ZELLER POROTON

mein ziegelhaus®

JUWÖ POROTON

# The ThermoPlan® System

## A JUWO POROTON Block house for quality of life.

## Product information


FAMILY TRADITION
SINCE 1862

www.juwoporoton.com

# Why should I build a JUWO POROTON Block house?

## Indoor comfort in summer and winter

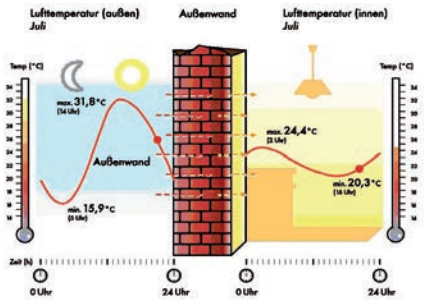
A comfortable indoor climate is characterised by:

- a pleasant room temperature throughout the year
- ideal relative humidity
- dry walls
- healthy room air.

The outstanding thermal insulation properties and high heat retention of JUWO POROTON Blocks provide a pleasant room climate. In a JUWO POROTON Block house, it's always warm and cosy. The interplay between insulation and heat retention in monolithic masonry walls is unique.

A hot topic!! Cool in the summer: JUWO POROTON Blocks have the unique combination of a high thermal insulation and a high thermal mass. This natural air conditioning keeps the temperature in the house relatively constant and makes sure it isn't too hot inside in the summer. No other building material can do this.

Compared with light wood structures, the advantage is real. The fact is that given the same thermal insulation, a JUWO POROTON Block has much more mass and can hence store more heat or chill.




## Lowest moisture content of all comparable building materials

The more moisture the poorer the thermal insulation. Rule of thumb: For every 1% increase in moisture the thermal insulation decreases by about 10%. JUWO POROTON Blocks are dried and then fired.

They have the fastest drying time and the lowest residual moisture content of all comparable building materials, which have drying times of up to three years and longer. This means that JUWO POROTON Blocks provide thermal insulation right from the start.

## Saves money from the first day on

Highly insulating JUWO POROTON Blocks really save money. Don't be fooled by apparently cheaper building materials.

- Because the JUWO POROTON Block is dry and cannot shrink, the wall can be rendered or plastered without a long delay.
- Dry JUWO POROTON Blocks are thermally insulating right from the start. This drastically cuts heating costs.
- Upkeep costs due to mould can practically be ruled out.
- Due to the dimensional stability of the JUWO POROTON Blocks and in connection with the recommended renders and plasters, the risk of subsequent cracking is significantly reduced.

## Ecological leader

- Ecological and sustainable building – ideally monolithic (plaster inside, JUWO POROTON Block, render outside – done).
- Monolithic masonry façades without artificial insulation systems are free from harmful biocides (treatment with biocides to inhibit fungal and algal growth is problematic in ETICS systems).
- External thermal insulation composite systems are more susceptible to fungal and algal attack than rendered monolithic walls and have limited service lives (max. 30 to 40 years). After that the façade must be disposed of as hazardous waste. This is not only absurd from an ecological point of view, but it is also very expensive. The insulation mania will cause huge ecological problems in the future!
- The rubble from a JUWO POROTON Block house can be reused as recycled building materials.
- Production in the most modern facilities in Germany (building was funded by German Federal Environment Ministry).
- Institut Fresenius confirms: JUWO clay can even be used for medicinal purposes.

- JUWO has been certified to Öko-Label III by Institut Bauen und Umwelt e.V. This openly presents all JUWO POROTON Block data – from raw materials extraction through production to recycling – and creates transparency and comparability in the market. All JUWO blocks are certified with the newest Environmental Product Declaration JUWÖ - EPD under Norm ISO 14025 und EN 15804.

## Excellent thermal insulation – constant indoor climate

The outstanding thermal protection of your house (right from the start) is guaranteed by:

- solid and **dry** JUWO POROTON Block construction
- continuous innovations in highly insulating JUWO POROTON Blocks.

JUWO POROTON Blocks meet current and future requirements for maximum thermal insulation.

**Info!** The actual thermal insulation is even higher:
The JUWO POROTON Blocks are relatively heavy due to their high bulk density and store the sun's energy longer than all other building materials, thereby saving additional heat energy. This effect was scientifically proven, for example, by Prof. Fehrenberg through examination of two rental properties with JUWO POROTON Block walls: one received additional insulation and the other did not. Before this, the heating costs had been nearly identical for both buildings. Afterwards, they were about 13% higher every year for the modernised building than for the unrenovated building. Why? The clay JUWO POROTON Blocks store the energy from the sun to prevent loss of heat energy. This effect is cancelled out by the additional external insulation. (Source: Welt am Sonntag)

## Extremely high compressive strengths

Through the special Wöllstein clay and a special production method, even the most highly insulating JUWO POROTON Blocks have extremely high compressive strengths. A few examples from production:

For internal walls and insulated external walls:
TP 240/175 TS²: more than 15 N/mm². The TS² Quadrat precision-ground JUWO POROTON Block is hence the strongest in the world.
For external walls: ThermoPlan® T and S series highly insulating JUWO POROTON Blocks: more than 10 N/mm².

These values correspond to the German compressive strength classes 10–16. This puts JUWO well above all other manufacturers.

**Did you know?**
10 N/mm² corresponds to a load of more than 100 tonnes; i.e. a highly insulating ThermoPlan® S9 bears the load of more than two fully laden 40-ton trucks including trailers. Of course, most buildings do not need this kind of compressive strength. However, it is helpful for numerous structural details and provides a sense of security.

## Minimum upkeep costs and maximum value retention

Lifespan of 100 years – guaranteed appreciation in value. A house built of JUWO POROTON Blocks requires hardly any maintenance for decades, making the cost of upkeep very low. A JUWO POROTON Block house is also a safe investment you can actually use and enjoy right now – not virtually, abstractly or even never.

## Effective acoustic insulation

A heavy JUWO POROTON Block wall is extremely soundproof.

## Maximum fire protection

A JUWO POROTON Block house provides maximum fire protection and safety through:

- non-flammable JUWO POROTON Blocks
- solid construction
- long resistance times
- no toxic fumes

## Universal applicability

JUWO POROTON Blocks can be used universally and flexibly for building everything from detached houses to multi-storey buildings.

# JUWO SmartWall-System Technical Overview UK/Ireland

| Block reference | Item | Wall thickness | Blocks per pallet | Thermal conduc-tivity W/mK | U-value W/m²K | Average compressive strength per unit (N/mm²) |
|---|---|---|---|---|---|---|
| ThermoPlan MZ 70 | MZ 240/70 | 24 | 80 | 0.07 | 0.27 | 8 |
| ThermoPlan MZ 70 | MZ 300/70 | 30 | 72 | 0.07 | 0.22 | 8 |
| ThermoPlan MZ 70 | MZ 365/70 | 36.5 | 60 | 0.07 | 0.18 | 8 |
| ThermoPlan MZ 70 | MZ 425/70 | 42.5 | 48 | 0.07 | 0.16 | 8 |
| ThermoPlan MZ 70 | MZ 490/70 | 49 | 48 | 0.07 | 0.137 | 8 |
| ThermoPlan S 7[5] | S 365/7.5 | 36.5 | 60 | 0.075 | 0,19 *2 | 6 |
| ThermoPlan S 7[5] | S 425/7.5 | 42.5 | 48 | 0.075 | 0,16 *2 | 6 |
| ThermoPlan S 7[5] | S 490/7.5 | 49 | 48 | 0.075 | 0,14 *2 | 6 |
| ThermoPlan S 8 | S 365/8 | 36.5 | 60 | 0.08 | 0.21 | 8 |
| ThermoPlan S 8 | S 425/8 | 42.5 | 48 | 0.08 | 0.18 | 8 |
| ThermoPlan S 8 | S 500/8 | 50 | 48 | 0.08 | 0.15 | 6 |
| ThermoPlan MZ80-GS | MZ 300/80 GS | 30 | 72 | 0.08 | 0.25 | 10 |
| ThermoPlan MZ80-GS | MZ 365/80 GS | 36.5 | 60 | 0.08 | 0.21 | 10 |
| ThermoPlan MZ80-GS | MZ 425/80 GS | 42.5 | 48 | 0.08 | 0.18 | 10 |
| ThermoPlan MZ80-GS | MZ 490/80 GS | 49 | 48 | 0.08 | 0.16 | 12 |
| ThermoPlan S 9 | S 300/9 | 30 | 72 | 0.09 | 0.28 | 8 |
| ThermoPlan S 9 | S 365/9 | 36.5 | 60 | 0.09 | 0.23 | 8 |
| ThermoPlan S 9 T | S 365/9 T | 36.5 | 48 | 0.09 | 0.23 | 8 |
| ThermoPlan S 9 | S 490/9 | 42.5 | 48 | 0.09 | 0.20 | 8 |
| ThermoPlan MZ90-GMS | MZ 365/90-GMS | 36.5 | 60 | 0.09 | 0.23 | 12 |
| ThermoPlan MZ90-GMS | MZ 425/90-GMS | 42.5 | 48 | 0.09 | 0.20 | 12 |
| ThermoPlan MZ90-G | MZ 300/90 | 30 | 72 | 0.09 | 0.28 | 10 (12) |
| ThermoPlan MZ90-G | MZ 365/90 | 36.5 | 60 | 0.09 | 0.23 | 10 (12) |
| ThermoPlan MZ90-G | MZ 425/90 | 42.5 | 48 | 0.09 | 0.20 | 10 (12) |
| ThermoPlan T10 | TP 300/10 | 30 | 72 | 0.10 | 0.30 | 10 |
| ThermoPlan T10 | TP 365/10 | 36.5 | 48 | 0.10 | 0.25 | 10 |
| ThermoPlan T11 | TP 190/11 | 19 | 120 | 0.11 | 0.49 | 8 |
| ThermoPlan T11 | TP 240/11 | 24 | 96 | 0.11 | 0.41 | 8 |
| ThermoPlan TS 11 | TS 365/11 | 36.5 | 60 | 0.11 | 0.28 | 10 (12) |
| ThermoPlan TS 11 | TS 425/11 | 42.5 | 48 | 0.11 | 0.24 | 10 (12) |
| ThermoPlan TS 12 | TS 300/12 | 30 | 72 | 0.12 | 0.36 | 10 (12) |
| ThermoPlan HLz T | TP 100 | 10 | 120 | 0.28 | | 15 |
| ThermoPlan HLz T | TP 115 | 11.5 | 96 | 0.28 | | 15 |
| ThermoPlan HLz T | TP 140 | 14 | 84 | 0.28 | | 15 |
| ThermoPlan TS Square | TP 175 | 17.5 | 60 | 0.28 | | 15 |
| ThermoPlan TS Square | TP 240 | 24 | 60 | 0.28 | 1.12 | 15 |
| Acoustically insulating filled Blocks T | SPZ 175 | 17.5 | 40 | 0.96 | | 15 |
| Acoustically insulating filled Blocks T | SPZ 240 | 24 | 45 | 0.96 | | 15 |
| Acoustically insulating filled Blocks T | SPZ 300 | 30 | 30 | 0.96 | | 10 |
| Acoustically insulating Blocks T 1,2 | TP 115/1,2 | 11.5 | 60 | 0.50 | | 16 |
| Acoustically insulating Blocks T 1,2 | TP 175/1,2 | 17.5 | 60 | 0.50 | | 16 |
| Acoustically insulating Blocks T 1,2 | TP 240/1,2 | 24 | 45 | 0.50 | | 16 |
| Acoustically insulating Blocks T 1,4 | TP 115/1,4 | 11.5 | 60 | 0.58 | | 20 |
| Acoustically insulating Blocks T 1,4 | TP 175/1,4 | 17.5 | 54 | 0.58 | | 20 |
| Acoustically insulating Blocks T 1,4 | TP 240/1,4 | 24 | 45 | 0.58 | | 20 |

*1 Fire protection: with plaster and render on both sites of the wall: Fire resistance based on EN 1996-1-2 and national UK annex for group 1 and 2
*2 ThermoPlan S 75 (42,5 and 49 cm) U-value based on: 20 mm exterior light weight plaster (Lambda 0,10 W/mK) , internal render: light weight gybsum render (Lambda 0,30 W/mK)

| Fk value EN 1996 $f_k$ MN/m² | Bulk density kg/dm³ | Fire resistance *1 | Notes |
|---|---|---|---|
| 2.2 | 0.55 | - | |
| 2.2 | 0.55 | REI 30 | |
| 2.2 | 0.55 | REI-M 90 | |
| 2.2 | 0.55 | REI-M 90 | |
| 1.8 | 0.50 | REI-M 90 | |
| 1.5 | 0.60 | 120 min | REI 90 (europe) |
| 1.5 | 0.60 | 120 min | REI 90 (europe) |
| 1.5 | 0.60 | 120 min | REI 90 (europe) |
| 2.3 | 0.60 | 120 min | REI-M 90 = Firewall (europe) |
| 2.3 | 0.60 | 120 min | REI-M 90 = Firewall (europe) |
| 1.8 | 0.60 | 120 min | REI-M 90 = Firewall (europe) |
| 3.5 | 0.70 | REI-M 90 | optimized for noise insulation |
| 3.5 | 0.70 | REI-M 90 | dto |
| 3.5 | 0.70 | REI-M 90 | dto |
| 3.9 | 0.70 | REI-M 90 | dto |
| 2.3 | 0.60 | 90/120 min | 90: alpha <= 0,6 / 120: alpha <= 1,0 |
| 2.3 | 0.65 | 120 min | REI-M 90 = Firewall (europe) |
| 1.8 | 0.65 | 120 min | |
| 2.3 | 0.65 | 120 min | REI-M 90 = Firewall (europe) |
| 4.5 | 0.70 | F 90 A | optimized for noise insulation |
| 4.5 | 0.70 | F 90 A | dto |
| 3,5 (3,9) | 0.70 | REI-M 90 | dto |
| 3,5 (3,9) | 0.70 | REI-M 90 | dto |
| 3,5 (3,9) | 0.70 | REI-M 90 | dto |
| 2.3 | 0.65 | 90/120 min | 90: alpha <= 0,6 / 120: alpha <= 1,0 |
| 2.3 | 0.65 | 120 min | |
| 2.3 | 0.60 | - | for cavity wall construction |
| 2.3 | 0.65 | - | |
| 3.7 | 0.75 | 120 min | optimized for noise insulation/REI-M 90 = Firewall (europe) |
| 3.7 | 0.75 | 120 min | optimized for noise insulation/REI-M 90 = Firewall (europe) |
| 3,7 (4,0) | 0.75 | REI 30 | optimized for noise insulation |
| 4.7 | 0.80 | 90 min | |
| 4.7 | 0.80 | 90 min | |
| 4.7 | 0.80 | 120 min | |
| 4.7 | 0.80 | 180 min | REI-M 90 = Firewall (europe) |
| 4.7 | 0.80 | 240 min | REI-M 90 = Firewall (europe) |
| 5.8 | 0,8/1,8 | 180 min | REI-M 90 = Firewall (europe) |
| 5.8 | 0,8/1,8 | 180 min | REI-M 90 = Firewall (europe) |
| 3.70 | 0,8/1,8 | 180 min | REI-M 90 = Firewall (europe) |
| 5.5 | 1.20 | 120 min | |
| 5.5 | 1.20 | 120 min | REI-M 90 = Firewall (europe) |
| 5.5 | 1.20 | 120 min | REI-M 90 = Firewall (europe) |
| 6.3 | 1.40 | 120 min | |
| 6.3 | 1.40 | 120 min | REI-M 90 = Firewall (europe) |
| 6.3 | 1.40 | 120 min | REI-M 90 = Firewall (europe) |

We always recommend to ues the VD-System, means the application of the thin joint mortar with the JUWO applicator. We ask our costumers to inform us about the way of application bevor delivery. If no information before, we assume the use of the VD-System





# JUWO ThermoPlan® MZ

## MZ70

The new standard in detached housing: solid homogeneous JUWO POROTON Block masonry.

## MZ80-GS · MZ90-G · 90-GMS

Outstanding acoustic and thermal insulation for Blocks of flats.

- The ThermoPlan® MZ represents an innovation in JUWO POROTON Block manufacturing that effectively conserves heat energy, protects the environment and lowers the operating costs of your JUWO POROTON Block home.
- JUWO POROTON Blocks are natural products made from the four elements fire, water, earth and air and have evolved continuously over the thousands of years of their use. For the ThermoPlan® MZ we have added another element to this basic principle: the stone wool Rockwool®.
- The ThermoPlan® MZ JUWO POROTON Block cavities are filled with high-quality Rockwool® for integrated thermal insulation. Rockwool® is one of the most widely used materials in thermal and acoustic insulation. This is mainly due to its outstanding properties: stone wool is non-flammable, waterproof, yet permeable to vapours, and age-resistant and provides excellent insulation against heat, cold and noise.
- With ThermoPlan® MZ JUWO POROTON Blocks and the proven JUWO VD precision-ground JUWO POROTON Block building system, you can build monolithic JUWO POROTON Block walls with built-in, protected insulation. There is no need for extra external thermal insulation composite systems.
- The ThermoPlan® MZ slashes heating costs for homeowners and tenants and effectively maintains a relatively constant climate inside the house.
- The ThermoPlan® MZ can withstand all kinds of mechanical stresses caused, e.g., by vibration, sawing, drilling or milling. The solid design ensures outstanding physical properties as well as excellent workability.
- The ThermoPlan® MZ keeps the costs of structural work including labour and rendering / plastering costs low.
- The ThermoPlan® MZ JUWO POROTON Blocks can be handled efficiently thanks to the proven JUWO VD precision-ground JUWO POROTON Block building system for fast, secure and good-quality laying of all JUWO POROTON Blocks.
- **Moisture**
  Rockwool® is hydrophobic (water-repellent) to protect the masonry against moisture ingress. Moisture is directed from the stone wool to the JUWO POROTON Blocks and diffuses through the capillary action of the JUWO POROTON Block material to the outside. As it is always the case in JUWO POROTON Blocklaying, the horizontal bed joint at the building site should be covered overnight to prevent penetration by rain or snow.
- **Installing windows and doors**
  Corner and end JUWO POROTON Blocks are offered for secure fixing of window and door elements in reveals.
- **Drilling and anchoring**
  The thick outer and inner webs of the JUWO POROTON Block ensure high anchor pullout resistance. In general, holes should always be drilled into JUWO POROTON Block walls with a drill, not an impact tool.
- **Sawing of the JUWO POROTON Blocks**
  The good adhesion of the Rockwool® stone wool elements to the JUWO POROTON Block webs makes handling on site easy. The ThermoPlan® MZ can be cleanly cut into any height, length or shape with a wet cutting tool, bandsaw or electric handsaw (DeWalt® DW 393).

## ThermoPlan® MZ70 (Range of applications: detached, semi-detached and terraced houses)

| | |
|---|---|
| Thermal conductivity | $\lambda_R$ = 0.07 W/(mK) |
| Bulk density | 0.55 kg/dm³ |
| Compressive strength | 8 N/mm² $f_k$ = 2.2 MN/m² |
| Fire resistance class | REI-M 90 |
| Approval notice | Z-17.1-1084 |


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| MZ 240/70 | 248 | 240 | 249 | 8.1 | 80 | 16 | 67 | 5.00 |
| MZ 300/70 | 248 | 300 | 249 | 9.2 | 72 | 16 | 53 | 3.75 |
| MZ 365/70 | 248 | 365 | 249 | 11.2 | 60 | 16 | 44 | 5.01 |
| MZ 425/70 | 248 | 425 | 249 | 13.1 | 48 | 16 | 38 | 3.76 |
| MZ 490/70 | 248 | 490 | 249 | 15.1 | 48 | 16 | 33 | 2.50 |

## ThermoPlan® MZ 80-GS/MZ 90-G (Range of applications: multi-storey housing)

| | |
|---|---|
| Thermal conductivity | $\lambda_R$ = 0,08/0,09 W/(mK) |
| Bulk density | 0.70 kg/dm³ |
| Compressive strength | min 10 N/mm² $f_k$ = 3,5 MN/m² |
| Fire resistance class | Fire wall REI-M120 |
| Approval notice | Z-17.1-1202 / 1087 |


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| MZ 300/80GS (90G) | 248 | 300 | 249 | 13.1 | 72 | 16 | 53 | 2.82 |
| MZ 365/80GS (90G) | 248 | 365 | 249 | 15,7 | 60 | 16 | 44 | 2.50 |
| MZ 425/80GS (90G) | 248 | 425 | 249 | 18,3 | 48 | 16 | 38 | 1.88 |

## ThermoPlan® MZ make-up Blocks

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Description |
|---|---|---|---|---|---|---|
| MZ70 300 Eck | 175 | 300 | 249 | 8.5 | 54 | Corner Block |
| MZ70 300 End | 123 | 300 | 249 | 6.7 | 81 | End Blocks |
| MZ70 365 End | 123 | 365 | 249 | 8.3 | 72 | End Blocks |
| MZ70 365 End lang | 248 | 365 | 249 | 13.5 | 60 | End Blocks |
| MZ70 425 End | 123 | 425 | 249 | 9.7 | 54 | End Blocks |
| MZ70 490 End | 123 | 490 | 249 | 9.0 | 60 | End Blocks |
| MZ70 300/2 | 248 | 300 | 124 | 6.0 | 90 | Levelling Blocks |
| MZ70 365/2 | 248 | 365 | 124 | 7.3 | 80 | Levelling Blocks |
| MZ70 425/2 | 248 | 425 | 124 | 8.5 | 60 | Levelling Blocks |
| MZ70 490/2 | 248 | 490 | 124 | 9.1 | 60 | Levelling Blocks |
| MZ90-G 300 Eck | 175 | 300 | 249 | 10.5 | 54 | Corner Block |
| MZ90-G 300 End | 123 | 300 | 249 | 6.7 | 81 | End Blocks |
| MZ90-G 365 End | 123 | 365 | 249 | 8.3 | 72 | End Blocks |
| MZ90-G 365 End lang | 248 | 365 | 249 | 15.7 | 40 | End Blocks |
| MZ90-G 425 End | 123 | 425 | 249 | 11.0 | 54 | End Blocks |
| MZ90-G 300/2 | 248 | 300 | 124 | 7.4 | 90 | Levelling Blocks |
| MZ90-G 365/2 | 248 | 365 | 124 | 9.0 | 80 | Levelling Blocks |
| MZ90-G 425/2 | 248 | 425 | 124 | 10.5 | 60 | Levelling Blocks |

# ThermoPlan® S7⁵

**Solid block building in perfected form.**


## The ThermoPlan® S7⁵

- **Wide:** 36.5 + 42.5 + 49.0 cm wall thickness
- **Strong:** high mass for storing heat and cold
- **Warm:** pure thermal insulating power with no fillers $\lambda_R$ 0.07⁵ W/(mK)

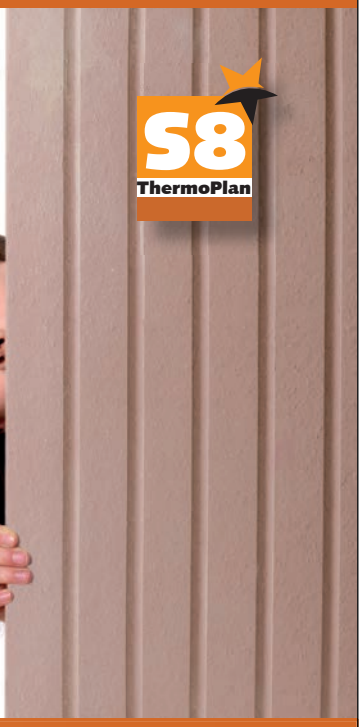
- Sensational thermal insulation right from the start:
  U value = 0.19 W/(m²K) to U value = 0.14 W/(m²K) (passive house level)
- Relatively high mass stores heat and cold – a natural air conditioner
- Outstanding heat protection in the summer
- Better acoustic insulation
- Greater architectural design freedom through larger wall cross section and generous window sills
- Dry from the very beginning: maximum residual moisture content of 0.1% to 0.5%
- Energy-efficient houses from KfW 55 to passive house without the need for complex installations
- Simple, straightforward, efficient and economical – a truly sustainable wall that lasts forever

## Now THAT is a wall!

With the new ThermoPlan S7⁵, JUWO is reinforcing its position as leading innovator in masonry. The ThermoPlan® S class JUWO POROTON Blocks (S9, S8) achieve top thermal insulation values – with no fillers or other additional insulating materials.
The ThermoPlan S7⁵ is setting the standard in monolithic building and is the absolute top product in this series. It is available from a wall thickness of 36.5 cm – this is solid Block building to perfection.

# ThermoPlan® S8

**The original: Pure Premium Quality.**




## The ThermoPlan® S8

- Thermal insulation: Excellent thermal conductivity $\lambda_R$ 0.08 W/(mK)
- Clay block: 100%
- Comfort: Perfect!

$CO_2$ TOP FAVORIT im Klimaschutz

- Very good thermal insulation – constant indoor climate
- No additional insulating layers
- Natural, ecological, sustainable
- Dry from the very beginning
- Perfect handling with minimal upkeep costs

### No ifs and buts:

- Natural, ecological, solid and economical. Overview of advantages: a pleasant room temperature throughout the year. Ideal relative humidity, dry walls, healthy indoor air. Warm in the winter and pleasantly cool in the summer!
- Lowest moisture content:
  The more moisture in the building material the poorer the thermal insulation. This applies particularly in comparison with grey or white building blocks which can take up to five years or more to dry. The S8 provides thermal insulation right from the start.
- Ecological building – healthy living – better living with local building materials:
  The S8 is made from natural raw materials that are extracted in an environmentally friendly manner.
- Excellent thermal insulation – constant indoor climate:
  The S8 is solid and dry with heat chambers in the Block. These cavities guarantee long heat retention and windproof outer walls.
- Reliable fire protection: European class for fire resistance REI-M 90:
  The S8 is non-flammable and strong. It provides the highest level of fire protection and safety.
- Ideal price-to-performance ratio and minimal upkeep costs:
  A house built with the S8 will be nearly maintenance-free for decades, keeping the upkeep costs extremely low.

# The ThermoPlan® S-Series. High perfomance-100% ceramic.

## ThermoPlan® S7⁵ (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.075 W/(mK)
Bulk density 0.60 kg/dm³
Compressive strength 7.5 N/mm² $f_k$ = 1.5 MN/m²
Fire resistance class REI 90
Approval notice Z-17.1-1140


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| S 365/7⁵ | 248 | **365** | 249 | 13.3 | 60 | 16 | 44 | 3.75 |
| S 425/7⁵ | 248 | **425** | 249 | 15.6 | 48 | 16 | 38 | 3.00 |
| S 490/7⁵ | 248 | **490** | 249 | 17.5 | 48 | 16 | 33 | 3.00 |

## ThermoPlan® S8 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.08 W/(mK)
Bulk density 0.60 kg/dm³
Compressive strength 8 N/mm² $f_k$ = 2.30 MN/m²
1) 6 N/mm² $f_k$ = 1.8 MN/m²
Fire resistance class fire wall REI-M 90
Approval notice Z-17.1-1013


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| S 365/8 | 248 | **365** | 249 | 13.4 | 60 | 16 | 44 | 3.75 |
| S 425/8 | 248 | **425** | 249 | 15.7 | 48 | 16 | 38 | 3.00 |
| S 490/8 1) | 248 | **490** | 249 | 17.7 | 48 | 16 | 33 | 3.00 |

## ThermoPlan® S9 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.09 W/(mK)
Bulk density 1) 0.60 / 0.65 kg/dm³
Compressive strength 8 N/mm² $f_k$ = 2.30 MN/m²
Fire resistance class fire wall REI-M 90
Approval notice Z-17.1-1013

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| S 300/9 1) | 248 | **300** | 249 | 11.1 | 72 | 16 | 53 | 4.50 |
| S 365/9 | 248 | **365** | 249 | 13.7 | 60 | 16 | 44 | 3.75 |
| S 425/9 | 248 | **425** | 249 | 16.0 | 48 | 16 | 38 | 3.0 |

# ThermoPlan S9®

**Block for block, 100% satisfaction.**

## The ThermoPlan S9®
## The Original

- Good thermal insulation at a high bulk density
- Extremely high compressive strength
- Controlled quality
- 100% Ceramic clay


- Economical thermal insulation
- No additional insulating layers
- Natural, ecological, sustainable
- Dry from the very beginning
- Perfect handling with minimal upkeep costs

**The original, but even better. Everything else is a copy!**

- Good thermal insulation from pure ceramics – The Original and now even better! The unique Wöllstein clay combined with the latest production technology makes it possible:

  The ThermoPlan S9® – the all-ceramic JUWO POROTON Block with a very high thermal conductivity of 0.09 W/(mK) with no additional insulating materials. Now with many optimised features.

- Considerably improved quality, even better heat retention, even higher compressive strength, enhanced acoustic insulation.

# The ThermoPlan® T and TS-Series. Blocks for all requirements. Top-quality, high compressive strenght, Efficient.

## ThermoPlan® S make-up Blocks End, corner and levelling Blocks

Thermal conductivity $\lambda_R$ = 0.10 W/(mK)
Bulk density 0.60 - 0.65 kg/dm³
Compressive strength 10 N/mm²

Starting and end JUWO POROTON Blocks with single-sided cross joint (vertical joint) interlocking

Levelling JUWO POROTON Blocks with two-sided cross joint interlocking

For use with all ThermoPlan S series JUWO POROTON Blocks (S7.5–S9)

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Description |
|---|---|---|---|---|---|---|
| S 300 End | 124 | **300** | 249 | 6.1 | 108 | End Blocks |
| S 300 Eck | 175 | **300** | 249 | 8.5 | 90 | Corner Block |
| TP 300/2 | 248 | **300** | 124 | 5.7 | 144 | Levelling Blocks |
| S 365 End | 124 | **365** | 249 | 7.8 | 120 | End Blocks |
| S 365 End lang | 248 | **365** | 249 | 14.1 | 60 | End Blocks |
| TP 365/2 | 248 | **365** | 124 | 6.8 | 96 | Levelling Blocks |
| S 425 End | 124 | **425** | 249 | 8.2 | 42 | End Blocks |
| S 425 End lang | 248 | **425** | 249 | 15.1 | 48 | End Blocks |
| TP 425/2 | 248 | **425** | 249 | 8.0 | 96 | Levelling Blocks |
| S 490 End | 124 | **490** | 249 | 9.0 | 60 | End Blocks |
| S 490/2 | 248 | **490** | 124 | 9.0 | 96 | Levelling Blocks |

Levelling Blocks always in the lowest course

## ThermoPlan® T10 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.10 W/(mK)
Bulk density 0.65 kg/dm³
Compressive strength 10 N/mm² $f_k$ = 2.30 MN/m²

Fire resistance class F 30 A, ≥ 36.5 cm F 90 A
Approval notice Z-17.1-1047

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| TP 300/10 | 248 | **300** | 249 | 11.5 | 72 | 16 | 53 | 4.50 |
| TP 365/10 | 248 | **365** | 249 | 13.9 | 60 | 16 | 44 | 3.75 |

## ThermoPlan® T11 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.11 W/(mK)
Bulk density 2) 0.60 kg/dm³ / 3) 0.65 kg/dm³
Compressive strength 10 N/mm² $f_k$ = 2.30 MN/m²

Fire resistance class F 30 A
Approval notice Z-17.1-769

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| TP 190/11 2) | 248 | **190** | 249 | 7.0 | 120 | 16 | 84 | 7.50 |
| TP 240/11 3) | 248 | **240** | 249 | 9.5 | 96 | 16 | 67 | 6.00 |

## ThermoPlan® TS12/TS11 (JUWO POROTON Blocks specially optimised for meeting acoustic insulation requirements in Blocks of flats)

Thermal conductivity $\lambda_R$ = 0.12 (0.11) W/(mK)
Bulk density 0.75 kg/dm³
Compressive strength 12.5 N/mm² $f_k$ = 3.70 MN/m²

Fire resistance class REI 30 ≥ 36,5 cm = fire wall REI-M 90
Approval notice Z-17.1-1107

Acoustic insulation according to test certificate
TS 300/11 $R_{w,Bau,ref}$ = 47 dB
TS 365/11 $R_{w,Bau,ref}$ = 50 dB

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **TS 300/12** | 248 | **300** | 249 | 13.5 | 72 | 16 | 53 | 4.50 |
| **TS 365/11** | 248 | **365** | 249 | 15.9 | 60 | 16 | 44 | 3.75 |
| **TS 425/11** | 248 | **425** | 249 | 19.3 | 48 | 16 | 38 | 3.00 |

## ThermoPlan® T make-up Blocks End, corner and levelling Blocks

Thermal conductivity $\lambda_R$ = 0.10 W/(mK) - 0.28 W/(mK)

Bulk density 0.65 - 0.8 kg/dm³
Compressive strength
1) 10 N/mm²
2) 12.5 N/mm²
3) 15 N/mm²

Corner and end JUWO POROTON Blocks with single-sided cross joint interlocking

Levelling JUWO POROTON Blocks with two-sided cross joint interlocking

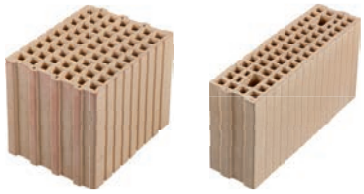
For use with all ThermoPlan T series JUWO POROTON Blocks (T10 -T14)

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Description |
|---|---|---|---|---|---|---|
| **TP 175/2** 3) | 498 | **175** | 124 | 7.7 | 60 | Levelling Blocks |
| **TP 240/2** 3) | 308 | **240** | 124 | 6.7 | 72 | Levelling Blocks |
| **S 300 End** 1) | 124 | **300** | 249 | 6.1 | 108 | End Blocks |
| **S 300 Eck** | 175 | **300** | 249 | 8.5 | 90 | Corner Block |
| **TP 300/2** 2) | 248 | **300** | 124 | 5.7 | 144 | Levelling Blocks |
| **S 365 End** 1) | 124 | **365** | 249 | 7.8 | 120 | End Blocks |
| **TP 365/2** 2) | 248 | **365** | 124 | 6.8 | 96 | Levelling Blocks |

Levelling Blocks always in the lowest course

## T and TS Square Blocks

(Range of applications: interior and partition walls. Exterior walls with additional insulation)



| | |
|---|---|
| Thermal conductivity | $\lambda_R$ = 0.28 W/(mK) |
| Bulk density | 0.80 kg/dm³ |
| Compressive strength | 15 N/mm² $f_k$ = 4.75 MN/m² |
| Fire resistance class | ≥ 11.5 cm F 90 A, ≥ 17.5 cm fire wall REI-M 90 |
| Approval notice | Z-17.1-1037 |

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **TP 100** | 498 | **100** | 249 | 9.3 | 120 | 8 | 80 | 15.00 |
| **TP 115** | 498 | **115** | 249 | 10.3 | 96 | 8 | 70 | 12.00 |
| **TP 140** | 498 | **140** | 249 | 13.0 | 84 | 8 | 57 | 10.50 |
| **TP 175** | 498 | **175** | 249 | 15.7 | 60 | 8 | 44 | 7.50 |
| **TP 240** | 373 | **240** | 249 | 16.0 | 60 | 11 | 44 | 5.62 |

## Acoustically insulating filled Blocks T

(Range of applications: interior and soundproof walls. Exterior walls with additional insulation)

| | | | |
|---|---|---|---|
| Compressive strength | 15 N/mm² $f_k$ = 5.8 MN/m² | 1) 10 N/mm² $f_k$ = 3.70 MN/m² | Filling amount: 17.5cm wall approx. 85 l/m² 24,0cm wall approx. 130 l/m² 30.0cm wall approx. 190 l/m² |
| $Rw_{,R}$ (incl. render / plaster) | 55 dB (24cm wall) 72 dB (17.5 + 3 + 17.5) | | |
| Fire resistance class | Fire wall REI-M90 | | |
| Approval notice | Z-17.1-911 | Z-17.1-688 | Values calculated according to DIN 4109 and Supplement 1. |

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **SPZ 175** | 498 | **175** | 249 | 10.6 | 84 | 10.7 | 61 | 7.85 |
| **SPZ 240** | 498 | **240** | 249 | 13.6 | 60 | 10.7 | 44 | 5.63 |
| **SPZ 300** 1) | 498 | **300** | 249 | 20.0 | 30 | 8 | 26 | 3.75 |

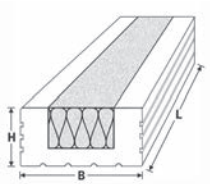
## Acoustically insulating Blocks T 1,2 and T 1,4

| | | |
|---|---|---|
| Compressive strength | 12.5 N/mm² $f_k$ = 5.0 MN/m² | 20.8 N/mm² $f_k$ = 6.8 MN/m² |
| Bulk density | 1.2 kg/dm³ | 1.4 kg/dm³ |
| $Rw_{,R}$ (incl. render / plaster) | 65 dB (17.5 + 3 + 17.5) | 67 db (17.5 + 3 + 17.5) |
| Fire resistance class | F 90 A, ≥ 17.5 fire wall REI-M 90 | F 90 A, ≥ 17.5 fire wall REI-M 90 |
| Approval notice | Z-17.1-993 | Z-17.1-993 |

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **TP 175/1.2** | 498 | **175** | 249 | 23.0 | 42 | 8.0 | 44 | 5.25 |
| **TP 240/1.2** | 372 | **240** | 249 | 22.5 | 40 | 10.7 | 44 | 3.74 |
| **TP 115/1.4** | 372 | **115** | 249 | 11.0 | 96 | 13.0 | 113 | 7.38 |
| **TP 175/1.4** | 307 | **175** | 249 | 17.3 | 54 | 13.0 | 74 | 4.15 |
| **TP 240/1.4** | 307 | **240** | 249 | 22.3 | 36 | 13.0 | 54 | 2.77 |

# System supplementation

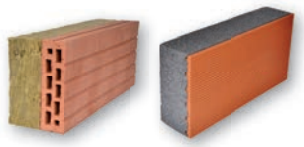
## Window reveal block moulding (make-up Blocks)




- Window reveal JUWO POROTON Block moulding with integrated insulation.
- For preventing thermal bridges in window reveals.
- The element connection with the thermally insulated JUWO POROTON Block moulding meets the requirements of DIN 4108 Supplement 2.
- The JUWO POROTON Block moulding can easily be installed with thin layer mortar in the window reveal.

| Item | Dimensions in mm<br>Length x Width x Height | | | kg/unit | Units/pallet |
|---|---|---|---|---|---|
| FAS | 250 | **100** | 65 | 1.4 | 248 |

## Block ledge (make-up Blocks)



Bulk density 1.4 kg/dm³

| Item | Dimensions in mm<br>Length x Width x Height | | | kg/unit | Units/pallet | m²/pallet |
|---|---|---|---|---|---|---|
| DeRa-Schale 18 plus | 499 | **140** | 179 | 7.3 | 60 | 30 |
| DeRa-Schale 20 plus | 499 | **140** | 199 | 7.8 | 60 | 30 |
| DeRa-Schale 22 plus | 499 | **140** | 219 | 8.8 | 50 | 25 |
| DeRa-Schale 20 Ultra | 499 | **140** | 199 | 2.5 | 60 | 30 |
| DeRa-Schale 22 Ultra | 499 | **140** | 219 | 2.7 | 60 | 30 |
| DeRa-Schale 25 Ultra | 499 | **140** | 249 | 3.1 | 50 | 25 |

## VD system + working aids for JUWO POROTON Blocks

### Accessories

| |
|---|
| Collomix DLX 120 |
| Float + carrying case |
| Mortar tub |
| Wall anchors |
| Thin layer mortar |

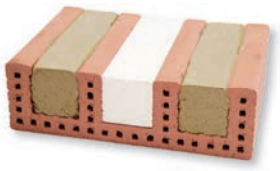
### Mortar roller for VD block system

| Type | For wall thickness |
|---|---|
| A | 42.5 + 49.0 cm |
| B | 36.5 + 30.0 cm |
| C | 24.0 + 17.5 cm |

| **maxit***mortar***pad** |
|---|
| Watering Set NEW |
| Mortarpad 42 cm x 30 cm |
| Mortarpad 36 cm x 24 cm |
| Mortarpad 19 cm x 36 cm |
| Mortarpad 17 cm x 36 cm |
| Mortarpad 11 cm x 36 cm |

Collomix DLX 120

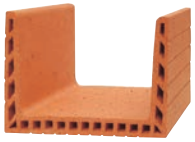
## Block lintels + thermally insulating lintels for JUWO POROTON Blocks

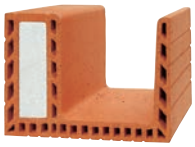


| Dimensions cm Width x Height | Length cm | Mass per metre run | Pallet capacity |
|---|---|---|---|
| **10.0** 7.1 | **in 25cm increments to 100-250 cm** | 12.0 | 100-200 cm / 45 units |
| **11.5** 7.1 | **in 25cm increments to 100-300 cm** | 13.5 | 100-200 cm / 45 units |
| **11.5** 7.1 | **in 25cm increments to 100-300 cm** | 13.5 | 225-300 cm / 27 units |
| **17.5** 7.1 | **in 25cm increments to 100-300 cm** | 24.2 | 100-200 cm / 30 units |
| **17.5** 7.1 | **in 25cm increments to 100-300 cm** | 24.2 | 225-300 cm / 18 units |
| **11.5** 11.3 | **100 125 150** | 22.0 | 100-150 cm / 32 units |
| **17.5** 11.3 | **125** | 31.0 | 125 cm / 18 units |
| **36.5** 11.3 | **125 150 Thermally insulating lintels** | 55.0 | 125-150 cm / 18 units |

## U Blocks with or without insulation

JUWO POROTON Blocks for lintels, columns and ring beams as 'lost' or permanent formwork.





| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Concrete cross section Clearance width | Clearance height | Pallet capacity per metre run |
|---|---|---|---|---|---|---|---|---|
| **U 175** | 240 | **175** | 244 | 6.9 | 105 | 9.5 cm | 18.5 cm | 26.25 |
| **U 240** | 240 | **240** | 244 | 9.2 | 75 | 15.0 cm | 18.5 cm | 18.75 |
| **U 300** | 240 | **300** | 244 | 10.0 | 60 | 20.5 cm | 18.2 cm | 15.00 |
| **U 365** | 240 | **365** | 244 | 11.4 | 60 | 25.5 cm | 18.0 cm | 15.00 |
| **U 425** | 240 | **425** | 244 | 12.2 | 60 | 33.0 cm | 19.0 cm | 15.00 |
| **U 490** | 240 | **490** | 244 | 12.9 | 45 | 40.0 cm | 19.5 cm | 11.25 |
| **WU 300** | 240 | **300** | 244 | 9.6 | 60 | 14.5 cm | 20.0 cm | 15.00 |
| **WU 365** | 240 | **365** | 244 | 11.6 | 60 | 20.0 cm | 20.0 cm | 15.00 |
| **WU 425** | 240 | **425** | 244 | 11.8 | 60 | 24.0 cm | 20.0 cm | 15.00 |
| **WU 490** | 240 | **490** | 244 | 12.9 | 45 | 30.5 cm | 20.0 cm | 11.25 |

## Practical pallet system

- Due to their construction (box height), JUWO pallets must be transported with pallet jacks on the building site.

**Our request for quotation texts are also available in the internet! www.juwoe.de**

CE 2+ Product data sheets and EU declarations of performance in accordance with the Europe-wide CE marking requirement are available for download on our website under 'Download'. PDF files can be read and printed with the free program 'Acrobat Reader'.

# Tips for working with ThermoPlan®

JUWO POROTON Blocks can be cut to close tolerances quickly and with no backlash using a masonry saw (e.g. DW 393 from DeWalt®) thanks to a counter-rotating blade system.

Clean and precise cuts can also be made in JUWO POROTON Blocks with a wet saw with a diamond blade or a bandsaw.

Masonry bond in accordance with DIN 1053-1 section 9.3 = overlap > 0.4 x JUWO POROTON Block height. For 25 cm layers, this yields an overlap of > 10 cm.

Through use of single-smooth-face corner and starting JUWO POROTON Blocks, the bonding can be safely maintained.


Any voids in the masonry are closed with lightweight masonry mortar LM 21.

Joint widths to 5 mm are permissible for interlocked cross joints. They are additionally filled with LM 21.

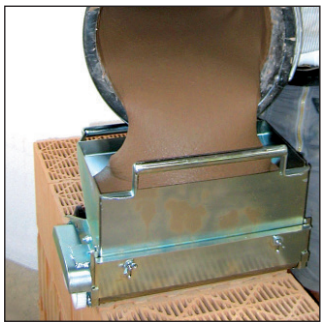
The masonry must be protected from the weather (rain, snow etc..), e.g. by covering with foil, boards or roofing felt.

JUWO POROTON Block masonry forms an ideal render / plaster base due to its pore and capillary structure.

Further information can be found on our website.

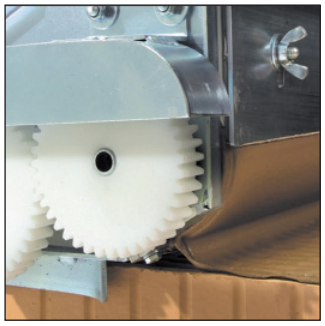
# VD System for a full surface thin layer mortar joint

Stir the mortar in a clean 30l bucket with a double-blade mixing tool (Collomix DLX 150) until it attains a smooth consistency. Mixing time: Mix for 3 minutes, let the mortar sit and then stir again.

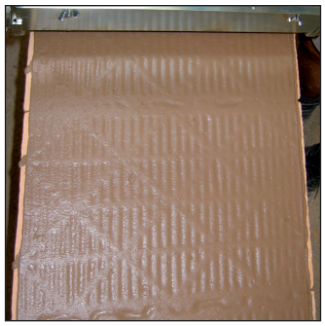


Fill the mortar roller.

Slide the mortar roller over the JUWO POROTON Blocks, pressing down on both rollers.



Apply the mortar layer.

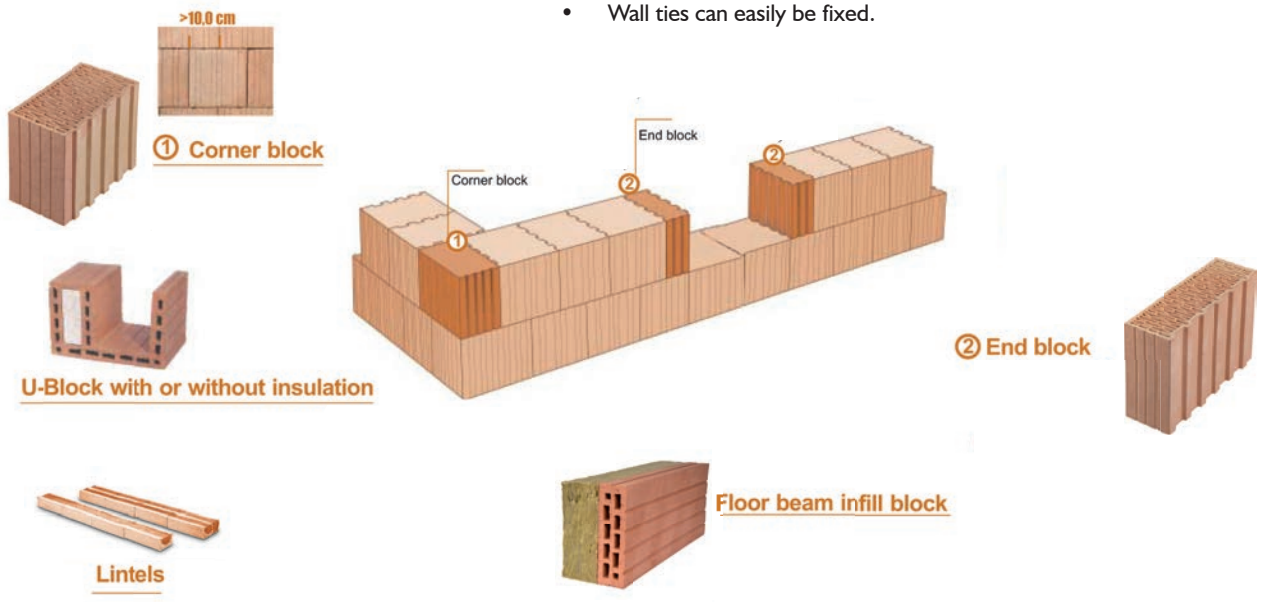


The mortar roller covers the entire bed joint surface in one pass with thin layer mortar.

Lay the JUWO POROTON Blocks and align. You're done!

**Building with ThermoPlan® JUWO POROTON Blocks and the VD system is easy: Roll, lay, finished! Acoustic insulation, draught-proofing and thermal insulation are optimised in the VD system!**

- Cover the bed joint in just one pass.
- Faster and more efficient mortar application with the VD roller.
- Vertical air channels in the wall are avoided.
- Wall ties can easily be fixed.



# The “dipping”-System

Accessories

Lay the damp-proof course on a thin mortar bed on the slab or substructure. Group 3 mortar should be used (for this course only).

Cover The DPC with a further amount of mortar and accurately level the bed joint using the levelling rails or setting blocks. Position the first block and ensure that it is accurate in plumb and alignment.

Place a second block at the next corner / opening - string a line between - then lay the first course directly onto the mortar bed. Do not twist blocks to „settle“ - use a rubber mallet to gently tap them down

Thin Bed Mortar should be mixed with 8 Ltrs. of clean, cold water per bag - max 2 bags at a time. Mix thoroughly with a power stirrer and allow to stand for 10 minutes.
Mix until the mortar has a honey-like consistency or like a chocolate cream yoghurt
Meng de kleefmortel met behulp van een mixer volgens de voorschriften van de fabrikant.

Dip the block not more than 5 millimeters into the mortar, ensuring full mortar coverage of the bottom surface and position the block on the wall.

The block is placed against the toothed edges of the previous one before being lowered into position. Eventually a structural monolithic thermally insulated wall is produced with mortar free perpend joints. A perfect, consistent background for plasters and renders!

Set one block after the other

**Just perfect!**

# The JUWO WallSlider®-System

Are you ready to slide?

## Fast - Faster -
## JUWÖ WallSlider® + illbruck PU 700


Bitte korrekt übersetzen

**The JUWÖ WallSlider® System - gluing with the PU700 Stone & Wood Glue from illbruck.**

- Tested and approved
- The latest evolution in adhesives
- illbruck PU 700 with KOMO®
- Attestation with product certificate IKB2239 / 17
- JUWÖ WallSlider® patent pending

Simply glide over the top of the wall

Perfect result

Adjustable for different wall thicknesses

Adjustable in height

The ??? can be easily adjusted

Can be used for various applications

# Tips for working with ThermoPlan® MZ

You will need the following on the building site: VD mortar roller, 30l mixing bucket, mortar stirrer with stirring shaft, float, aluminium trowel, lightweight mortar LM 21, rubber mallet

To level an uneven base, apply a levelling layer of mortar observing close tolerances and skim off excess using a float and an aluminium trowel.

Lay the first layer of JUWO POROTON Blocks on the precisely skimmed mortar layer and level using a spirit level and a rubber mallet.

Stir the supplied thin layer mortar to a smooth consistency in a clean 30l bucket. Mixing time: approx. 3 minutes. Let the mortar sit and then stir again.

Pour the stirred thin layer mortar into the mortar roller. This allows for efficient and easy application of the mortar.

Move the mortar roller uniformly in one direction (see labelling on tool), keeping the rollers pressed down on to the JUWO POROTON Block layer underneath.

The mortar roller covers the entire bed joint surface in one pass with thin layer mortar.

Now lay the JUWO POROTON Blocks and align. You're done!

Fill in the spaces at the end with cut closure JUWO POROTON Blocks. Always place the closure JUWO POROTON Blocks with the cut surfaces facing inwards and fill cross joints with LM 21.

# Drilling and anchoring in JUWO POROTON Block masonry

Drill diameter approx. 1 mm smaller than anchor diameter. Switch off the hammer action – only rotary drilling is allowed!

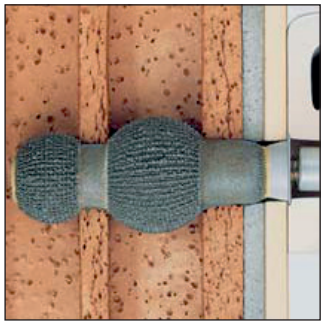
Tip: Use sharpened hard metal (e.g. steel) drill bits – they speed up drilling!

Drill the hole to a depth approximately 10 mm greater than the anchor length to ensure that the driver can extend past the anchor tip.

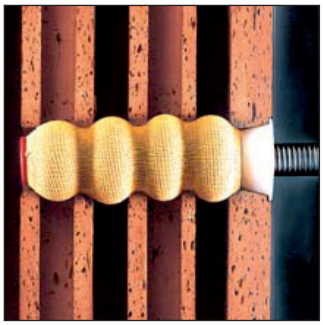
Clean the drill hole by blowing out, vacuuming or using a brush (drilling debris can affect the adhesion); only after this can you insert the anchor.

Heed the specifications of the anchor manufacturer for screw gauge and length to ensure optimal hold!

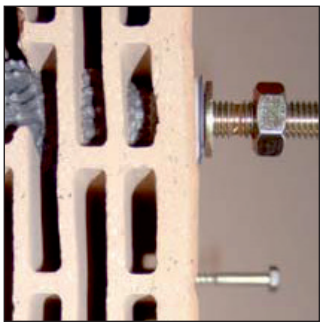
For common household fixtures, commercially available plastic anchors can be used.



Special anchors and injection anchors are available for fixing sanitary facilities etc.



For heavy loads, a secure hold can be provided, e.g., by injection anchors.



Tip: Injection anchors should be used if inner webs have been broken due to improper drilling (e.g. using an impact drill). When ordering fixing products always ask for Poroton suitable products.

# Cutting slots in JUWO POROTON Block masonry

## Heed the information given in DIN 1053-1: 11-1996 'Slots and openings in walls'! (See table below.)

Subsequent caulking is not permitted according to DIN 1053 (generally applicable to masonry). Only the wall chaser ensures that the defined slot depth is achieved.

Furthermore: Maintain as great as distance as possible to highly loaded masonry sections (e.g. under lintels), avoid cutting slots in narrow piers, cut horizontal slots max. 40 cm above the floor or below the ceiling.

Mark around the socket outlet and drill a round hole using a commercially available drill and dry diamond core drill bit.

Remove any JUWO POROTON Block remains and drilling debris – and insert the socket outlet.

Special wall chaser with two diamond cutting blades and adjustable cut width and depth.

Use the wall chaser to cut slots in the JUWO POROTON Blocks.

Open up pre-cut slots with hammer and chisel.

Insert the electrical installation into the slot.

## Permissible slots and chases in load-bearing walls without verification

| Wall thickness | Subsequently cut horizontal and diagonal slots [1] | | Subsequently cut vertical slots and openings | | | |
|---|---|---|---|---|---|---|
| | Slot length | | Slot depth [4] | Single slot width [5] | Distance between openings | Sum of slot width [5] |
| | Unrestricted [3] | 1.25 m [2] | | | | |
| | Slot depth | | | | | |
| 115 | - | - | 10 | 100 | 115 | - |
| 175 | 0 | 25 | 30 | 100 | | 260 |
| 240 | 15 | 25 | 30 | 150 | | 385 |
| 300 | 20 | 30 | 30 | 200 | | 385 |
| 365 | 20 | 30 | 30 | 200 | | 385 |

1) Horizontal and diagonal slots are only permissible in a region ≤ 0.4 m above and below the slab as well as on one wall side each. They are not permissible for horizontally perforated clay JUWO POROTON Blocks.
2) Minimum distance from openings in longitudinal direction: ≥ 490 mm, from the next horizontal slot: twice the slot length.
3) The depth can be increased by 10 mm if tools with precise depth control are used. If such tools are used, slots 10 mm in depth can be cut opposite each other on both sides of walls ≥ 240 mm.
4) Slots extending to max. 1 m above the floor may have depths of max. 80 mm and widths of max. 120 mm for wall thicknesses ≥ 240 mm.
5) The total width of slots according to columns 5 and 7 must not exceed the dimensions given in column 7 per each 2 m of wall length. For wall lengths of less than 2 m, the values in column 7 should be decreased in proportion to the wall length.

# Technology

## Table of U values for external walls

Calculated values incl. 20 mm exterior render + 15 mm interior plaster*

| Thermal conductivity $\lambda_R$ = W/(mK) | Heat transfer coefficients (U values) in W/(m²K) for a wall thickness of | | | | | |
|---|---|---|---|---|---|---|
| | 190 mm | 240 mm | 300 mm | 365 mm | 425 mm | 490 mm |
| 0.07 | | | 0.22 | 0.18 | 0.16 | 0.14 |
| 0.75 | | | | 0.19 | 0.16 | 0.14 |
| 0.08 | | | 0.25 | 0.21 | 0.18 | 0.16 |
| 0.09 | | | 0.28 | 0.23 | 0.20 | 0.17 |
| 0.10 | | | 0.30 | 0.25 | 0.22 | 0.19 |
| 0.11 | 0.49 | 0.41 | 0.33 | 0.28 | 0.24 | 0.21 |
| 0.12 | | 0.43 | 0.36 | 0.30 | 0.26 | 0.23 |
| 0.13 | | 0.47 | 0.38 | 0.32 | 0.28 | 0.25 |
| 0.14 | | 0.50 | 0.41 | 0.34 | 0.30 | 0.26 |
| 0.16 | | 0.55 | 0.46 | 0.39 | 0.34 | 0.30 |
| 0.18 | | 0.63 | 0.52 | 0.44 | 0.38 | 0.34 |
| 0.21 | | 0.71 | 0.59 | 0.50 | 0.44 | 0.39 |
| 0.24 | | 0.80 | 0.66 | 0.56 | 0.49 | 0.44 |
| 0.27 | | 0.87 | 0.73 | 0.62 | 0.55 | 0.48 |
| 0.33 | | 1.02 | 0.86 | 0.73 | 0.65 | 0.57 |
| 0.39 | | 1.15 | 0.98 | 0.84 | 0.74 | 0.66 |

Institut Bauen und Umwelt e.V. promotes the production and use of environmentally friendly building products. We have been granted an ecological certificate from them. This was based on a positive overall rating of the products in an assessment of their environmental effects.

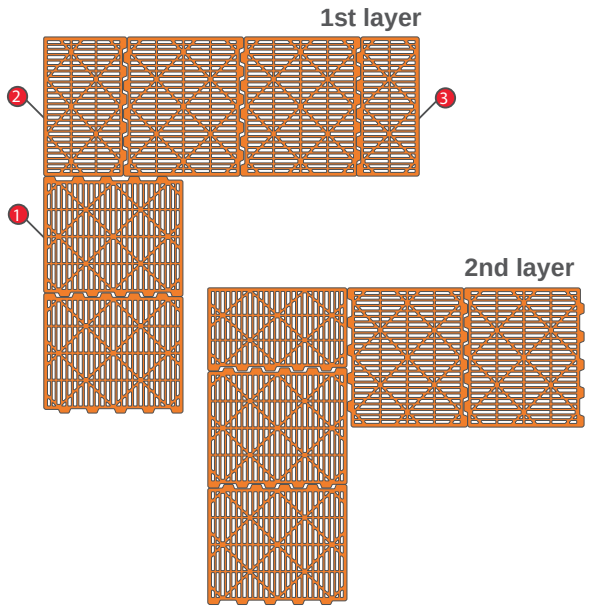
All of our Blocks are manufactured with a minimal amount of primary energy and the finished house saves heat energy through its outstanding insulating properties. The proven solid monolithic wall structures retain their value extremely well. Should demolition become necessary, the waste is sorted and returned to production where it will be used for building roads or resurfacing tennis courts.

| | | | |
|---|---|---|---|
| Quality monitored through quality seal 'Ziegelindustrie Süd' | Certified for Belgian standard 'Benor' | JUWO Poroton is registered by LABC for UK | Certified for Environmental Product Declaration EPD EN 14025 |
| Certified Energy System EN 50001 | Winner of the grand prize for SMES | JUWO clay can be used for medicinal purposes. Confirmed by | Certified to the highest European standard |

# Details

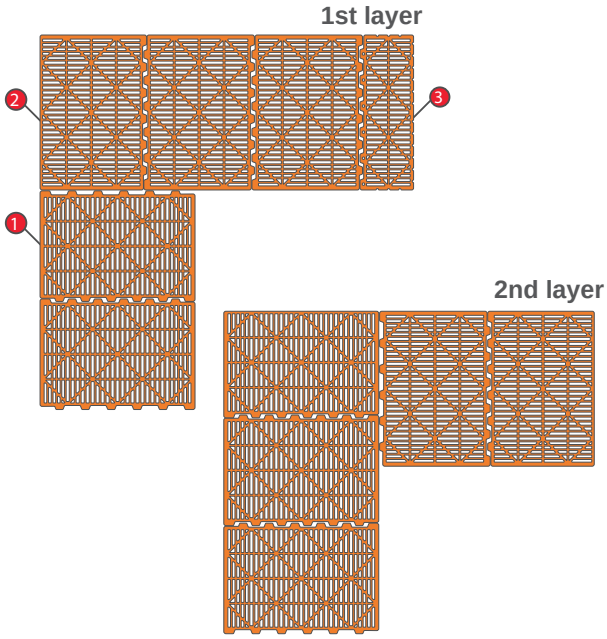
## Laying instructions for wall thickness of 30.0 cm

1. Exterior wall Block d = 30.0 cm
2. Single-smooth-face corner JUWO POROTON Block d = 30.0 cm
3. Single-smooth-face starting JUWO POROTON Block d = 30.0 cm




## Laying instructions for wall thickness of 36.5 cm

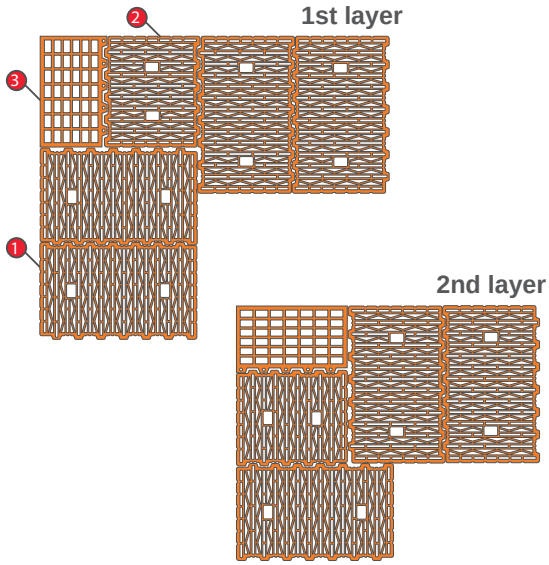
1. Exterior wall Block d = 36.5 cm
2. Single-smooth-face corner Block d = 36.5 cm
3. Single-smooth-face starting Block d = 36.5 cm




**The perforation patterns used in the individual detail drawings are for illustration purposes only!**
**Larger views can be found in the download section of our website at www.juwoe.de!**

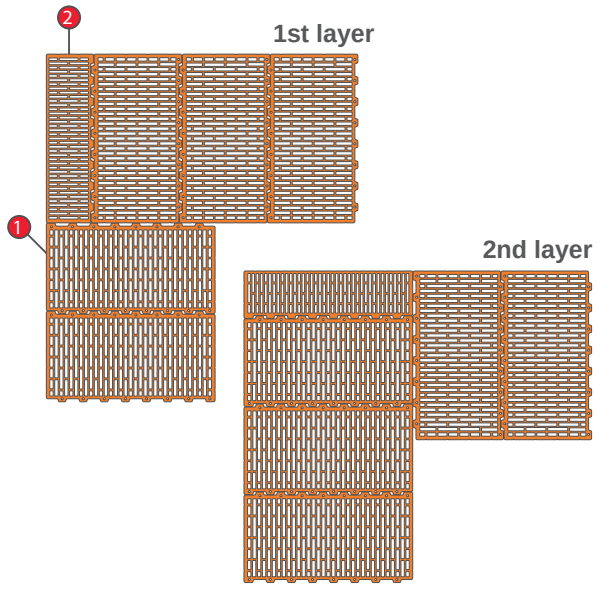
## Laying instructions for wall thickness of 42.5 cm

1. Exterior wall Block d = 42.5 cm
2. Single-smooth-face corner Block d = 30.0 cm
3. Single-smooth-face starting Block d = 30.0 cm

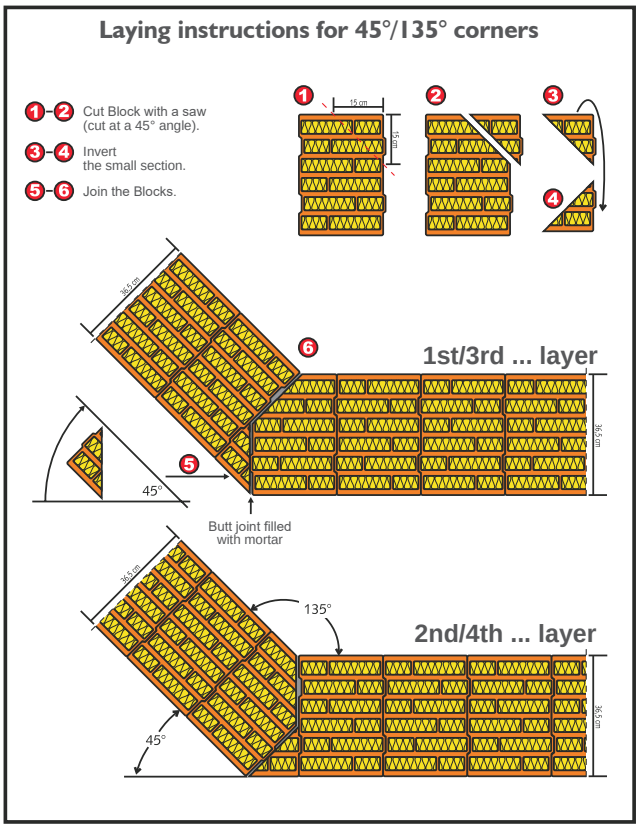



## Laying instructions for wall thickness of 49.0 cm

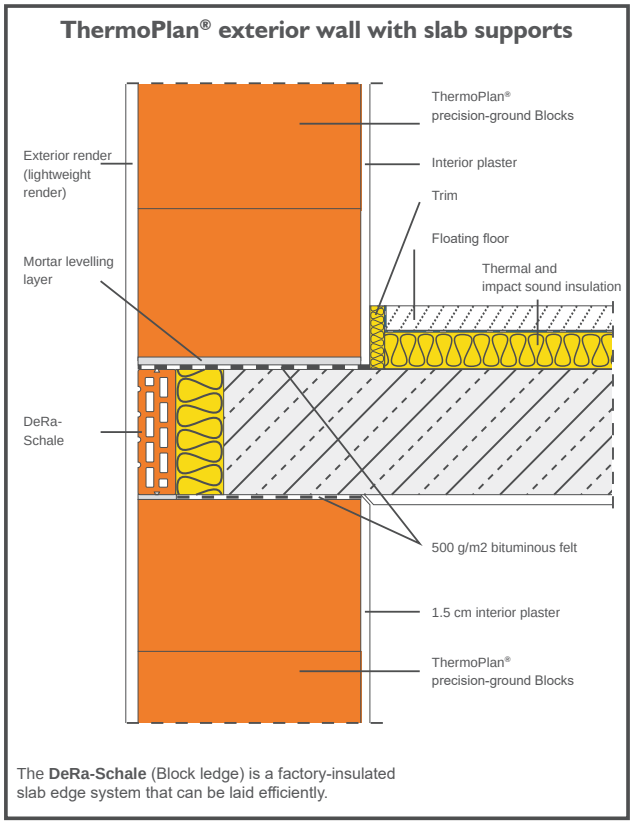
1. Exterior wall Block d = 49.0 cm
2. Single-smooth-face corner Block d = 49.0 cm

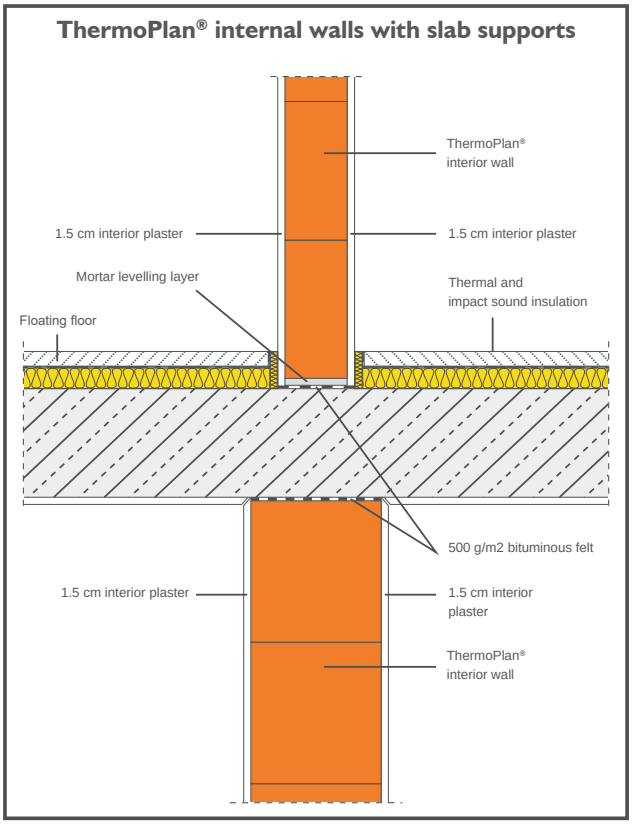


# Details




**The perforation patterns used in the individual detail drawings are for illustration purposes only!**
**Larger views can be found in the download section of our website at www.juwoe.de!**



# maxitmortarpad

Quick • easy • reliable

JUWO POROTON

## The evolution to Brickwork 3.0


- Minimizes sources of error.
- Easy handling, efficient and safe.
- Mineral product made from natural raw materials.
- No need of additional tools.
- Clean construction site.


Moisten blocks


Lay on Maxit mortar pads


Cut and adjust Maxit mortar pads if necessary


Moisten Maxit mortar pads


Lay blocks with full surface


Align blocks in usual way

**www.juwoporoton.com**

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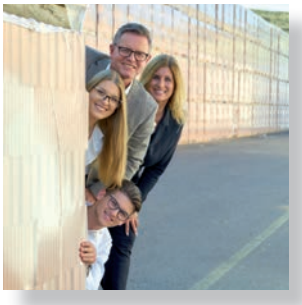
Winner of the grand prize for german small and medium sized enterprises.

Image verification: JUWÖ Poroton-Werke Ernst Jungk und Sohn GmbH, fotolia

**www.juwoporoton.com**

12/2020

Stefan Jungk



The Jungk family

Aerial view of JUWO company site
(Headquarter Wöllstein)

Aerial view of JUWO location
Zeller Poroton, Alzenau (Bavaria)

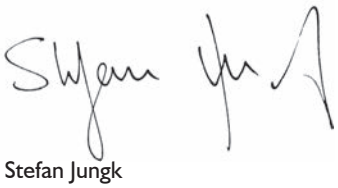
The Hanging Gardens of Babylon, one of the Seven Wonders of the World; the Great Wall of China, the largest man-made object on the planet and the only one seen from space; the Hagia Sophia one of the most beautiful churches ever built; the structure of the Tag Mahal and the Coliseum in Rome all have one thing in common, they were built in clay blocks.

JUWO POROTON Werke has been owned and managed by my family since 1862. We always understood the importance of clay block. We have used our tradition and expertise built up through 5 generations and our commitment to inovation to turn clay blocks into the building material for the 21st century and beyond.

Juwo believe now more than ever that our homes should be safe, secure, healthy and sustainable places to live. We are proud to say we have achieved this with our range of JUWO POROTON Blocks.

In 2017 JUWO has acquired Zeller Poroton, Alzenau (Bavaria). With this takeover, JUWO is one of the biggest clay block manufacturers in the Rhineland-Palatinate, Hesse, Northern Bavaria and the Saarland regions and therefore one of the leading building materials manufacturers in the metropolitan Rhine-Main region as well as in Western and Southwestern Germany.

My promise is to continue to offer our family based service and our market leading products to all our customers both old and new like what we have been doing since 1862.



Stefan Jungk

Owner/CEO

More Contact

# Why should I build a JUWO POROTON Block house?

## Indoor comfort in summer and winter

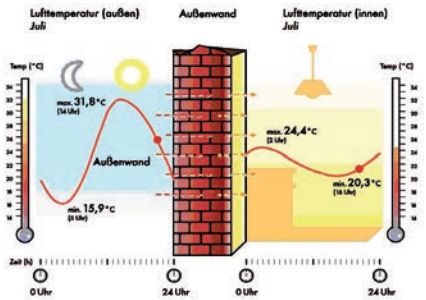
A comfortable indoor climate is characterised by:

- a pleasant room temperature throughout the year
- ideal relative humidity
- dry walls
- healthy room air.

The outstanding thermal insulation properties and high heat retention of JUWO POROTON Blocks provide a pleasant room climate. In a JUWO POROTON Block house, it's always warm and cosy. The interplay between insulation and heat retention in monolithic masonry walls is unique.

A hot topic!! Cool in the summer: JUWO POROTON Blocks have the unique combination of a high thermal insulation and a high thermal mass. This natural air conditioning keeps the temperature in the house relatively constant and makes sure it isn't too hot inside in the summer. No other building material can do this.

Compared with light wood structures, the advantage is real. The fact is that given the same thermal insulation, a JUWO POROTON Block has much more mass and can hence store more heat or chill.




## Lowest moisture content of all comparable building materials

The more moisture the poorer the thermal insulation. Rule of thumb: For every 1% increase in moisture the thermal insulation decreases by about 10%. JUWO POROTON Blocks are dried and then fired.

They have the fastest drying time and the lowest residual moisture content of all comparable building materials, which have drying times of up to three years and longer. This means that JUWO POROTON Blocks provide thermal insulation right from the start.

## Saves money from the first day on

Highly insulating JUWO POROTON Blocks really save money. Don't be fooled by apparently cheaper building materials.

- Because the JUWO POROTON Block is dry and cannot shrink, the wall can be rendered or plastered without a long delay.
- Dry JUWO POROTON Blocks are thermally insulating right from the start. This drastically cuts heating costs.
- Upkeep costs due to mould can practically be ruled out.
- Due to the dimensional stability of the JUWO POROTON Blocks and in connection with the recommended renders and plasters, the risk of subsequent cracking is significantly reduced.

## Ecological leader

- Ecological and sustainable building – ideally monolithic (plaster inside, JUWO POROTON Block, render outside – done).
- Monolithic masonry façades without artificial insulation systems are free from harmful biocides (treatment with biocides to inhibit fungal and algal growth is problematic in ETICS systems).
- External thermal insulation composite systems are more susceptible to fungal and algal attack than rendered monolithic walls and have limited service lives (max. 30 to 40 years). After that the façade must be disposed of as hazardous waste. This is not only absurd from an ecological point of view, but it is also very expensive. The insulation mania will cause huge ecological problems in the future!
- The rubble from a JUWO POROTON Block house can be reused as recycled building materials.
- Production in the most modern facilities in Germany (building was funded by German Federal Environment Ministry).
- Institut Fresenius confirms: JUWO clay can even be used for medicinal purposes.

- JUWO has been certified to Öko-Label III by Institut Bauen und Umwelt e.V. This openly presents all JUWO POROTON Block data – from raw materials extraction through production to recycling – and creates transparency and comparability in the market. All JUWO blocks are certified with the newest Environmental Product Declaration JUWÖ - EPD under Norm ISO 14025 und EN 15804.

## Excellent thermal insulation – constant indoor climate

The outstanding thermal protection of your house (right from the start) is guaranteed by:

- solid and **dry** JUWO POROTON Block construction
- continuous innovations in highly insulating JUWO POROTON Blocks.

JUWO POROTON Blocks meet current and future requirements for maximum thermal insulation.

**Info!** The actual thermal insulation is even higher:
The JUWO POROTON Blocks are relatively heavy due to their high bulk density and store the sun's energy longer than all other building materials, thereby saving additional heat energy. This effect was scientifically proven, for example, by Prof. Fehrenberg through examination of two rental properties with JUWO POROTON Block walls: one received additional insulation and the other did not. Before this, the heating costs had been nearly identical for both buildings. Afterwards, they were about 13% higher every year for the modernised building than for the unrenovated building. Why? The clay JUWO POROTON Blocks store the energy from the sun to prevent loss of heat energy. This effect is cancelled out by the additional external insulation. (Source: Welt am Sonntag)

## Extremely high compressive strengths

Through the special Wöllstein clay and a special production method, even the most highly insulating JUWO POROTON Blocks have extremely high compressive strengths. A few examples from production:

For internal walls and insulated external walls:
TP 240/175 TS²: more than 15 N/mm². The TS² Quadrat precision-ground JUWO POROTON Block is hence the strongest in the world.
For external walls: ThermoPlan® T and S series highly insulating JUWO POROTON Blocks: more than 10 N/mm².

These values correspond to the German compressive strength classes 10–16. This puts JUWO well above all other manufacturers.

**Did you know?**
10 N/mm² corresponds to a load of more than 100 tonnes; i.e. a highly insulating ThermoPlan® S9 bears the load of more than two fully laden 40-ton trucks including trailers. Of course, most buildings do not need this kind of compressive strength. However, it is helpful for numerous structural details and provides a sense of security.

## Minimum upkeep costs and maximum value retention

Lifespan of 100 years – guaranteed appreciation in value. A house built of JUWO POROTON Blocks requires hardly any maintenance for decades, making the cost of upkeep very low. A JUWO POROTON Block house is also a safe investment you can actually use and enjoy right now – not virtually, abstractly or even never.

## Effective acoustic insulation

A heavy JUWO POROTON Block wall is extremely soundproof.

## Maximum fire protection

A JUWO POROTON Block house provides maximum fire protection and safety through:

- non-flammable JUWO POROTON Blocks
- solid construction
- long resistance times
- no toxic fumes

## Universal applicability

JUWO POROTON Blocks can be used universally and flexibly for building everything from detached houses to multi-storey buildings.

# JUWO SmartWall-System Technical Overview UK/Ireland

| Block reference | Item | Wall thickness | Blocks per pallet | Thermal conduc-tivity W/mK | U-value W/m²K | Average compressive strength per unit (N/mm²) |
|---|---|---|---|---|---|---|
| ThermoPlan MZ 70 | MZ 240/70 | 24 | 80 | 0.07 | 0.27 | 8 |
| ThermoPlan MZ 70 | MZ 300/70 | 30 | 72 | 0.07 | 0.22 | 8 |
| ThermoPlan MZ 70 | MZ 365/70 | 36.5 | 60 | 0.07 | 0.18 | 8 |
| ThermoPlan MZ 70 | MZ 425/70 | 42.5 | 48 | 0.07 | 0.16 | 8 |
| ThermoPlan MZ 70 | MZ 490/70 | 49 | 48 | 0.07 | 0.137 | 8 |
| ThermoPlan S 7[5] | S 365/7.5 | 36.5 | 60 | 0.075 | 0,19 *2 | 6 |
| ThermoPlan S 7[5] | S 425/7.5 | 42.5 | 48 | 0.075 | 0,16 *2 | 6 |
| ThermoPlan S 7[5] | S 490/7.5 | 49 | 48 | 0.075 | 0,14 *2 | 6 |
| ThermoPlan S 8 | S 365/8 | 36.5 | 60 | 0.08 | 0.21 | 8 |
| ThermoPlan S 8 | S 425/8 | 42.5 | 48 | 0.08 | 0.18 | 8 |
| ThermoPlan S 8 | S 500/8 | 50 | 48 | 0.08 | 0.15 | 6 |
| ThermoPlan MZ80-GS | MZ 300/80 GS | 30 | 72 | 0.08 | 0.25 | 10 |
| ThermoPlan MZ80-GS | MZ 365/80 GS | 36.5 | 60 | 0.08 | 0.21 | 10 |
| ThermoPlan MZ80-GS | MZ 425/80 GS | 42.5 | 48 | 0.08 | 0.18 | 10 |
| ThermoPlan MZ80-GS | MZ 490/80 GS | 49 | 48 | 0.08 | 0.16 | 12 |
| ThermoPlan S 9 | S 300/9 | 30 | 72 | 0.09 | 0.28 | 8 |
| ThermoPlan S 9 | S 365/9 | 36.5 | 60 | 0.09 | 0.23 | 8 |
| ThermoPlan S 9 T | S 365/9 T | 36.5 | 48 | 0.09 | 0.23 | 8 |
| ThermoPlan S 9 | S 490/9 | 42.5 | 48 | 0.09 | 0.20 | 8 |
| ThermoPlan MZ90-GMS | MZ 365/90-GMS | 36.5 | 60 | 0.09 | 0.23 | 12 |
| ThermoPlan MZ90-GMS | MZ 425/90-GMS | 42.5 | 48 | 0.09 | 0.20 | 12 |
| ThermoPlan MZ90-G | MZ 300/90 | 30 | 72 | 0.09 | 0.28 | 10 (12) |
| ThermoPlan MZ90-G | MZ 365/90 | 36.5 | 60 | 0.09 | 0.23 | 10 (12) |
| ThermoPlan MZ90-G | MZ 425/90 | 42.5 | 48 | 0.09 | 0.20 | 10 (12) |
| ThermoPlan T10 | TP 300/10 | 30 | 72 | 0.10 | 0.30 | 10 |
| ThermoPlan T10 | TP 365/10 | 36.5 | 48 | 0.10 | 0.25 | 10 |
| ThermoPlan T11 | TP 190/11 | 19 | 120 | 0.11 | 0.49 | 8 |
| ThermoPlan T11 | TP 240/11 | 24 | 96 | 0.11 | 0.41 | 8 |
| ThermoPlan TS 11 | TS 365/11 | 36.5 | 60 | 0.11 | 0.28 | 10 (12) |
| ThermoPlan TS 11 | TS 425/11 | 42.5 | 48 | 0.11 | 0.24 | 10 (12) |
| ThermoPlan TS 12 | TS 300/12 | 30 | 72 | 0.12 | 0.36 | 10 (12) |
| ThermoPlan HLz T | TP 100 | 10 | 120 | 0.28 | | 15 |
| ThermoPlan HLz T | TP 115 | 11.5 | 96 | 0.28 | | 15 |
| ThermoPlan HLz T | TP 140 | 14 | 84 | 0.28 | | 15 |
| ThermoPlan TS Square | TP 175 | 17.5 | 60 | 0.28 | | 15 |
| ThermoPlan TS Square | TP 240 | 24 | 60 | 0.28 | 1.12 | 15 |
| Acoustically insulating filled Blocks T | SPZ 175 | 17.5 | 40 | 0.96 | | 15 |
| Acoustically insulating filled Blocks T | SPZ 240 | 24 | 45 | 0.96 | | 15 |
| Acoustically insulating filled Blocks T | SPZ 300 | 30 | 30 | 0.96 | | 10 |
| Acoustically insulating Blocks T 1,2 | TP 115/1,2 | 11.5 | 60 | 0.50 | | 16 |
| Acoustically insulating Blocks T 1,2 | TP 175/1,2 | 17.5 | 60 | 0.50 | | 16 |
| Acoustically insulating Blocks T 1,2 | TP 240/1,2 | 24 | 45 | 0.50 | | 16 |
| Acoustically insulating Blocks T 1,4 | TP 115/1,4 | 11.5 | 60 | 0.58 | | 20 |
| Acoustically insulating Blocks T 1,4 | TP 175/1,4 | 17.5 | 54 | 0.58 | | 20 |
| Acoustically insulating Blocks T 1,4 | TP 240/1,4 | 24 | 45 | 0.58 | | 20 |

*1 Fire protection: with plaster and render on both sites of the wall: Fire resistance based on EN 1996-1-2 and national UK annex for group 1 and 2
*2 ThermoPlan S 75 (42,5 and 49 cm) U-value based on: 20 mm exterior light weight plaster (Lambda 0,10 W/mK) , internal render: light weight gybsum render (Lambda 0,30 W/mK)

| Fk value EN 1996 $f_k$ MN/m² | Bulk density kg/dm³ | Fire resistance *1 | Notes |
|---|---|---|---|
| 2.2 | 0.55 | - | |
| 2.2 | 0.55 | REI 30 | |
| 2.2 | 0.55 | REI-M 90 | |
| 2.2 | 0.55 | REI-M 90 | |
| 1.8 | 0.50 | REI-M 90 | |
| 1.5 | 0.60 | 120 min | REI 90 (europe) |
| 1.5 | 0.60 | 120 min | REI 90 (europe) |
| 1.5 | 0.60 | 120 min | REI 90 (europe) |
| 2.3 | 0.60 | 120 min | REI-M 90 = Firewall (europe) |
| 2.3 | 0.60 | 120 min | REI-M 90 = Firewall (europe) |
| 1.8 | 0.60 | 120 min | REI-M 90 = Firewall (europe) |
| 3.5 | 0.70 | REI-M 90 | optimized for noise insulation |
| 3.5 | 0.70 | REI-M 90 | dto |
| 3.5 | 0.70 | REI-M 90 | dto |
| 3.9 | 0.70 | REI-M 90 | dto |
| 2.3 | 0.60 | 90/120 min | 90: alpha <= 0,6 / 120: alpha <= 1,0 |
| 2.3 | 0.65 | 120 min | REI-M 90 = Firewall (europe) |
| 1.8 | 0.65 | 120 min | |
| 2.3 | 0.65 | 120 min | REI-M 90 = Firewall (europe) |
| 4.5 | 0.70 | F 90 A | optimized for noise insulation |
| 4.5 | 0.70 | F 90 A | dto |
| 3,5 (3,9) | 0.70 | REI-M 90 | dto |
| 3,5 (3,9) | 0.70 | REI-M 90 | dto |
| 3,5 (3,9) | 0.70 | REI-M 90 | dto |
| 2.3 | 0.65 | 90/120 min | 90: alpha <= 0,6 / 120: alpha <= 1,0 |
| 2.3 | 0.65 | 120 min | |
| 2.3 | 0.60 | - | for cavity wall construction |
| 2.3 | 0.65 | - | |
| 3.7 | 0.75 | 120 min | optimized for noise insulation/REI-M 90 = Firewall (europe) |
| 3.7 | 0.75 | 120 min | optimized for noise insulation/REI-M 90 = Firewall (europe) |
| 3,7 (4,0) | 0.75 | REI 30 | optimized for noise insulation |
| 4.7 | 0.80 | 90 min | |
| 4.7 | 0.80 | 90 min | |
| 4.7 | 0.80 | 120 min | |
| 4.7 | 0.80 | 180 min | REI-M 90 = Firewall (europe) |
| 4.7 | 0.80 | 240 min | REI-M 90 = Firewall (europe) |
| 5.8 | 0,8/1,8 | 180 min | REI-M 90 = Firewall (europe) |
| 5.8 | 0,8/1,8 | 180 min | REI-M 90 = Firewall (europe) |
| 3.70 | 0,8/1,8 | 180 min | REI-M 90 = Firewall (europe) |
| 5.5 | 1.20 | 120 min | |
| 5.5 | 1.20 | 120 min | REI-M 90 = Firewall (europe) |
| 5.5 | 1.20 | 120 min | REI-M 90 = Firewall (europe) |
| 6.3 | 1.40 | 120 min | |
| 6.3 | 1.40 | 120 min | REI-M 90 = Firewall (europe) |
| 6.3 | 1.40 | 120 min | REI-M 90 = Firewall (europe) |

We always recommend to ues the VD-System, means the application of the thin joint mortar with the JUWO applicator. We ask our costumers to inform us about the way of application bevor delivery. If no information before, we assume the use of the VD-System





# JUWO ThermoPlan® MZ

## MZ70

The new standard in detached housing: solid homogeneous JUWO POROTON Block masonry.

## MZ80-GS · MZ90-G · 90-GMS

Outstanding acoustic and thermal insulation for Blocks of flats.

- The ThermoPlan® MZ represents an innovation in JUWO POROTON Block manufacturing that effectively conserves heat energy, protects the environment and lowers the operating costs of your JUWO POROTON Block home.
- JUWO POROTON Blocks are natural products made from the four elements fire, water, earth and air and have evolved continuously over the thousands of years of their use. For the ThermoPlan® MZ we have added another element to this basic principle: the stone wool Rockwool®.
- The ThermoPlan® MZ JUWO POROTON Block cavities are filled with high-quality Rockwool® for integrated thermal insulation. Rockwool® is one of the most widely used materials in thermal and acoustic insulation. This is mainly due to its outstanding properties: stone wool is non-flammable, waterproof, yet permeable to vapours, and age-resistant and provides excellent insulation against heat, cold and noise.
- With ThermoPlan® MZ JUWO POROTON Blocks and the proven JUWO VD precision-ground JUWO POROTON Block building system, you can build monolithic JUWO POROTON Block walls with built-in, protected insulation. There is no need for extra external thermal insulation composite systems.
- The ThermoPlan® MZ slashes heating costs for homeowners and tenants and effectively maintains a relatively constant climate inside the house.
- The ThermoPlan® MZ can withstand all kinds of mechanical stresses caused, e.g., by vibration, sawing, drilling or milling. The solid design ensures outstanding physical properties as well as excellent workability.
- The ThermoPlan® MZ keeps the costs of structural work including labour and rendering / plastering costs low.
- The ThermoPlan® MZ JUWO POROTON Blocks can be handled efficiently thanks to the proven JUWO VD precision-ground JUWO POROTON Block building system for fast, secure and good-quality laying of all JUWO POROTON Blocks.
- **Moisture**
  Rockwool® is hydrophobic (water-repellent) to protect the masonry against moisture ingress. Moisture is directed from the stone wool to the JUWO POROTON Blocks and diffuses through the capillary action of the JUWO POROTON Block material to the outside. As it is always the case in JUWO POROTON Blocklaying, the horizontal bed joint at the building site should be covered overnight to prevent penetration by rain or snow.
- **Installing windows and doors**
  Corner and end JUWO POROTON Blocks are offered for secure fixing of window and door elements in reveals.
- **Drilling and anchoring**
  The thick outer and inner webs of the JUWO POROTON Block ensure high anchor pullout resistance. In general, holes should always be drilled into JUWO POROTON Block walls with a drill, not an impact tool.
- **Sawing of the JUWO POROTON Blocks**
  The good adhesion of the Rockwool® stone wool elements to the JUWO POROTON Block webs makes handling on site easy. The ThermoPlan® MZ can be cleanly cut into any height, length or shape with a wet cutting tool, bandsaw or electric handsaw (DeWalt® DW 393).

## ThermoPlan® MZ70 (Range of applications: detached, semi-detached and terraced houses)

| | |
|---|---|
| Thermal conductivity | $\lambda_R$ = 0.07 W/(mK) |
| Bulk density | 0.55 kg/dm³ |
| Compressive strength | 8 N/mm² $f_k$ = 2.2 MN/m² |
| Fire resistance class | REI-M 90 |
| Approval notice | Z-17.1-1084 |


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| MZ 240/70 | 248 | **240** | 249 | 8.1 | 80 | 16 | 67 | 5.00 |
| MZ 300/70 | 248 | **300** | 249 | 9.2 | 72 | 16 | 53 | 3.75 |
| MZ 365/70 | 248 | **365** | 249 | 11.2 | 60 | 16 | 44 | 5.01 |
| MZ 425/70 | 248 | **425** | 249 | 13.1 | 48 | 16 | 38 | 3.76 |
| MZ 490/70 | 248 | **490** | 249 | 15.1 | 48 | 16 | 33 | 2.50 |

## ThermoPlan® MZ 80-GS/MZ 90-G (Range of applications: multi-storey housing)

| | |
|---|---|
| Thermal conductivity | $\lambda_R$ = 0,08/0,09 W/(mK) |
| Bulk density | 0.70 kg/dm³ |
| Compressive strength | min 10 N/mm² $f_k$ = 3,5 MN/m² |
| Fire resistance class | Fire wall REI-M120 |
| Approval notice | Z-17.1-1202 / 1087 |


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| MZ 300/80GS (90G) | 248 | **300** | 249 | 13.1 | 72 | 16 | 53 | 2.82 |
| MZ 365/80GS (90G) | 248 | **365** | 249 | 15,7 | 60 | 16 | 44 | 2.50 |
| MZ 425/80GS (90G) | 248 | **425** | 249 | 18,3 | 48 | 16 | 38 | 1.88 |

## ThermoPlan® MZ make-up Blocks

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Description |
|---|---|---|---|---|---|---|
| MZ70 300 Eck | 175 | **300** | 249 | 8.5 | 54 | Corner Block |
| MZ70 300 End | 123 | **300** | 249 | 6.7 | 81 | End Blocks |
| MZ70 365 End | 123 | **365** | 249 | 8.3 | 72 | End Blocks |
| MZ70 365 End lang | 248 | **365** | 249 | 13.5 | 60 | End Blocks |
| MZ70 425 End | 123 | **425** | 249 | 9.7 | 54 | End Blocks |
| MZ70 490 End | 123 | **490** | 249 | 9.0 | 60 | End Blocks |
| MZ70 300/2 | 248 | **300** | 124 | 6.0 | 90 | Levelling Blocks |
| MZ70 365/2 | 248 | **365** | 124 | 7.3 | 80 | Levelling Blocks |
| MZ70 425/2 | 248 | **425** | 124 | 8.5 | 60 | Levelling Blocks |
| MZ70 490/2 | 248 | **490** | 124 | 9.1 | 60 | Levelling Blocks |
| MZ90-G 300 Eck | 175 | **300** | 249 | 10.5 | 54 | Corner Block |
| MZ90-G 300 End | 123 | **300** | 249 | 6.7 | 81 | End Blocks |
| MZ90-G 365 End | 123 | **365** | 249 | 8.3 | 72 | End Blocks |
| MZ90-G 365 End lang | 248 | **365** | 249 | 15.7 | 40 | End Blocks |
| MZ90-G 425 End | 123 | **425** | 249 | 11.0 | 54 | End Blocks |
| MZ90-G 300/2 | 248 | **300** | 124 | 7.4 | 90 | Levelling Blocks |
| MZ90-G 365/2 | 248 | **365** | 124 | 9.0 | 80 | Levelling Blocks |
| MZ90-G 425/2 | 248 | **425** | 124 | 10.5 | 60 | Levelling Blocks |

# ThermoPlan® S7⁵

**Solid block building in perfected form.**


## The ThermoPlan® S7⁵

- **Wide:** 36.5 + 42.5 + 49.0 cm wall thickness
- **Strong:** high mass for storing heat and cold
- **Warm:** pure thermal insulating power with no fillers $\lambda_R$ 0.07⁵ W/(mK)

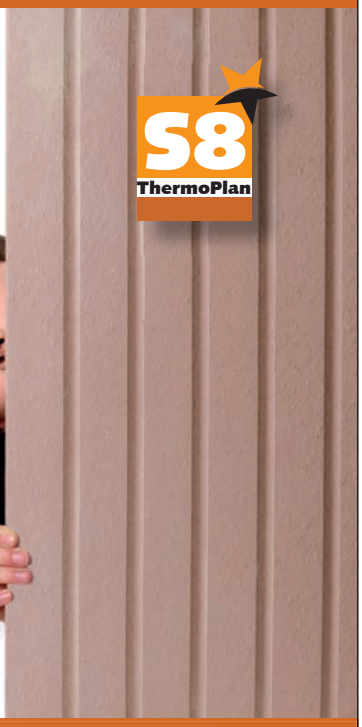
- Sensational thermal insulation right from the start:
  U value = 0.19 W/(m²K) to U value = 0.14 W/(m²K) (passive house level)
- Relatively high mass stores heat and cold – a natural air conditioner
- Outstanding heat protection in the summer
- Better acoustic insulation
- Greater architectural design freedom through larger wall cross section and generous window sills
- Dry from the very beginning: maximum residual moisture content of 0.1% to 0.5%
- Energy-efficient houses from KfW 55 to passive house without the need for complex installations
- Simple, straightforward, efficient and economical – a truly sustainable wall that lasts forever

## Now THAT is a wall!

With the new ThermoPlan S7⁵, JUWO is reinforcing its position as leading innovator in masonry. The ThermoPlan® S class JUWO POROTON Blocks (S9, S8) achieve top thermal insulation values – with no fillers or other additional insulating materials.
The ThermoPlan S7⁵ is setting the standard in monolithic building and is the absolute top product in this series. It is available from a wall thickness of 36.5 cm – this is solid Block building to perfection.

# ThermoPlan® S8

**The original: Pure Premium Quality.**




## The ThermoPlan® S8

- Thermal insulation: Excellent thermal conductivity $\lambda_R$ 0.08 W/(mK)
- Clay block: 100%
- Comfort: Perfect!

- Very good thermal insulation – constant indoor climate
- No additional insulating layers
- Natural, ecological, sustainable
- Dry from the very beginning
- Perfect handling with minimal upkeep costs

### No ifs and buts:

- Natural, ecological, solid and economical. Overview of advantages: a pleasant room temperature throughout the year. Ideal relative humidity, dry walls, healthy indoor air. Warm in the winter and pleasantly cool in the summer!
- Lowest moisture content:
  The more moisture in the building material the poorer the thermal insulation. This applies particularly in comparison with grey or white building blocks which can take up to five years or more to dry. The S8 provides thermal insulation right from the start.
- Ecological building – healthy living – better living with local building materials:
  The S8 is made from natural raw materials that are extracted in an environmentally friendly manner.
- Excellent thermal insulation – constant indoor climate:
  The S8 is solid and dry with heat chambers in the Block. These cavities guarantee long heat retention and windproof outer walls.
- Reliable fire protection: European class for fire resistance REI-M 90:
  The S8 is non-flammable and strong. It provides the highest level of fire protection and safety.
- Ideal price-to-performance ratio and minimal upkeep costs:
  A house built with the S8 will be nearly maintenance-free for decades, keeping the upkeep costs extremely low.

# The ThermoPlan® S-Series. High perfomance-100% ceramic.

## ThermoPlan® S7⁵ (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.075 W/(mK)
Bulk density 0.60 kg/dm³
Compressive strength 7.5 N/mm² $f_k$ = 1.5 MN/m²
Fire resistance class REI 90
Approval notice Z-17.1-1140


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| S 365/7⁵ | 248 | **365** | 249 | 13.3 | 60 | 16 | 44 | 3.75 |
| S 425/7⁵ | 248 | **425** | 249 | 15.6 | 48 | 16 | 38 | 3.00 |
| S 490/7⁵ | 248 | **490** | 249 | 17.5 | 48 | 16 | 33 | 3.00 |

## ThermoPlan® S8 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.08 W/(mK)
Bulk density 0.60 kg/dm³
Compressive strength 8 N/mm² $f_k$ = 2.30 MN/m²
1) 6 N/mm² $f_k$ = 1.8 MN/m²
Fire resistance class fire wall REI-M 90
Approval notice Z-17.1-1013


| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| S 365/8 | 248 | **365** | 249 | 13.4 | 60 | 16 | 44 | 3.75 |
| S 425/8 | 248 | **425** | 249 | 15.7 | 48 | 16 | 38 | 3.00 |
| S 490/8 1) | 248 | **490** | 249 | 17.7 | 48 | 16 | 33 | 3.00 |

## ThermoPlan® S9 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.09 W/(mK)
Bulk density 1) 0.60 / 0.65 kg/dm³
Compressive strength 8 N/mm² $f_k$ = 2.30 MN/m²
Fire resistance class fire wall REI-M 90
Approval notice Z-17.1-1013

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| S 300/9 1) | 248 | **300** | 249 | 11.1 | 72 | 16 | 53 | 4.50 |
| S 365/9 | 248 | **365** | 249 | 13.7 | 60 | 16 | 44 | 3.75 |
| S 425/9 | 248 | **425** | 249 | 16.0 | 48 | 16 | 38 | 3.0 |

# ThermoPlan S9®

**Block for block, 100% satisfaction.**

## The ThermoPlan S9®
## The Original

- Good thermal insulation at a high bulk density
- Extremely high compressive strength
- Controlled quality
- 100% Ceramic clay


- Economical thermal insulation
- No additional insulating layers
- Natural, ecological, sustainable
- Dry from the very beginning
- Perfect handling with minimal upkeep costs

**The original, but even better. Everything else is a copy!**

- Good thermal insulation from pure ceramics – The Original and now even better! The unique Wöllstein clay combined with the latest production technology makes it possible:

  The ThermoPlan S9® – the all-ceramic JUWO POROTON Block with a very high thermal conductivity of 0.09 W/(mK) with no additional insulating materials. Now with many optimised features.

- Considerably improved quality, even better heat retention, even higher compressive strength, enhanced acoustic insulation.

# The ThermoPlan® T and TS-Series. Blocks for all requirements. Top-quality, high compressive strenght, Efficient.

## ThermoPlan® S make-up Blocks End, corner and levelling Blocks

Thermal conductivity $\lambda_R$ = 0.10 W/(mK)
Bulk density 0.60 - 0.65 kg/dm³
Compressive strength 10 N/mm²

Starting and end JUWO POROTON Blocks with single-sided cross joint (vertical joint) interlocking

Levelling JUWO POROTON Blocks with two-sided cross joint interlocking

For use with all ThermoPlan S series JUWO POROTON Blocks (S7.5–S9)

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Description |
|---|---|---|---|---|---|---|
| S 300 End | 124 | **300** | 249 | 6.1 | 108 | End Blocks |
| S 300 Eck | 175 | **300** | 249 | 8.5 | 90 | Corner Block |
| TP 300/2 | 248 | **300** | 124 | 5.7 | 144 | Levelling Blocks |
| S 365 End | 124 | **365** | 249 | 7.8 | 120 | End Blocks |
| S 365 End lang | 248 | **365** | 249 | 14.1 | 60 | End Blocks |
| TP 365/2 | 248 | **365** | 124 | 6.8 | 96 | Levelling Blocks |
| S 425 End | 124 | **425** | 249 | 8.2 | 42 | End Blocks |
| S 425 End lang | 248 | **425** | 249 | 15.1 | 48 | End Blocks |
| TP 425/2 | 248 | **425** | 249 | 8.0 | 96 | Levelling Blocks |
| S 490 End | 124 | **490** | 249 | 9.0 | 60 | End Blocks |
| S 490/2 | 248 | **490** | 124 | 9.0 | 96 | Levelling Blocks |

Levelling Blocks always in the lowest course

## ThermoPlan® T10 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.10 W/(mK)
Bulk density 0.65 kg/dm³
Compressive strength 10 N/mm² $f_k$ = 2.30 MN/m²

Fire resistance class F 30 A, ≥ 36.5 cm F 90 A
Approval notice Z-17.1-1047

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| TP 300/10 | 248 | **300** | 249 | 11.5 | 72 | 16 | 53 | 4.50 |
| TP 365/10 | 248 | **365** | 249 | 13.9 | 60 | 16 | 44 | 3.75 |

## ThermoPlan® T11 (Range of applications: detached, semi-detached and terraced houses)

Thermal conductivity $\lambda_R$ = 0.11 W/(mK)
Bulk density 2) 0.60 kg/dm³ / 3) 0.65 kg/dm³
Compressive strength 10 N/mm² $f_k$ = 2.30 MN/m²

Fire resistance class F 30 A
Approval notice Z-17.1-769

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| TP 190/11 2) | 248 | **190** | 249 | 7.0 | 120 | 16 | 84 | 7.50 |
| TP 240/11 3) | 248 | **240** | 249 | 9.5 | 96 | 16 | 67 | 6.00 |

## ThermoPlan® TS12/TS11 (JUWO POROTON Blocks specially optimised for meeting acoustic insulation requirements in Blocks of flats)

Thermal conductivity $\lambda_R$ = 0.12 (0.11) W/(mK)
Bulk density 0.75 kg/dm³
Compressive strength 12.5 N/mm² $f_k$ = 3.70 MN/m²

Fire resistance class REI 30 ≥ 36,5 cm = fire wall REI-M 90
Approval notice Z-17.1-1107

Acoustic insulation according to test certificate
TS 300/11 $R_{w,Bau,ref}$ = 47 dB
TS 365/11 $R_{w,Bau,ref}$ = 50 dB

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **TS 300/12** | 248 | **300** | 249 | 13.5 | 72 | 16 | 53 | 4.50 |
| **TS 365/11** | 248 | **365** | 249 | 15.9 | 60 | 16 | 44 | 3.75 |
| **TS 425/11** | 248 | **425** | 249 | 19.3 | 48 | 16 | 38 | 3.00 |

## ThermoPlan® T make-up Blocks End, corner and levelling Blocks

Thermal conductivity $\lambda_R$ = 0.10 W/(mK) - 0.28 W/(mK)

Bulk density 0.65 - 0.8 kg/dm³
Compressive strength
1) 10 N/mm²
2) 12.5 N/mm²
3) 15 N/mm²

Corner and end JUWO POROTON Blocks with single-sided cross joint interlocking

Levelling JUWO POROTON Blocks with two-sided cross joint interlocking

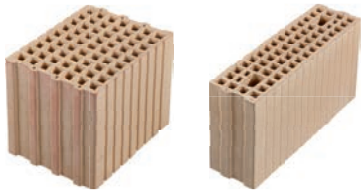
For use with all ThermoPlan T series JUWO POROTON Blocks (T10 -T14)

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Description |
|---|---|---|---|---|---|---|
| **TP 175/2** 3) | 498 | **175** | 124 | 7.7 | 60 | Levelling Blocks |
| **TP 240/2** 3) | 308 | **240** | 124 | 6.7 | 72 | Levelling Blocks |
| **S 300 End** 1) | 124 | **300** | 249 | 6.1 | 108 | End Blocks |
| **S 300 Eck** | 175 | **300** | 249 | 8.5 | 90 | Corner Block |
| **TP 300/2** 2) | 248 | **300** | 124 | 5.7 | 144 | Levelling Blocks |
| **S 365 End** 1) | 124 | **365** | 249 | 7.8 | 120 | End Blocks |
| **TP 365/2** 2) | 248 | **365** | 124 | 6.8 | 96 | Levelling Blocks |

Levelling Blocks always in the lowest course

## T and TS Square Blocks

(Range of applications: interior and partition walls. Exterior walls with additional insulation)



| | |
|---|---|
| Thermal conductivity | $\lambda_R$ = 0.28 W/(mK) |
| Bulk density | 0.80 kg/dm³ |
| Compressive strength | 15 N/mm² $f_k$ = 4.75 MN/m² |
| Fire resistance class | ≥ 11.5 cm F 90 A, ≥ 17.5 cm fire wall REI-M 90 |
| Approval notice | Z-17.1-1037 |

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **TP 100** | 498 | **100** | 249 | 9.3 | 120 | 8 | 80 | 15.00 |
| **TP 115** | 498 | **115** | 249 | 10.3 | 96 | 8 | 70 | 12.00 |
| **TP 140** | 498 | **140** | 249 | 13.0 | 84 | 8 | 57 | 10.50 |
| **TP 175** | 498 | **175** | 249 | 15.7 | 60 | 8 | 44 | 7.50 |
| **TP 240** | 308 | **240** | 249 | 13.1 | 72 | 13 | 53 | 5.50 |

## Acoustically insulating filled Blocks T

(Range of applications: interior and soundproof walls. Exterior walls with additional insulation)

| | | | |
|---|---|---|---|
| Compressive strength | 15 N/mm² $f_k$ = 5.8 MN/m² | 1) 10 N/mm² $f_k$ = 3.70 MN/m² | Filling amount: 17.5cm wall approx. 85 l/m² 24,0cm wall approx. 130 l/m² 30.0cm wall approx. 190 l/m² |
| $Rw_{,R}$ (incl. render / plaster) | 55 dB (24cm wall) 72 dB (17.5 + 3 + 17.5) | | |
| Fire resistance class | Fire wall REI-M90 | | |
| Approval notice | Z-17.1-911 | Z-17.1-688 | Values calculated according to DIN 4109 and Supplement 1. |

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **SPZ 175** | 498 | **175** | 249 | 10.6 | 84 | 10.7 | 61 | 7.85 |
| **SPZ 240** | 498 | **240** | 249 | 13.6 | 60 | 10.7 | 44 | 5.63 |
| **SPZ 300** 1) | 498 | **300** | 249 | 20.0 | 30 | 8 | 26 | 3.75 |

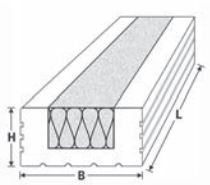
## Acoustically insulating Blocks T 1,2 and T 1,4

| | | |
|---|---|---|
| Compressive strength | 12.5 N/mm² $f_k$ = 5.0 MN/m² | 20.8 N/mm² $f_k$ = 6.8 MN/m² |
| Bulk density | 1.2 kg/dm³ | 1.4 kg/dm³ |
| $Rw_{,R}$ (incl. render / plaster) | 65 dB (17.5 + 3 + 17.5) | 67 db (17.5 + 3 + 17.5) |
| Fire resistance class | F 90 A, ≥ 17.5 fire wall REI-M 90 | F 90 A, ≥ 17.5 fire wall REI-M 90 |
| Approval notice | Z-17.1-993 | Z-17.1-993 |

| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Units per m² | Units per m³ | m²/pallet |
|---|---|---|---|---|---|---|---|---|
| **TP 175/1.2** | 498 | **175** | 249 | 23.0 | 42 | 8.0 | 44 | 5.25 |
| **TP 240/1.2** | 372 | **240** | 249 | 22.5 | 40 | 10.7 | 44 | 3.74 |
| **TP 115/1.4** | 372 | **115** | 249 | 11.0 | 96 | 13.0 | 113 | 7.38 |
| **TP 175/1.4** | 307 | **175** | 249 | 17.3 | 54 | 13.0 | 74 | 4.15 |
| **TP 240/1.4** | 307 | **240** | 249 | 22.3 | 36 | 13.0 | 54 | 2.77 |

# System supplementation

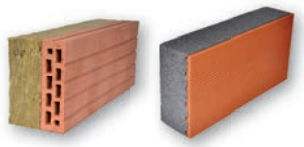
## Window reveal block moulding (make-up Blocks)




- Window reveal JUWO POROTON Block moulding with integrated insulation.
- For preventing thermal bridges in window reveals.
- The element connection with the thermally insulated JUWO POROTON Block moulding meets the requirements of DIN 4108 Supplement 2.
- The JUWO POROTON Block moulding can easily be installed with thin layer mortar in the window reveal.

| Item | Dimensions in mm<br>Length x Width x Height | | | kg/unit | Units/pallet |
|---|---|---|---|---|---|
| FAS | 250 | **100** | 65 | 1.4 | 248 |

## Block ledge (make-up Blocks)



Bulk density 1.4 kg/dm³

| Item | Dimensions in mm<br>Length x Width x Height | | | kg/unit | Units/pallet | m²/pallet |
|---|---|---|---|---|---|---|
| DeRa-Schale 18 plus | 499 | **140** | 179 | 7.3 | 60 | 30 |
| DeRa-Schale 20 plus | 499 | **140** | 199 | 7.8 | 60 | 30 |
| DeRa-Schale 22 plus | 499 | **140** | 219 | 8.8 | 50 | 25 |
| DeRa-Schale 20 Ultra | 499 | **140** | 199 | 2.5 | 60 | 30 |
| DeRa-Schale 22 Ultra | 499 | **140** | 219 | 2.7 | 60 | 30 |
| DeRa-Schale 25 Ultra | 499 | **140** | 249 | 3.1 | 50 | 25 |

## VD system + working aids for JUWO POROTON Blocks

### Accessories

| |
|---|
| Collomix DLX 120 |
| Float + carrying case |
| Mortar tub |
| Wall anchors |
| Thin layer mortar |

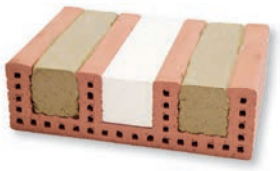
### Mortar roller for VD block system

| Type | For wall thickness |
|---|---|
| A | 42.5 + 49.0 cm |
| B | 36.5 + 30.0 cm |
| C | 24.0 + 17.5 cm |

| **maxit***mortar***pad** |
|---|
| Watering Set NEW |
| Mortarpad 42 cm x 30 cm |
| Mortarpad 36 cm x 24 cm |
| Mortarpad 19 cm x 36 cm |
| Mortarpad 17 cm x 36 cm |
| Mortarpad 11 cm x 36 cm |

Collomix DLX 120

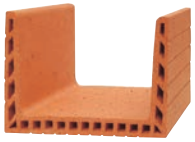
## Block lintels + thermally insulating lintels for JUWO POROTON Blocks

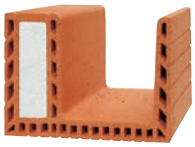


| Dimensions cm Width x Height | | Length cm | Mass per metre run | Pallet capacity |
|---|---|---|---|---|
| **10.0** | 7.1 | **in 25cm increments to 100-250 cm** | 12.0 | 100-200 cm / 45 units |
| **11.5** | 7.1 | **in 25cm increments to 100-300 cm** | 13.5 | 100-200 cm / 45 units |
| **11.5** | 7.1 | **in 25cm increments to 100-300 cm** | 13.5 | 225-300 cm / 27 units |
| **17.5** | 7.1 | **in 25cm increments to 100-300 cm** | 24.2 | 100-200 cm / 30 units |
| **17.5** | 7.1 | **in 25cm increments to 100-300 cm** | 24.2 | 225-300 cm / 18 units |
| **11.5** | 11.3 | **100 125 150** | 22.0 | 100-150 cm / 32 units |
| **17.5** | 11.3 | **125** | 31.0 | 125 cm / 18 units |
| **36.5** | 11.3 | **125 150 Thermally insulating lintels** | 55.0 | 125-150 cm / 18 units |

## U Blocks with or without insulation

JUWO POROTON Blocks for lintels, columns and ring beams as 'lost' or permanent formwork.





| Item | Dimensions in mm Length x Width x Height | | | kg/unit | Units/pallet | Concrete cross section Clearance width | Clearance height | Pallet capacity per metre run |
|---|---|---|---|---|---|---|---|---|
| **U 175** | 240 | **175** | 244 | 6.9 | 105 | 9.5 cm | 18.5 cm | 26.25 |
| **U 240** | 240 | **240** | 244 | 9.2 | 75 | 15.0 cm | 18.5 cm | 18.75 |
| **U 300** | 240 | **300** | 244 | 10.0 | 60 | 20.5 cm | 18.2 cm | 15.00 |
| **U 365** | 240 | **365** | 244 | 11.4 | 60 | 25.5 cm | 18.0 cm | 15.00 |
| **U 425** | 240 | **425** | 244 | 12.2 | 60 | 33.0 cm | 19.0 cm | 15.00 |
| **U 490** | 240 | **490** | 244 | 12.9 | 45 | 40.0 cm | 19.5 cm | 11.25 |
| **WU 300** | 240 | **300** | 244 | 9.6 | 60 | 14.5 cm | 20.0 cm | 15.00 |
| **WU 365** | 240 | **365** | 244 | 11.6 | 60 | 20.0 cm | 20.0 cm | 15.00 |
| **WU 425** | 240 | **425** | 244 | 11.8 | 60 | 24.0 cm | 20.0 cm | 15.00 |
| **WU 490** | 240 | **490** | 244 | 12.9 | 45 | 30.5 cm | 20.0 cm | 11.25 |

## Practical pallet system

- Due to their construction (box height), JUWO pallets must be transported with pallet jacks on the building site.

**Our request for quotation texts are also available in the internet! www.juwoe.de**

CE 2+ Product data sheets and EU declarations of performance in accordance with the Europe-wide CE marking requirement are available for download on our website under 'Download'. PDF files can be read and printed with the free program 'Acrobat Reader'.

# Tips for working with ThermoPlan®

JUWO POROTON Blocks can be cut to close tolerances quickly and with no backlash using a masonry saw (e.g. DW 393 from DeWalt®) thanks to a counter-rotating blade system.

Clean and precise cuts can also be made in JUWO POROTON Blocks with a wet saw with a diamond blade or a bandsaw.

Masonry bond in accordance with DIN 1053-1 section 9.3 = overlap > 0.4 x JUWO POROTON Block height. For 25 cm layers, this yields an overlap of > 10 cm.

Through use of single-smooth-face corner and starting JUWO POROTON Blocks, the bonding can be safely maintained.


Any voids in the masonry are closed with lightweight masonry mortar LM 21.

Joint widths to 5 mm are permissible for interlocked cross joints. They are additionally filled with LM 21.

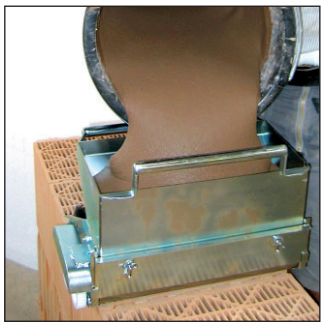
The masonry must be protected from the weather (rain, snow etc..), e.g. by covering with foil, boards or roofing felt.

JUWO POROTON Block masonry forms an ideal render / plaster base due to its pore and capillary structure.

Further information can be found on our website.

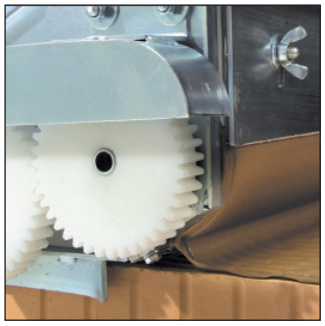
# VD System for a full surface thin layer mortar joint

Stir the mortar in a clean 30l bucket with a double-blade mixing tool (Collomix DLX 150) until it attains a smooth consistency. Mixing time: Mix for 3 minutes, let the mortar sit and then stir again.

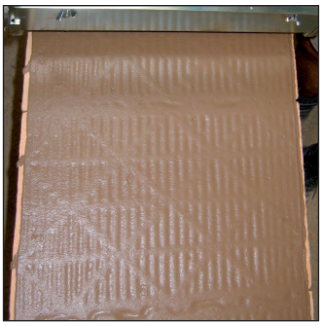


Fill the mortar roller.

Slide the mortar roller over the JUWO POROTON Blocks, pressing down on both rollers.



Apply the mortar layer.

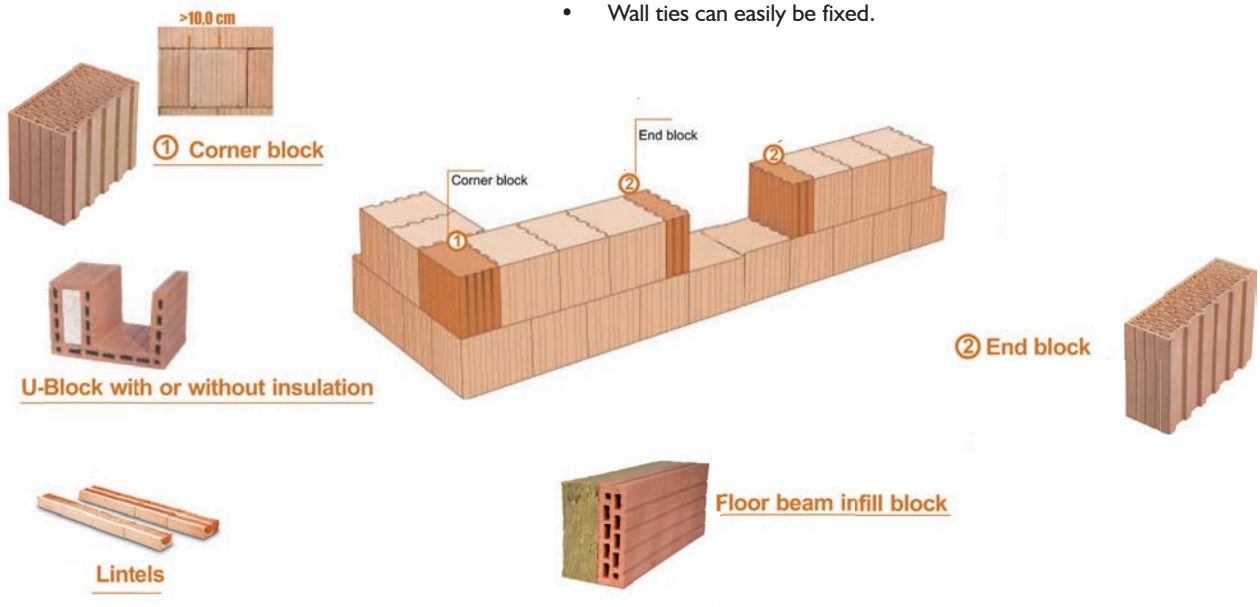


The mortar roller covers the entire bed joint surface in one pass with thin layer mortar.

Lay the JUWO POROTON Blocks and align. You're done!

**Building with ThermoPlan® JUWO POROTON Blocks and the VD system is easy: Roll, lay, finished! Acoustic insulation, draught-proofing and thermal insulation are optimised in the VD system!**

- Cover the bed joint in just one pass.
- Faster and more efficient mortar application with the VD roller.
- Vertical air channels in the wall are avoided.
- Wall ties can easily be fixed.



# The “dipping”-System

Accessories

Lay the damp-proof course on a thin mortar bed on the slab or substructure. Group 3 mortar should be used (for this course only).

Cover The DPC with a further amount of mortar and accurately level the bed joint using the levelling rails or setting blocks. Position the first block and ensure that it is accurate in plumb and alignment.

Place a second block at the next corner / opening - string a line between - then lay the first course directly onto the mortar bed. Do not twist blocks to „settle“ - use a rubber mallet to gently tap them down

Thin Bed Mortar should be mixed with 8 Ltrs. of clean, cold water per bag - max 2 bags at a time. Mix thoroughly with a power stirrer and allow to stand for 10 minutes.
Mix until the mortar has a honey-like consistency or like a chocolate cream yoghurt
Meng de kleefmortel met behulp van een mixer volgens de voorschriften van de fabrikant.

Dip the block not more than 5 millimeters into the mortar, ensuring full mortar coverage of the bottom surface and position the block on the wall.

The block is placed against the toothed edges of the previous one before being lowered into position. Eventually a structural monolithic thermally insulated wall is produced with mortar free perpend joints. A perfect, consistent background for plasters and renders!

Set one block after the other

**Just perfect!**

# The JUWO WallSlider®-System

Are you ready to slide?

## Fast - Faster -
## JUWÖ WallSlider® + illbruck PU 700


Bitte korrekt übersetzen

**The JUWÖ WallSlider® System - gluing with the PU700 Stone & Wood Glue from illbruck.**

- Tested and approved
- The latest evolution in adhesives
- illbruck PU 700 with KOMO®
- Attestation with product certificate IKB2239 / 17
- JUWÖ WallSlider® patent pending

Simply glide over the top of the wall

Perfect result

Adjustable for different wall thicknesses

Adjustable in height

The ??? can be easily adjusted

Can be used for various applications

# Tips for working with ThermoPlan® MZ

You will need the following on the building site: VD mortar roller, 30l mixing bucket, mortar stirrer with stirring shaft, float, aluminium trowel, lightweight mortar LM 21, rubber mallet

To level an uneven base, apply a levelling layer of mortar observing close tolerances and skim off excess using a float and an aluminium trowel.

Lay the first layer of JUWO POROTON Blocks on the precisely skimmed mortar layer and level using a spirit level and a rubber mallet.

Stir the supplied thin layer mortar to a smooth consistency in a clean 30l bucket. Mixing time: approx. 3 minutes. Let the mortar sit and then stir again.

Pour the stirred thin layer mortar into the mortar roller. This allows for efficient and easy application of the mortar.

Move the mortar roller uniformly in one direction (see labelling on tool), keeping the rollers pressed down on to the JUWO POROTON Block layer underneath.

The mortar roller covers the entire bed joint surface in one pass with thin layer mortar.

Now lay the JUWO POROTON Blocks and align. You're done!

Fill in the spaces at the end with cut closure JUWO POROTON Blocks. Always place the closure JUWO POROTON Blocks with the cut surfaces facing inwards and fill cross joints with LM 21.

# Drilling and anchoring in JUWO POROTON Block masonry

Drill diameter approx. 1 mm smaller than anchor diameter. Switch off the hammer action – only rotary drilling is allowed!

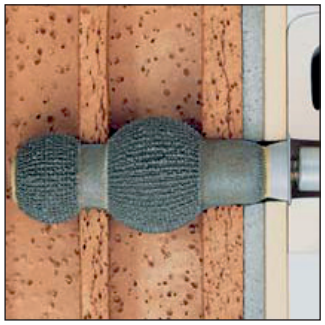
Tip: Use sharpened hard metal (e.g. steel) drill bits – they speed up drilling!

Drill the hole to a depth approximately 10 mm greater than the anchor length to ensure that the driver can extend past the anchor tip.

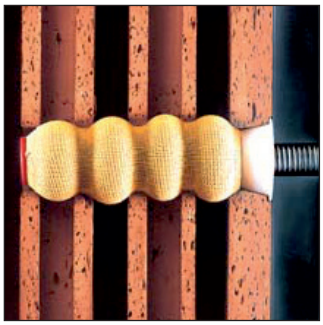
Clean the drill hole by blowing out, vacuuming or using a brush (drilling debris can affect the adhesion); only after this can you insert the anchor.

Heed the specifications of the anchor manufacturer for screw gauge and length to ensure optimal hold!

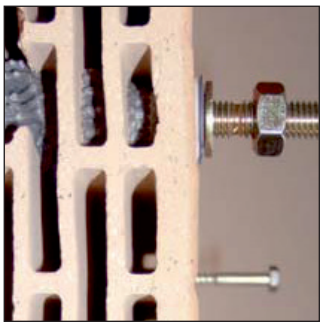
For common household fixtures, commercially available plastic anchors can be used.



Special anchors and injection anchors are available for fixing sanitary facilities etc.



For heavy loads, a secure hold can be provided, e.g., by injection anchors.



Tip: Injection anchors should be used if inner webs have been broken due to improper drilling (e.g. using an impact drill). When ordering fixing products always ask for Poroton suitable products.

# Cutting slots in JUWO POROTON Block masonry

## Heed the information given in DIN 1053-1: 11-1996 'Slots and openings in walls'! (See table below.)

Subsequent caulking is not permitted according to DIN 1053 (generally applicable to masonry). Only the wall chaser ensures that the defined slot depth is achieved.

Furthermore: Maintain as great as distance as possible to highly loaded masonry sections (e.g. under lintels), avoid cutting slots in narrow piers, cut horizontal slots max. 40 cm above the floor or below the ceiling.

Mark around the socket outlet and drill a round hole using a commercially available drill and dry diamond core drill bit.

Remove any JUWO POROTON Block remains and drilling debris – and insert the socket outlet.

Special wall chaser with two diamond cutting blades and adjustable cut width and depth.

Use the wall chaser to cut slots in the JUWO POROTON Blocks.

Open up pre-cut slots with hammer and chisel.

Insert the electrical installation into the slot.

## Permissible slots and chases in load-bearing walls without verification

| Wall thickness | Subsequently cut horizontal and diagonal slots [1] | | Subsequently cut vertical slots and openings | | | |
|---|---|---|---|---|---|---|
| | Slot length | | Slot depth [4] | Single slot width [5] | Distance between openings | Sum of slot width [5] |
| | Unrestricted [3] | 1.25 m [2] | | | | |
| | Slot depth | | | | | |
| 115 | - | - | 10 | 100 | 115 | - |
| 175 | 0 | 25 | 30 | 100 | | 260 |
| 240 | 15 | 25 | 30 | 150 | | 385 |
| 300 | 20 | 30 | 30 | 200 | | 385 |
| 365 | 20 | 30 | 30 | 200 | | 385 |

1) Horizontal and diagonal slots are only permissible in a region ≤ 0.4 m above and below the slab as well as on one wall side each. They are not permissible for horizontally perforated clay JUWO POROTON Blocks.
2) Minimum distance from openings in longitudinal direction: ≥ 490 mm, from the next horizontal slot: twice the slot length.
3) The depth can be increased by 10 mm if tools with precise depth control are used. If such tools are used, slots 10 mm in depth can be cut opposite each other on both sides of walls ≥ 240 mm.
4) Slots extending to max. 1 m above the floor may have depths of max. 80 mm and widths of max. 120 mm for wall thicknesses ≥ 240 mm.
5) The total width of slots according to columns 5 and 7 must not exceed the dimensions given in column 7 per each 2 m of wall length. For wall lengths of less than 2 m, the values in column 7 should be decreased in proportion to the wall length.

# Technology

## Table of U values for external walls

Calculated values incl. 20 mm exterior render + 15 mm interior plaster*

| Thermal conductivity $\lambda_R$ = W/(mK) | Heat transfer coefficients (U values) in W/(m²K) for a wall thickness of | | | | | |
|---|---|---|---|---|---|---|
| | 190 mm | 240 mm | 300 mm | 365 mm | 425 mm | 490 mm |
| 0.07 | | | 0.22 | 0.18 | 0.16 | 0.14 |
| 0.75 | | | | 0.19 | 0.16 | 0.14 |
| 0.08 | | | 0.25 | 0.21 | 0.18 | 0.16 |
| 0.09 | | | 0.28 | 0.23 | 0.20 | 0.17 |
| 0.10 | | | 0.30 | 0.25 | 0.22 | 0.19 |
| 0.11 | 0.49 | 0.41 | 0.33 | 0.28 | 0.24 | 0.21 |
| 0.12 | | 0.43 | 0.36 | 0.30 | 0.26 | 0.23 |
| 0.13 | | 0.47 | 0.38 | 0.32 | 0.28 | 0.25 |
| 0.14 | | 0.50 | 0.41 | 0.34 | 0.30 | 0.26 |
| 0.16 | | 0.55 | 0.46 | 0.39 | 0.34 | 0.30 |
| 0.18 | | 0.63 | 0.52 | 0.44 | 0.38 | 0.34 |
| 0.21 | | 0.71 | 0.59 | 0.50 | 0.44 | 0.39 |
| 0.24 | | 0.80 | 0.66 | 0.56 | 0.49 | 0.44 |
| 0.27 | | 0.87 | 0.73 | 0.62 | 0.55 | 0.48 |
| 0.33 | | 1.02 | 0.86 | 0.73 | 0.65 | 0.57 |
| 0.39 | | 1.15 | 0.98 | 0.84 | 0.74 | 0.66 |

Institut Bauen und Umwelt e.V. promotes the production and use of environmentally friendly building products. We have been granted an ecological certificate from them. This was based on a positive overall rating of the products in an assessment of their environmental effects.

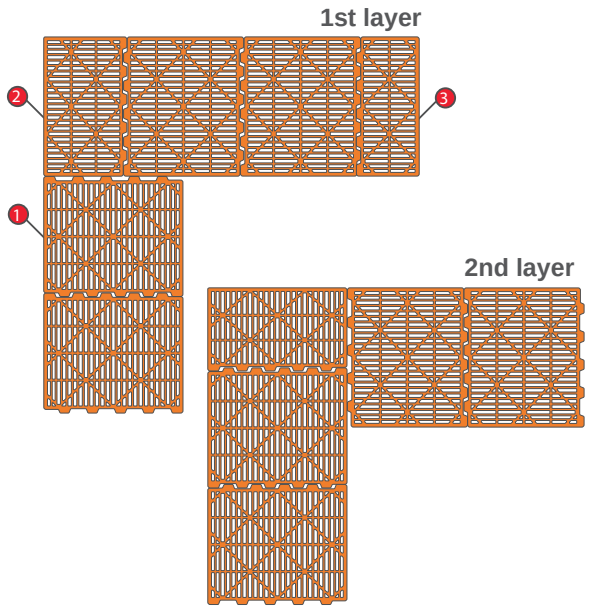
All of our Blocks are manufactured with a minimal amount of primary energy and the finished house saves heat energy through its outstanding insulating properties. The proven solid monolithic wall structures retain their value extremely well. Should demolition become necessary, the waste is sorted and returned to production where it will be used for building roads or resurfacing tennis courts.

| | | | |
|---|---|---|---|
| Quality monitored through quality seal 'Ziegelindustrie Süd' | Certified for Belgian standard 'Benor' | JUWO Poroton is registered by LABC for UK | Certified for Environmental Product Declaration EPD EN 14025 |
| Certified Energy System EN 50001 | Winner of the grand prize for SMES | JUWO clay can be used for medicinal purposes. Confirmed by | Certified to the highest European standard |

# Details

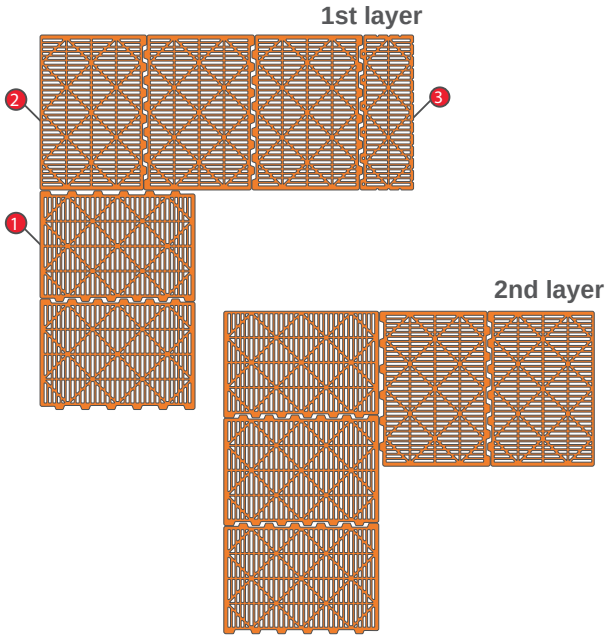
## Laying instructions for wall thickness of 30.0 cm

1. Exterior wall Block d = 30.0 cm
2. Single-smooth-face corner JUWO POROTON Block d = 30.0 cm
3. Single-smooth-face starting JUWO POROTON Block d = 30.0 cm




## Laying instructions for wall thickness of 36.5 cm

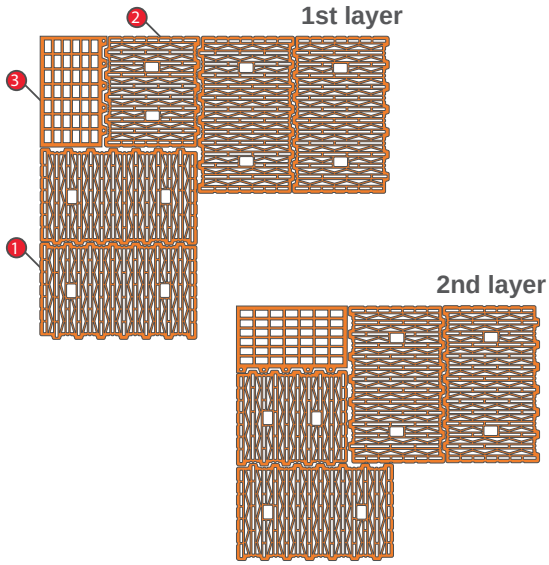
1. Exterior wall Block d = 36.5 cm
2. Single-smooth-face corner Block d = 36.5 cm
3. Single-smooth-face starting Block d = 36.5 cm




**The perforation patterns used in the individual detail drawings are for illustration purposes only!**
**Larger views can be found in the download section of our website at www.juwoe.de!**

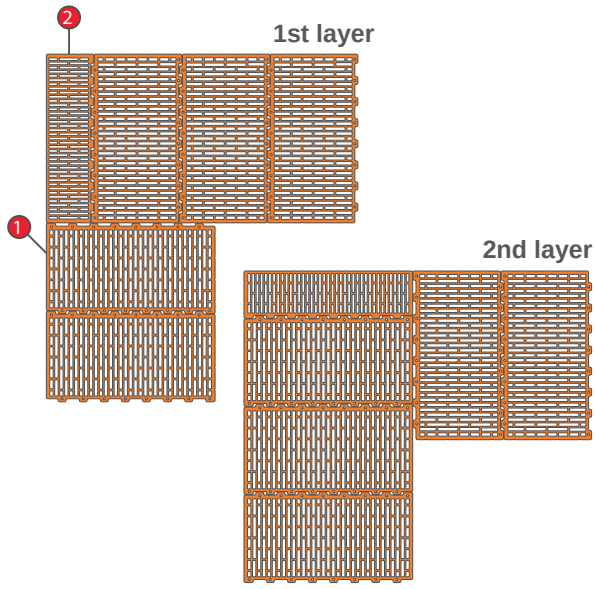
## Laying instructions for wall thickness of 42.5 cm

1. Exterior wall Block d = 42.5 cm
2. Single-smooth-face corner Block d = 30.0 cm
3. Single-smooth-face starting Block d = 30.0 cm

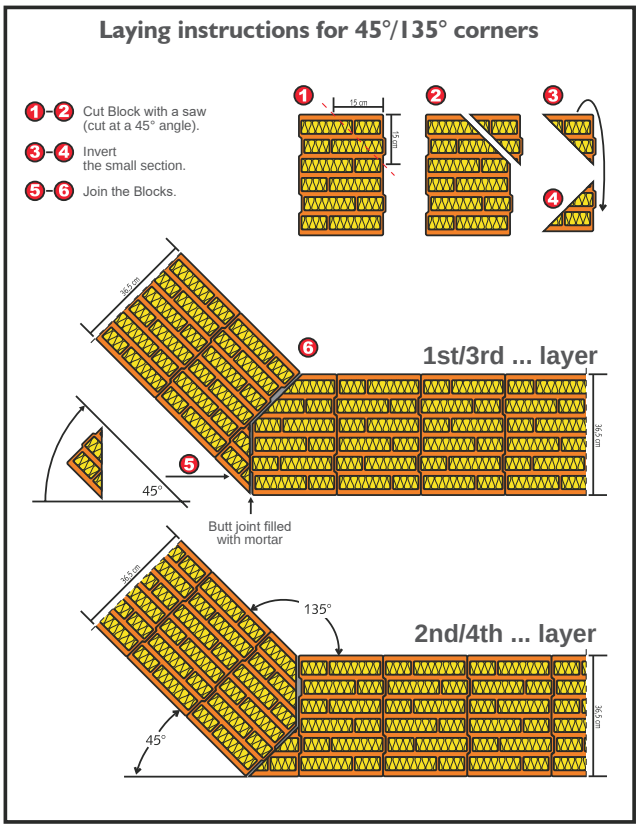



## Laying instructions for wall thickness of 49.0 cm

1. Exterior wall Block d = 49.0 cm
2. Single-smooth-face corner Block d = 49.0 cm



# Details

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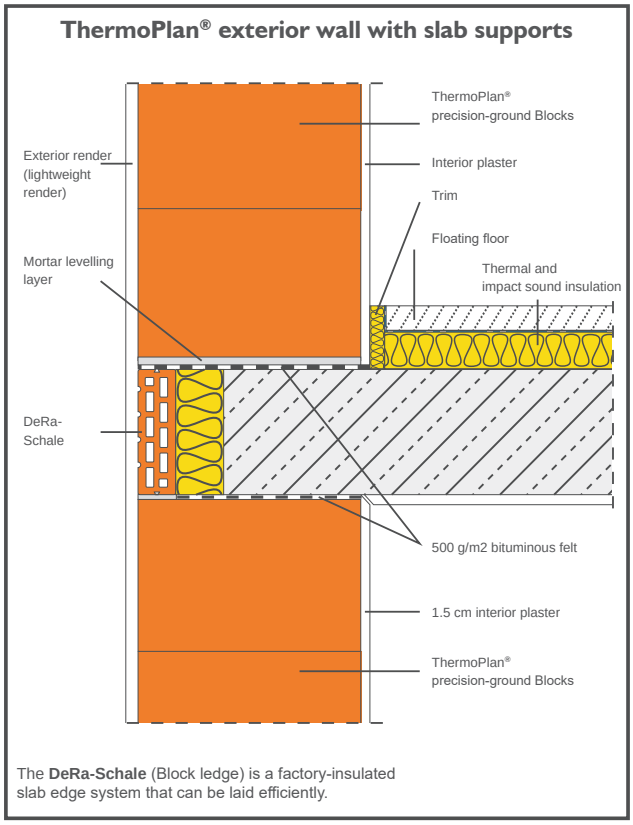


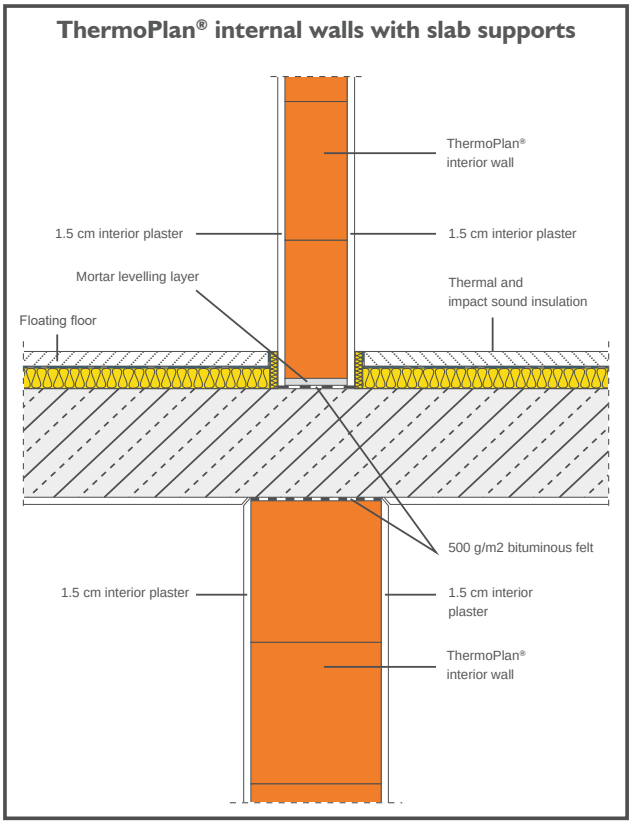

# maxitmortarpad

Quick • easy • reliable

JUWO POROTON

## The evolution to Brickwork 3.0


- Minimizes sources of error.
- Easy handling, efficient and safe.
- Mineral product made from natural raw materials.
- No need of additional tools.
- Clean construction site.


Moisten blocks


Lay on Maxit mortar pads


Cut and adjust Maxit mortar pads if necessary


Moisten Maxit mortar pads


Lay blocks with full surface


Align blocks in usual way

**www.juwoporoton.com**

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Winner of the grand prize for german small and medium sized enterprises.

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12/2020