Wooden Facade

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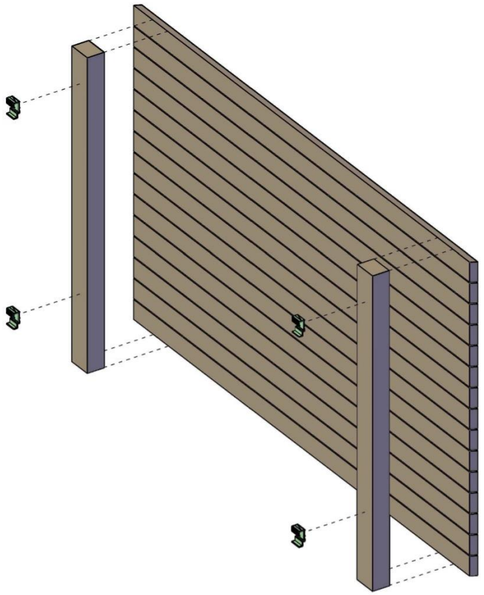
Invention

The solutions proposed by the market to create advanced screen facades are many and able to allow the application of many different cladding materials, in any design configuration is required. In this context, it should be noted that the types with wood cladding currently have backward technologies, require manual installation of the various components and are complex to apply to irregular surfaces. The patented technology, designed to be industrialized, significantly reduces overall costs, allows it to be used on any building, offering the possibility of a modular prefabricated facade in certified wood.

The patented technology, which received the Ciullini-Chiarugi award for the degree thesis focused on the same, combines an aluminum substructure with a cladding panel in Pino Radiata wood with Accoja treatment in order to create a commercially competitive system compared to advanced screen facades with other cladding materials and obtain a cladding characterized by exceptional performance of stability and resistance to climatic factors. The configuration of the cladding panel, which ensures ample transpiration of the wooden material, makes it possible to use it both as an opaque element but also as a sunscreen, simply alternating a crosspiece and a void rather than consecutive crosspieces. In this way, a covering element is obtained which is shielding, but at the same time not darkening. The cladding panel is made entirely in the factory, and the fact that it is characterized by an industrialized prefabrication process allows a considerable reduction in costs, compared to other systems with wooden cladding. The presence of a prefabricated aluminum substructure offers the possibility for the system to be adjusted in the three spatial directions to absorb construction tolerances and errors and to vary the thickness of the thermal insulation and the air gap according to the design requirements. An innovative facade system was born with advanced screen wood cladding or, better still, ventilated to be used for new buildings or for the energetic and aesthetic improvement of existing ones, through the use of Pino Radiata wood, and not wood composite.

Drawings & pictures



Industrial applications

The product that implements the patent is intended for public and private construction for the construction of buildings with eco-sustainable materials, with high energy efficiency, or for the aesthetic and energy improvement of existing structures.

Technology sees as 20% co-owner one of the leading Italian companies in the production, sale and assembly of wooden systems for the construction of buildings.

The invention constitutes a significant qualitative improvement compared to the state of the art, both from the point of view of applicability and use, and in terms of costs, therefore more scalable than the alternatives on the market. The current fiscal regulations aimed at favoring the energetic and structural improvement of existing buildings allow us to glimpse a wide market for the patented solution in Italy.

Possible developments

The patent is available under an exclusive and non-exclusive license. The licenses are available for the entire remaining term of the patent titles.

The research group is available for new research activities in collaboration and on behalf of third parties, technical insights, scientific advice, also aimed at raising the TRL of technology.

The TRL of the invention is 5.

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