



ESBG 2015

EUROPEAN STRAWBALE GATHERING MONTARGIS | PARIS



Pwall Constructive System

« *Prefabricated straw walls* »

Samuela Mogetta – associate Desuneco srl



Lifelong
Learning
Programme

ESBG Strawbale Event - Pwall System

WHO?



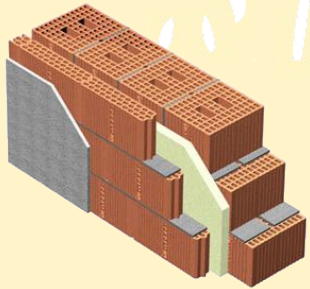
1. The first product of the innovative start-up Desuneco srl, started in July 2015;
2. Winner as one of the best innovative ideas of the E-Capital project in the Marche Region (Italy) in 2014.



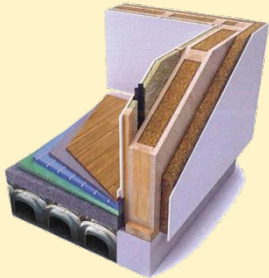
ESBG Strawbale Event - Pwall System

WHERE?

Construction systems in Italy:



BRICKS, traditional



WOOD, weave type



STRAW, self-building



OBJECTIVE!

Spread the quality of the STRAW as building material

European Directive 2009/29/CE



decrease 20% emissions
greenhouse gases



increase 20% energy from
renewable sources



increase 20% energy saving

ESBG Strawbale Event - Pwall System

WHY?

ANALYSIS of construction systems:

Problems of construction site, energy, hygrometric comfort and machinery.

1. Construction phase (mostly in straw and self-building type)



Slow to install



Exposition to bad weather

No protocol while choosing straw



Straw with no quality standards

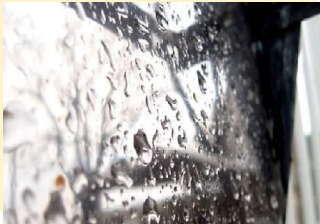
ESBG Strawbale Event - Pwall System

WHY?

ANALYSIS of construction systems:

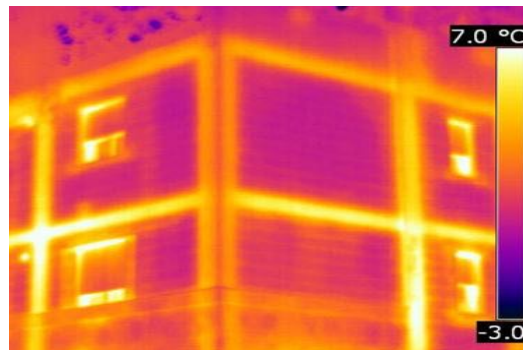
Problems of construction site, energy, hygrometric comfort and machinery

2. Life cycle of the building



Umidity e mould

Thermal bridging



Noise

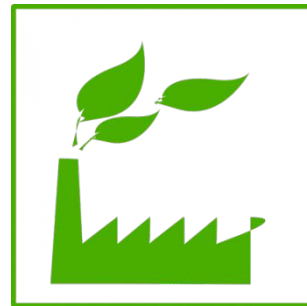
ESBG Strawbale Event - Pwall System

WHAT?

Pwall construction system:



Pwall Prefabricated Module



Prefabrication

inside

outside



NATURAL MATERIALS AND RENEWABLE

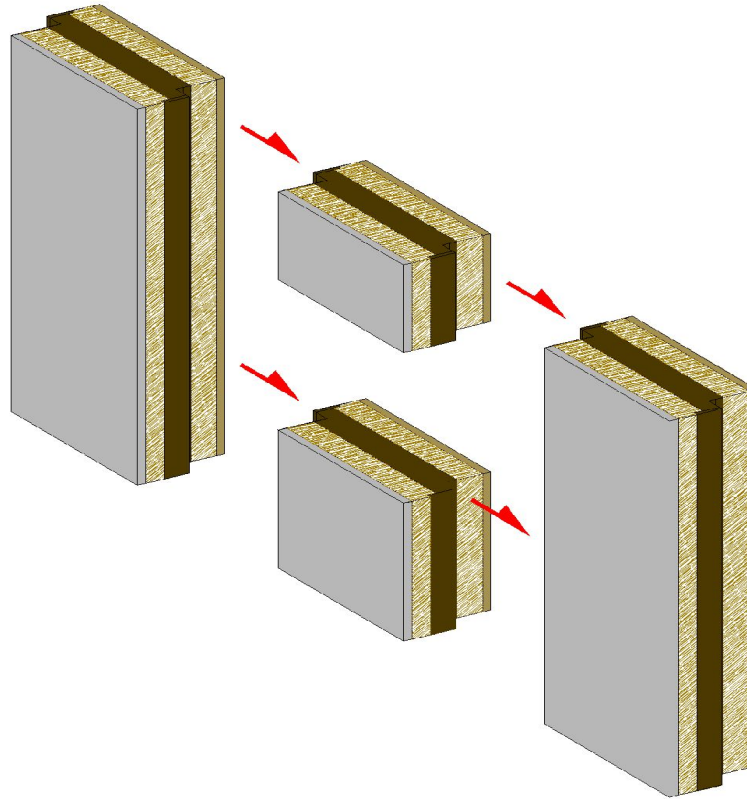
ESBG Strawbale Event - Pwall System

HOW?

1 - Planning



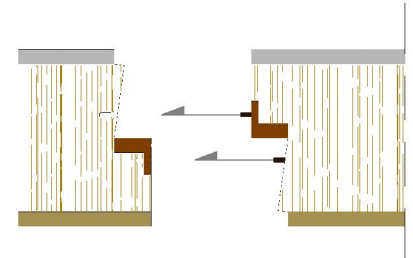
2 - Assembling



3 - Numeration



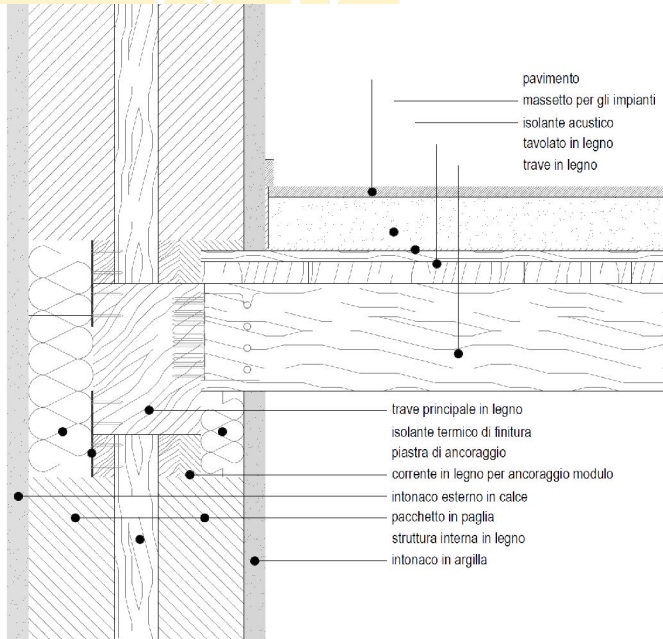
4 - Junctions



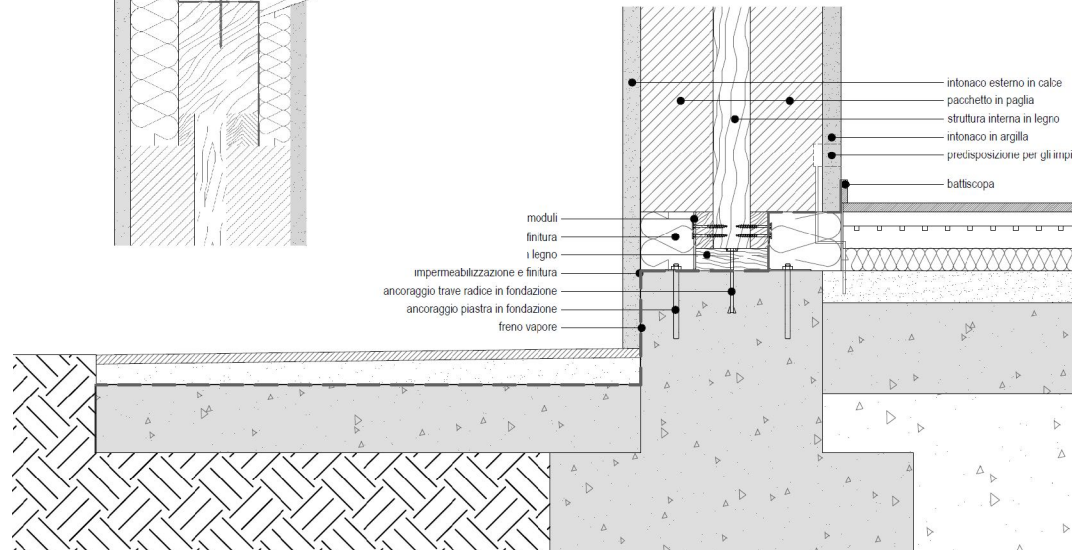
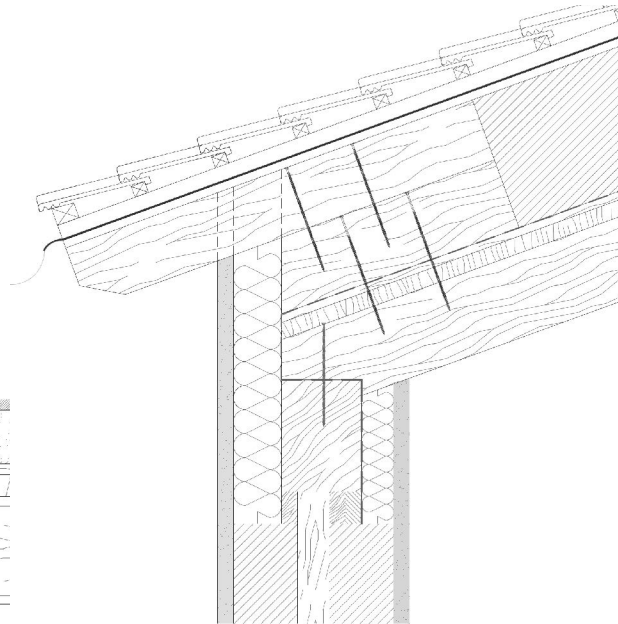
ESBG Strawbale Event - Pwall System

DETAILS

Covering-recovering attic detail



Interlevel detail



Connection with the ground detail

ESBG Strawbale Event - Pwall System

FEATURES



Thermal transmittance = 0,11 W/m²K



Acoustic insulation = 54 dB



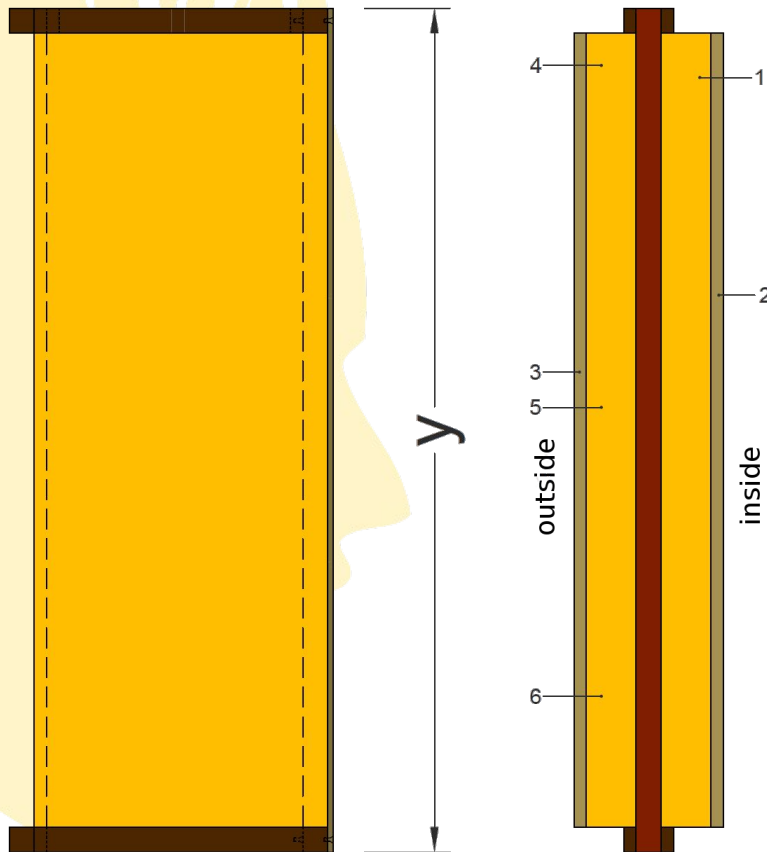
Retardant level
B-s1, d0

* the data correspond to certified values of similar products. Laboratory tests are in progress to obtain the certified values of the Pwall product. The results will be available as soon as possible in the website www.pwall.eu



ESBG Strawbale Event - Pwall System

MEASURES



The modules measures can be varied, so as to adapt to any planning requirements:

Width (x) = min 40 cm – max 120 cm

High (y) = min 40 cm – max 350 cm

Depth = min 30 cm – max 48 cm
painting included

α = maximum of inclination of the superior side of the wall, **60°**

ESBG Strawbale Event - Pwall System

ADVANTAGES



Quick installation!

High thermal performances!



Guaranteed straw!

ESBG Strawbale Event - Pwall System

QUICK INSTALLATION



Prefabricated
straw walls

The opportunity to also
plan electrical pipes

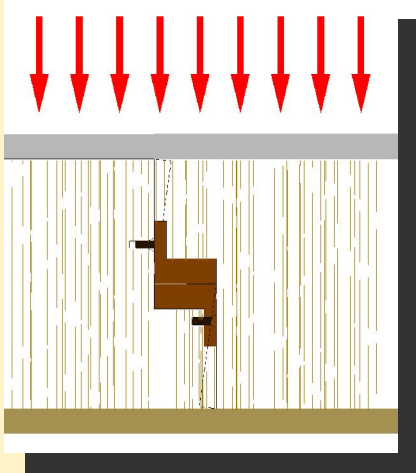


Straw protected from the
weather by the plaster

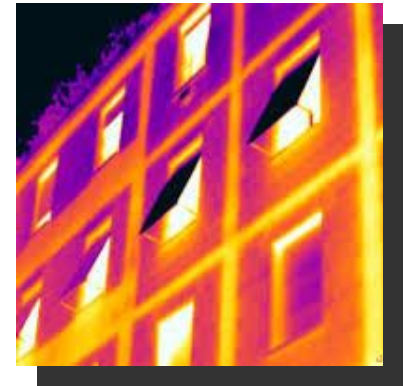


ESBG Strawbale Event - Pwall System

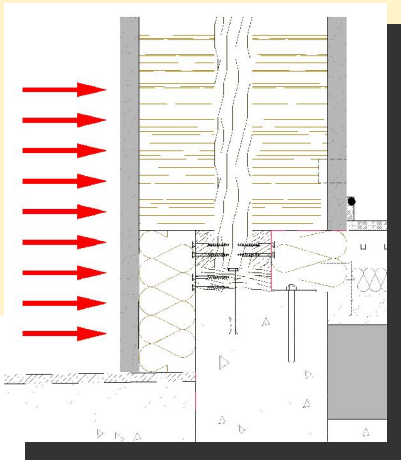
HIGH THERMAL PERFORMANCES



The special shape of the joint allows to save 50% of the energy usually lost in jointures because of the different lambda of materials

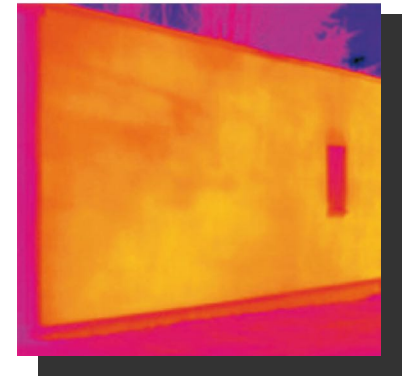


Traditional buildings



Wood $\lambda=0,1$

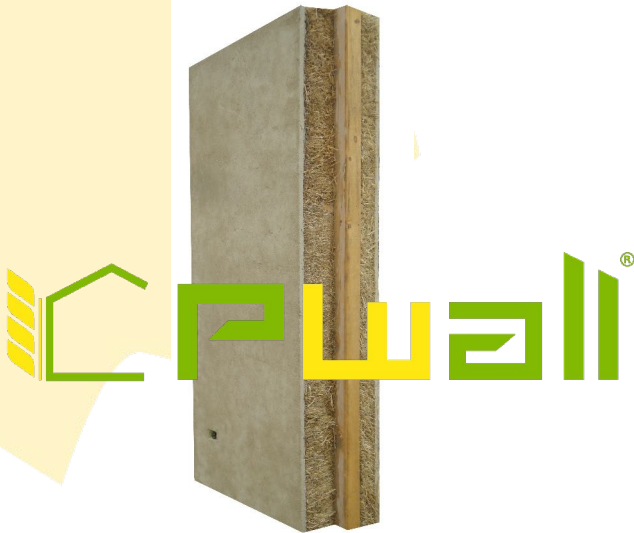
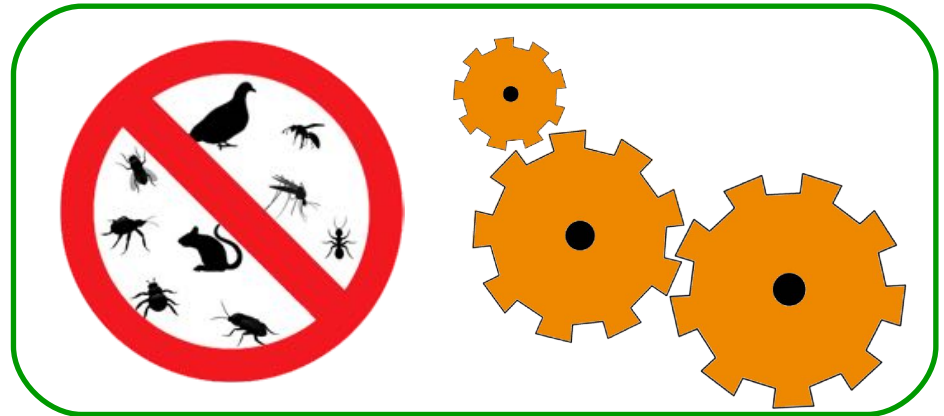
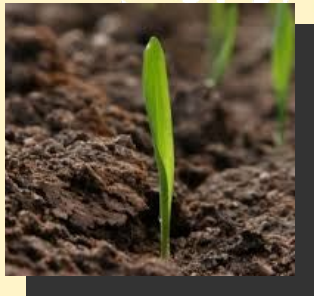
Straw $\lambda=0,055$



Prefabricated straw walls

ESBG Strawbale Event - Pwall System

GUARANTEED STRAW



ESBG Strawbale Event - Pwall System

APPLICATIONS

NOW !

Pwall can be combined with any bearing structure of reinforced concrete, steel and wood (pillars and beams), as external wall in buildings.

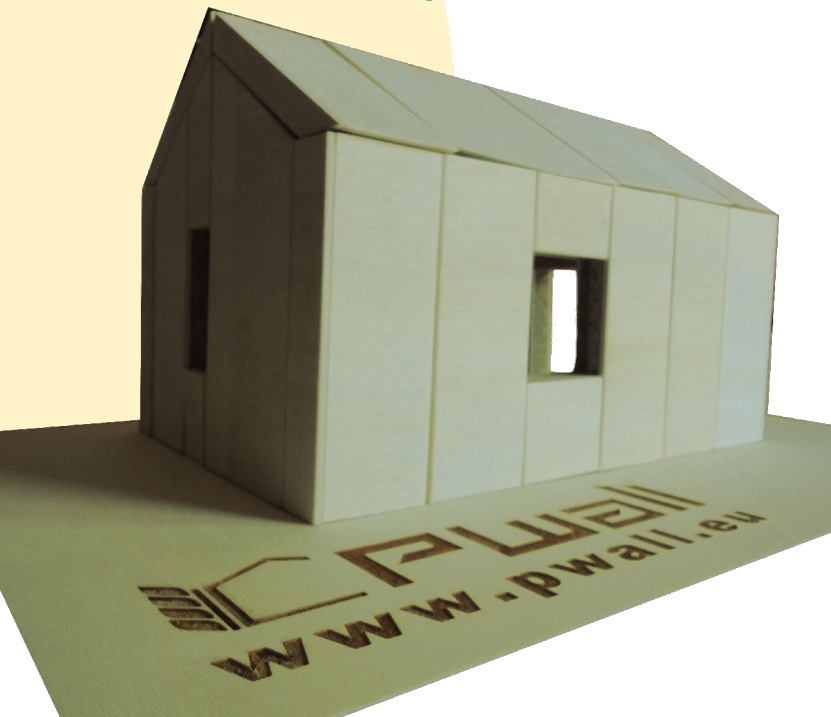
IN
THE
FUTURE!

We are planning two other products: one to create modular straw walls with a structural function, without any additional supporting structure and the other to create modular soundproofing walls, for study and music halls.

ESBG Strawbale Event - Pwall System

QUALITY

The Pwall constructive system and the brand were deposited and patented in 2014



A habitat module has been created to verify the behaviour of the walls in different weather conditions. The constant monitoring of the parameters and the field tests allow us to guarantee a product that is reliable and performing in all weather conditions.

ESBG Strawbale Event - Pwall System

MARKETING



Desuneco srl



client



technician



builder

ESBG Strawbale Event - Pwall System

Thank you for your attention!

www.pwall.eu

Desuneco Srl
Via C.Colombo, 29
Montecosaro (MC) ITALY



info@pwall.it



+39 0733 1776541

