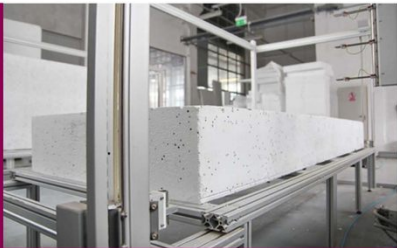




**YOUR SUCCESS IS:**  
**economy,**  
**ecology**  
**and innovation.**



## FACILITY 1.2.3





# *Products*

**MgO technology  
main benefits:**



**Economical**



**Ecological**



**Energy-  
efficient**

**Additional benefits:**



Fire resistance



Moisture resistance



Lightweight



Thermal insulation



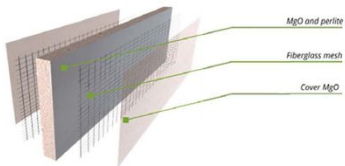
Good mechanical  
parameters



Lack of weather  
influence

## What exactly is MgO?

**MgO** magnesium oxide boards are hard boards with facing composed of magnesium oxide, magnesium chloride and wood fibres ; perlite core covered on both sides with fiberglass mesh sunk in core, that can be slightly visible on the surface.



**ECONOMICAL** MgO magnesium oxide board is an economical alternative for the materials sharing similar features. The parameters of magnesium oxide board provide high endurance and durability, resulting in economical savings.

**ECOLOGICAL** MgO magnesium oxide board is made of natural components, safe for human health and environment. It does not contain formaldehyde or other volatile substances, and it is approved by Hygienic Certificate. The magnesium oxide facing of MgO is resistant to growth of mold and fungi, even in conditions of high humidity.

**ENERGY SAVING** MgO board can be successfully used in energy-efficient and passive building ensuring high performance insulation and sealing. The core made of perlite results in creating a material of low thermal conductivity. MgO board is a "low-tech" and "energy friendly" product; its manufacturing does not require large amounts of energy and produces only a trace amounts of greenhouse gases.

## Different types of construction boards: comparison

	MgO	Plaster board	Cement board	O.S.B.
Fire propagation	None	15	None	High
Smoke emission	None	Low	N/A	High
Water resistance	YES	No	No	No
Resistance to fungi and molds	YES	No	YES	No
Resistance to insects	YES	YES	YES	No
Coefficient of heat transfer (lambda) $\lambda$ , W/(m*K)	0,115	0,25	0,4	0,13
Impact resistance	High	Low	Low	Medium
Density g/cm <sup>3</sup>	0,9	0,56	1,0	0,6
Incombustibility	High	Medium	High	Low
Structural element	YES	No	No	YES
Resistance to atmospheric exposure conditions	High	Low	Medium	Low
Resistance to frost and defrosting	High	Low	High	High
Interior finishing	Plastering and painting	Plastering and painting	Plastering and painting	Plaster board, Plastering and painting
Exterior finishing	Primer, thin-layer plaster, mesh	Internal use only	Primer, thin-layer plaster, mesh	Molded waterproof backing, mesh, thin-layer plaster



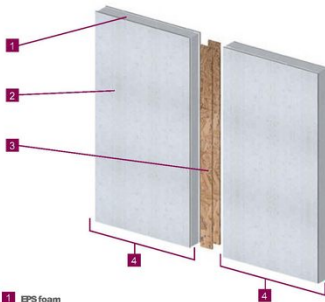
## MgO research:

Strength and structural test for burden placed by objects mounted to MgO board (measured by force exerted by one single molly dowel) showed **1.7kN/m<sup>2</sup> (173kg)** for pulling out and **2,5kN/m<sup>2</sup> (255kg)** for shearing.

## Certification:

- Hygienic Certificate (National Institute of Public Health - National Institute of Hygiene)
- Fire classification „reaction to fire“
- External fire performance for interior walls made of MgO





- 1 EPS foam
- 2 MgO 11mm oxide magnesium board
- 3 Spline / OSB
- 4 Panel SIP MgO

Fasteners are applied through MgO board into the spline, top and base plate

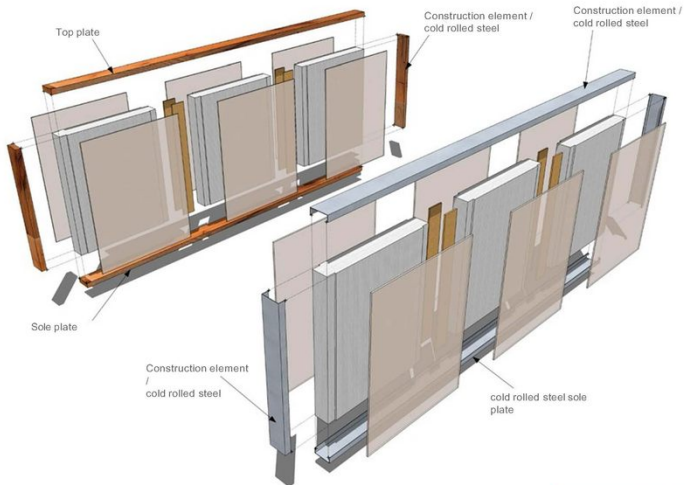
Standard composite panels are  
1220 x 2440,  
1220 x 2745,  
1220 x 3000 mm

Allowable axial load is 4.8 tons/m

**Composite panel** is a high performance, engineered, structural, super insulated solid core wall component that is fire, moisture, mould, and rot resistant. EPS insulation is structurally cured between two pieces of MgO board sheathing. This results in a wall component that is easy and economical to erect and finish, and creates high quality, durable building envelope walls, roofs, and floors that are highly efficient and cost effective. Daily production capacity of SIP panel will increase to 2000 m<sup>2</sup> after the opening new manufactures.



## Wall construction with wood and steel



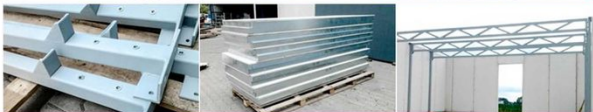


SIP MgO can be fastened to many different materials like:

Wood



Steel



Glass fiber  
(pultrusion) profiles



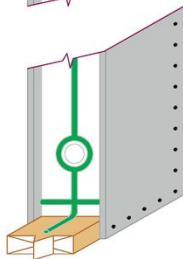
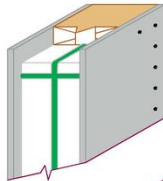
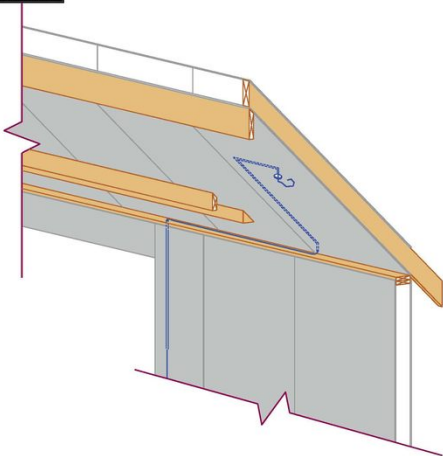
Concrete



And more



## Electrical installation system:



## Advantages of using SIP MgO:

- **Quick to implement** – going hand in hand with doctrine that says, that time is money, MgO provides innovative building solutions that cuts down costs, as well as construction time.
- **Longer construction season** – using only drywall building solutions makes it possible to erect buildings without worrying about incoming rainy or winter season
- **Larger usable area** – thinner walls providing better thermal insulation allow to achieve even 10% more inner space compared to traditional building materials
- **Energy efficient** - cutting up to 40% on operating costs
- **Fire safety** – Greater fire safety compared to traditional buildings
- **Airtight partitions** – It is an very important element when it comes to energy efficient and passive buildings
- **“Healthy” construction material** – MgO boards are impregnable barrier which resists fungi and mold growth, doesn't rot and protects from dampness
- **Lower investment costs** – due to implementation speed and lack of construction waste
- **Certified materials** - a set of technical approvals, hygienic certificates and fire tests guarantees a high quality of a final product





## Technical Approvals

As SIP are being used as construction materials in many different countries, decided to bring them out to our market as well. For that reason commissioned extensive material research to prestigious Building Research. In result has issued Technical Approval and favorable opinion as to their use, which allowed introduction of SIP MgO to European markets. Further research is being conducted in cooperation with Faculty of Civil and Environmental Engineering.

- Fire resistance class
- Fire classification (non-fire spreading with fire spreading internally)





Venture map

**Great Britain**



**Scandinavia**



**Croatia**

2 houses + 3 outbuilding

40 houses for season 2015

60 houses for season 2016



**Angola**

STAGE I: 12 houses (completed)

STAGE II: 9 houses

STAGE III: 11 houses





*Current investments*  
**ANGOLA**





Current investments

# Project PAA !







Current investments

**CROATIA**









*Current investments*

# SCANDINAVIA



# REALIZATIONS *SENIOR CITIZEN CARE HOME*





# REALIZATIONS *HOUSE*





# REALIZATIONS *COMMERCIAL PAVILION*





We're aiming for:

## Refugee Shelter



**Australia**

**Africa and Emirates**

**Brazil**

