

Winner architecture

Santa Creu & Sant Pau Hospital Research Centre, Barcelona

PICHarchitects_Pich-Aguilera & 2BMFG Arquitectes

Photo by Aldo Amoretti

Sant Pau & Santa Creu Hospital's new research centre is a technological building, based on global sustainability parameters that ensure a high degree of functionality and comfort, optimum environmental performance, savings on costs and the consumption of energy and materials, and optimum functionality, taking into account the whole lifecycle of both the materials and the building itself.

The building is divided into volumes with a clear geometrical shape, set between the city roads and Santa Creu & Sant Pau hospital so that it is one of the main ways of accessing the hospital premises.

Dry construction systems were used to make the structure, building envelope, inner walls and utility networks. The building was planned from a circular-economy perspective, taking into account its possible reversibility in the future, including potential changes to its components at a later date to replace them with better-performance ones.

THE CERAMIC ENVELOPE

The envelope of the building is covered in an industrialized system of flexible slats, arranged in a shiner pattern, held in place by a woven steel mesh. The made-to-measure ceramic slats are extrusion manufactured (with a total of about 45,000 of them, fitting into 42cm-wide x 10cm-high gaps in the mesh).

The system was specially customized for the building so that it would blend in with the textures of the Modernist buildings close to it, while also incorporating today's modern technology. The big translucent ceramic latticework surface changes in appearance throughout the day, both from the outside and inside of the building.

The system is made up of flat ceramic slats with a fold in them so that they are angled like an eave to take advantage of the sun's rays. The south-facing façades have a horizontal fold, while the façades not directly facing the sun have a lateral one. The outer face of the ceramic slat comes in several terracotta colours, with a certain shade variation to blend in with the brickwork of the surrounding buildings. The back of the slat is brightly glazed, evoking the domes of buildings in the vicinity. Geometrically, the whole ensemble has a scaled texture, with a cadence and rhythm that change during the course of the day. Externally, its colours alter depending on the incidence of the sunlight and its reflections,

while from the inside, the coloured glaze of the slats can be seen and light is filtered into the building's rooms to offer researchers a certain privacy.

The latticework continues across the roof to form its rooftop ceilings. The pergolas on the rooftop are supported by stainless steel girders and tubular sections, all forming a curved shape, used to hold the mesh and ceramic slats in place. The ceramic ceiling system in the porched entrance to the building is fixed in place with metal brackets.

Ceramic materials are a star feature of the whole building.