without causing drafts.

Passive House Certification guarantees the homeowner that the energy standard will be achieved, and, in turn, it is a guarantee of quality and future value as the property's value is maintained over time and facilitates its resale.

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