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.

DETTAGLI

ORIGINE DEL LEGNO

foresta

TIPO DI LEGNO

Fusto

TIPO DI LEGNO IN QUESTIONE

Sawn timber, KVH

IMPATTO SULL'AMBIENTE E LA BIODIVERSITà

Positive

EFFETTO SUL REDDITO

Positive: decreased building time

POTENZIALE DI SFRUTTAMENTO

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HUB

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IMPATTO ECONOMICO

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

CONOSCENZE SPECIFICHE NECESSARIE

High knowledge needed about similar construction systems

POTENZIALE DI MOBILITAZIONE

10-20 m3 / house

POTENZIALE SOSTENIBILITà - VALORE

--

FACILITà DI IMPLEMENTAZIONE

Medium

FACILITà DI IMPLEMENTAZIONE - VALUTAZIONE

--

PREREQUISITI CHIAVE

--

TIPO DI EVENTO IN CUI QUESTO BPI è STATO PRESENTATO

--

EFFETTO SUL LAVORO

Positive: increased efficiency of materials

I COSTI DI ATTUAZIONE (EURO - €)

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Più DETTAGLI

SFIDA RISOLTA

--

DOMINIO

industria delle costruzioni in legno

TIPO DI SOLUZIONE

--

PAROLE CHIAVE

--

SOLUZIONE DIGITALE

No

INNOVAZIONE

Sì

PAESE D'ORIGINE

Spagna

SCALA DI APPLICAZIONE

Nazionale

INIZIO E FINE ANNO

2017 - 2018

REFERENCES AND RESOURCES

SITO PRINCIPALE

http://www.mabitat.es

SITO WEB DEL PROGETTO

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PROGETTO DI RIFERIMENTO

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RISORSE

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PROGETTO NELL'AMBITO DEL QUALE QUESTA SCHEDA è STATA CREATA

Rosewood

DATA DI INSERIMENTO

13 Set 2019

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