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.

DETALLES

ORIGEN DE LA MADERA

Bosque

TIPO DE MADERA

Madera en rollo

TIPO DE MADERA AFECTADA

Sawn timber, KVH

IMPACTO EN EL MEDIO AMBIENTE Y LA BIODIVERSIDAD

Positive

EFECTO SOBRE LOS INGRESOS

Positive: decreased building time

POTENCIAL DE EXPLOTACIóN

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HUB

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IMPACTO ECONóMICO

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

CONOCIMIENTOS ESPECíFICOS NECESARIOS

High knowledge needed about similar construction systems

POTENCIAL DE MOVILIZACIóN

10-20 m3 / house

POTENCIAL DE SOSTENIBILIDAD - VALOR

--

FACILIDAD DE APLICACIóN

Medium

FACILIDAD DE IMPLEMENTACIóN - EVALUACIóN

--

PREREQUISITOS CLAVE

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TIPO DE EVENTO EN EL QUE SE HA PRESENTADO ESTA IFS

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EFECTO SOBRE EL EMPLEO

Positive: increased efficiency of materials

COSTES DE IMPLEMENTACIóN (EURO - €)

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MáS DETALLES

RETO ABORDADO

--

DOMINIO

Industria de la construcción con madera

TIPO DE SOLUCIóN

--

PALABRAS CLAVE

--

SOLUCIóN DIGITAL

No

INNOVACIóN

Si

PAíS DE ORIGEN

España

ESCALA DE APLICACIóN

Nacional

AñO DE INICIO Y FIN

2017 - 2018

REFERENCES AND RESOURCES

SITIO WEB PRINCIPAL

http://www.mabitat.es

SITIO WEB DEL PROYECTO

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REFERENCIA DEL PROYECTO

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RECURSOS

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PROYECTO BAJO EL QUE SE HA CREADO ESTA FICHA

Rosewood

FECHA DE MENSAJE

13 Sep 2019

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A TOOL FROM ROSEWOOD 4.0, DESIGNED AND DEVELOPED BY