

Building a passive house: foundations and structure

The first days on site define the base and the frame of a passive home. We look at the start of construction at PassivPalau, in Palau-solità i Plegamans, from the slab to the assembly of the timber structure.

With the project finalised and all permits in place, work begins at PassivPalau, a timber passive house in Palau-solità i Plegamans. This is the moment when the design leaves the drawing board and takes shape on the ground, and the first construction decisions shape everything that follows. At PAPIK Group this initial phase is planned with the same rigour as the rest of the process, because the base and the frame determine the final performance of the home.

The foundations, the base of everything

The first task in building a timber passive house is the foundations. The slab, as in any project that does not use timber, is a critical element: its role is to prevent moisture and ensure that the entire structure rests on a solid, stable base. A passive house demands precision from the very first centimetre, and the slab is the reference plane from which everything else is raised.

The workshop-prefabricated structure

Once the slab is complete, the structures already prefabricated in the workshop are brought to site, arriving ready to be assembled. These are basic structures onto which the insulation, waterproofing, façade and interior finishes are later applied. This industrialised approach, in which much of the precision work is carried out in a controlled environment, is one of the features that set timber construction apart from traditional building.

A frame raised in a single day

The assembly is a fast and striking process: in a single day the frame of the house goes up and the final result begins to emerge. Once the structure is assembled, it still needs to be consolidated to reach its final insulation and strength. This step is what turns a set of assembled components into the compact, airtight envelope that defines a Passivhaus home.

From structure to finished home

The foundations and the structure are only the starting point. From here come the layers that make a house worthy of the name passive: continuous insulation, airtightness and finishes. Anyone who wants to understand how we approach the process as a whole can look at our [construction](#) service, and anyone starting from an existing building will find a parallel logic in [energy retrofit](#).

A passive house does not begin with the insulation or the windows, but with a well-resolved slab and a precisely assembled structure. The rest of the energy performance is built on top of that base.