



For You  
& Your  
Environment



## Phoenix Solutions Center

present

>>> HIGH-END in LOW-TEC <<<

### WOOD is wonderful!



For many centuries it was a world famous building material for houses, ships and more!

Buildings out of solid wood will keep for many centuries.

**B**ut solid wood will cause many problems by changing its dimensions.

So all of the commercial builders + manufacturers, engineers of timber construction, timber-industry and so on find only 2 ways to handle it:

1. Using slow-grown wood. (*This caused a big economic damage to the European forestry and was also an ecological disaster. The problems are not solved yet, they are only a bit smaller.*)
2. Using wood in small pieces bonded by any kind of glue. (*This way needs a lot of energy. All good advantages of wood are gone. The physical structure means plastic-boards. Boards bonded by glue will never keep as long as solid wood. Most of the work will be done by machines not by people. Maybe today the glue is so called "ecological", we know that this is the source of sterility, allergies or other damages to health perhaps within 20 years. Do you like to try it?*)

**T**imes have changed a lot, but not the quality of wood, the experience of 5.000 years in timber-construction and the ability to develop solutions.

Phoenix Solutions invites private, commercial & administration builder to participate of a new STANDARD in Timber-Construction & Ecological Building.

### HMD - A new STANDARD in timber construction!

Wood as a building material has very positive qualities (*ecology, healthy living, insulation, strength etc.*), however, there is a great disadvantage with massive

S o l u t i o n i n s t e a d o f c o n f u s i o n !

wood construction: it changes its dimensions with the change of moisture in the air.

With HMD, the exterior walls are 100% decoupled from the inside construction as well as the individual components inside. This new standard in timber building with the principle of **HMD** (= *Hierarchical-Modular Decoupling*) is developed by Phoenix Solutions.

For this development patents and over 20 copyrights were given.

The system of HMD is judged by the experts and press very positively.

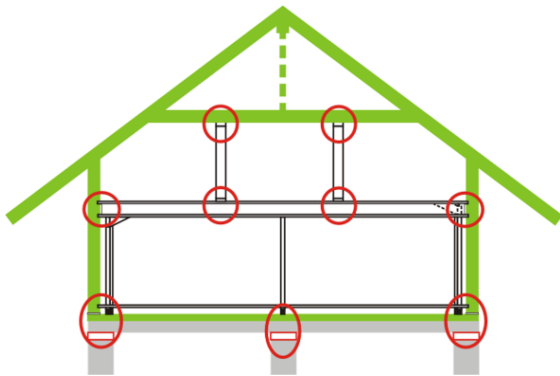
#### Advantages of HMD:

- with HMD fast grown wood is better than wood with small rings of years
- by using fast grown, natural wood as primary building material, much more CO2 can be rebound
- there are no load-bearing inside walls
- load-bearing only on the outer walls
- everything inside can be changed later on with short time & low costs
- every house- and roof-form is possible
- tensions remain in the component
- joints, sound and thermal bridges are avoided by HMD
- increased kick and soundproof since the decoupling causes an interruption of the resonance ways
- commercial efficiency without considerable comfort losses depending on the outer wall system for 100-150 years and more
- high own performance potential
- low upkeep & easy remodelling in the future
- use of native & fast grown wood (*100% local timber building is possible*)
- combination of all common building systems and materials are possible
- perfect synthesis between wood and stone building is possible; see the following explanation "for the third way"
- orientation for ecological and biological building points of view up to the energy plus house



### The principle of the HMD:

means that all components are separated by construction (*ecological, elastic, thermal*) from each other to manage a free construction including of the inside walls up to the last screw around the joints, sound and thermal bridges.



### HMD in particular (*parts of decoupling*):

- foundation to bottom plate and walls
- exterior cover for the inside construction
- inside wall to inside wall
- inside wall to floor plate
- inside wall to the ceiling
- inside wall to the roof incline
- components within the inside walls
- floors/ceilings to the exterior wall
- components within the ground and ceilings

Until now, the principles of the **HMD** of all relevant components of a building haven't been created and worked through in this consequence yet. It solves all problem areas of the timber building and creates the prerequisite for a new standard when building with wood.

### CHANGES will HAPPEN

*Young families will need a big living room. A comfortable bathrooms would be a pleasure and the staircase to the 1st floor should be an internal decorative part of living.*

*But what is later on, when the kids have left?*

*The living room is too big.*

*The ground floor would be enough for your own use.*

*It would be nice to earn a bit of money by offering B&B with the rooms on the 1st floor. Or with something else.*

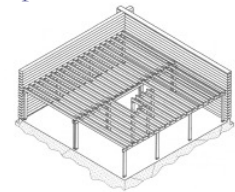
*Now it would be comfortable to change the place of the staircase and some interior walls.*

*Maybe you would like to have a gallery now and a guestroom for your friends.*

*Maybe you'd like to sell this house to change your place. The new owner can make all changes to realize his own taste very easy at low cost. The worth of a house with HMD will increase (instead of decrease) at least for the next 50-100 years.  
For personal use or as an investment, HMD is the essence of past and present and will be ready for the future.*

### The free combination of building-materials, "THE THIRD WAY":

The decoupling of the complete outer walls of the inside construction possible by **HMD** allows use of different outer wall building-materials and is also advisable in combination with an inside wing assembly made of wood.



With this Phoenix Solutions **realizes "THE THIRD WAY"**. There is NO border between timber and stone anymore.



Timber, stones, exotic, concrete & glass, the difference is eliminated with **HMD** now. New ways of fusion between timber & stone and common work of different building-associations are possible.

Construction companies get a chance as general constructors to use conventional building-materials or building-materials with special ecological requirements and use at the same time solid wood on the inside. The system of **HMD** is - whether wood, concrete, stone, straw, loam, clay or glass style -- practicable and optimises every building system. Inside construction and inside development can completely be built of solid wood. Changing inside will be very easy later on.

By using **HMD** all kind of sound-bridges are eliminated. All kind of buildings can given a new quality of sound-protection – just the sound of silence will be left!

**HMD** is the **basic technology** to decouple & optimise **each** kind of building system. Phoenix Solutions offer **commercial builders, architects and so on, the use of HMD by licence.**