High Efficiency Light Panel (HELP), a new wood-base panels system.

The aim of the project is to develop a construction system known as High Efficiency Light Panel (HELP). Consists of a set of innovative solutions based on a mixture of lightweight timber framing and cross laminated timber (CLT), for the manufacture of "Zero Emission" walls, slabs and roofs.

There is an improvement of the structural capacity of the construction system that allows more height (3-4 floors) than with the traditional lightweight building. The positioning of a three-layer or CLT board on the inside of the walls acts directly as a vapour barrier, saving the cost of installation.

The new building solutions are based on wooden or wood-base panels which will be subjected to tests, analytical calculations and numerical approximations for their structural, thermal, acoustic, watertight and fire resistance characterization. In addition, its environmental characterization (CO2, reutilization) will be carried out.
A solution with the new construction system has been defined for use in slabs, walls and roofs. Spreadsheets have been developed to obtain thermal transmissivity, surface and interstitial condensations, sound absorption and structural capacity.

DETAILS

ORIGIN OF WOOD
Forest

TYPE OF WOOD
Stemwood

KIND OF WOOD CONCERNED
Sawn timber, KVH

IMPACT ON ENVIRONMENT & BIODIVERSITY
Positive

INCOME EFFECT
Positive: decreased building time

EXPLOITATION POTENTIAL
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HUB
--

ECONOMIC IMPACT
Increase of the load-bearing capacity of the building by 30% approximately

SPECIFIC KNOWLEDGE NEEDED
High knowledge needed about similar construction systems

MOBILIZATION POTENTIAL
10-20 m3 / house

SUSTAINABILITY POTENTIAL - VALUE
--

EASE OF IMPLEMENTATION
Medium

EASE OF IMPLEMENTATION - EVALUATION
--

KEY PREREQUISITES
--

TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED
--

JOB EFFECT
Positive: increased efficiency of materials

COSTS OF IMPLEMENTATION (EURO - €)
--

MORE DETAILS

CHALLENGE ADDRESSED

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DOMAIN

Wood construction industry

TYPE OF SOLUTION

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KEYWORDS

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DIGITAL SOLUTION

No

INNOVATION

Yes

COUNTRY OF ORIGIN

Spain

SCALE OF APPLICATION

National

START AND END YEAR

2017 - 2018

REFERENCES AND RESOURCES

MAIN WEBSITE

http://www.mabitat.es

PROJECT WEBSITE

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PROJECT REFERENCE

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RESOURCES

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PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED

Rosewood

POST DATE

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