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The way
forward.



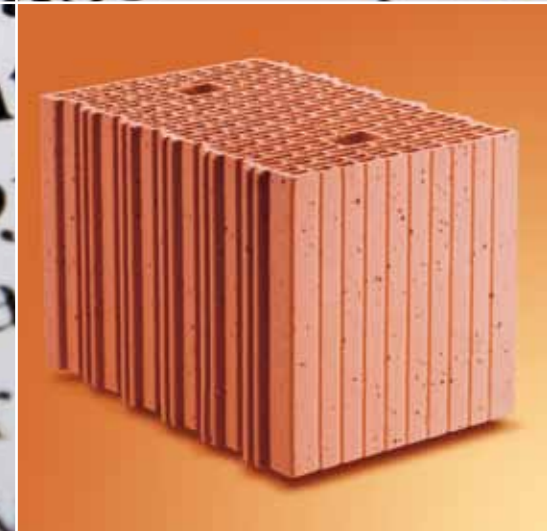
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Change the way you build.



What is Porotherm?

Offering exceptionally fast, virtually dry construction, plus high strength and thermal efficiency, Porotherm is a modern clay block structural walling system with reassuringly traditional values. A natural progression from hand made bricks to engineered blocks; it is widely used and has been proven on millions of projects for over 30 years in Europe in both domestic and commercial applications, and is ideal for use on projects from single storey to multiple-storeys.

Porotherm is a highly efficient alternative to other building materials such as timber, concrete or light steel frames and is suitable for a variety of construction applications e.g.:

- Inner leaf of brick-faced cavity walls
- Inner & outer leaves of rendered cavity walls
- Monolithic (single leaf) external walls
- Infill panels within framed structures
- Load bearing & non-load bearing partition walls

A Complete System

The system comprises Porotherm blocks in a range of different sizes (see wallchart on pages 6-9) along with associated components including fixings, wall ties, tools, lintels and DPC's.

Advanced adhesive technology delivers high wall strengths. The special Porotherm Bed Joint Mortar is applied to horizontal joint faces using a choice of applicators to a target thickness of 1mm. This material is supplied free of charge and is delivered with the blocks. Porotherm System Distributors provide materials locally and logistics & technical support on a national basis.

No vertical jointing is required, as the blocks feature unique interlocking edges for exceptional rigidity and this feature plus the use of the special bed joint mortar results in a significant reduction in building time. Functional rather than aesthetic, Porotherm blocks are usually given a rendered external finish on monolithic single skin walls, or an outer leaf of facing brick in a double skin construction. Plaster or plasterboard finishes are normally used internally over an initial parge/skim coat for air tightness.

- ✓ **FAST** speed of construction up to 10m² per man per hour
- ✓ **DRY** approx 95% less water than traditional masonry
- ✓ **EFFICIENT** excellent thermal mass and good acoustic performance
- ✓ **STRONG** typical block strength 10N/mm²



The Porotherm Block

Each Porotherm block is a precision designed and engineered vertically perforated walling unit made from prepared clay, (with typically 20% recycled materials e.g. sawdust, paper or minerals).

The blocks are extruded, dried and fired in a process that leaves innumerable connected pores giving Porotherm outstanding thermal insulation and vapour permeability properties.

After firing, the block height is precision ground to an accuracy of +/- 0.5mm giving builders the opportunity to create an accurate, clean and homogenous wall – fast!

Key Benefits

- Proven in Europe over 30 years
- Satisfies UK Building Regulations
- Replaces concrete blocks, timber and light steel frames
- Outstanding thermal insulation and vapour permeability
- Thermal mass minimum 96kg/m²
- Precision ground/planed blocks mean 1mm bed joints
- Environmentally friendly and sustainable
- Outstanding fire protection
- Low life cycle costs
- Faster construction, earlier completion
- Virtually dry-fix approx 95% less water than traditional masonry
- Fast setting joints mean virtually unrestricted build heights
- Little need for movement joints to restrict shrinkage and cracking. Early finishing
- Low weather dependency
- Complete system plus prefabricated wall panels
- Porotherm blocks comply with BS EN 771-1:2003

Porotherm commitment.



Porotherm clay products retain their advantageous qualities for many years to ensure environmentally friendly, sustainable building and living now and in the future.

Porotherm clay products do not burn, emit smoke or harmful gases in the event of fire and a wall just 100mm thick achieves a Class A1 fire rating, giving occupants plenty of time to exit safely.

Offering outstanding sound protection both from outside noise and from between rooms, Porotherm products are also inert, rot and insect proof.

Designed for peaceful and comfortable living, the Porotherm system offers the flexibility to meet individual needs by enabling the creation of desirable homes that can be readily altered or extended at any time.

Enabling accelerated build where fast, dry construction is required along with unrivalled strength, thermal and acoustic efficiency, the Porotherm system often provides the optimum solution.

To help you achieve the full potential of the Porotherm system, Wienerberger has worked with Ceram Research Limited to produce a design guide that assists designers, encompassing building regulations and design code details.



-  **Outstanding ecological balance**
-  **Virtually unlimited lifetime**
-  **Comfortable & healthy living climate**
-  **Optimal thermal protection**
-  **Maximum fire protection**
-  **Peaceful living**
-  **Economic efficiency**
-  **Excellent lifetime value**

Cost-effective and time-efficient

Porotherm facilitates smarter, faster construction and earlier completion, so the client gets the building sooner whilst the builder sees a quicker financial return, is able to complete more projects and earn more revenue in a given period. In addition, Porotherm ensures higher efficiency, with better control of time and costs, fewer errors and a cleaner, more pleasant site.



The entire process of building with Porotherm means areas of wall can be constructed very quickly, and laying by hand is precise, simple and fast, enabling larger areas of wall to be built in a given time and dramatically outperforming traditional production rates – up to 10m²/man/hour on straight runs with Porotherm 100. See wall chart for guide to rates per hour.

Assembly methods are easy to understand, and training is available to enable masonry contractors to increase efficiency. The high precision accuracy of the blocks ensures true thin joint technology with less work. Virtually dry construction, using advanced technology mortar utilising minimum water, means rapid drying with less shrinkage and cracking and fewer movement joints, so finishing trades can follow on without delay.

Prefabricated Wall Construction

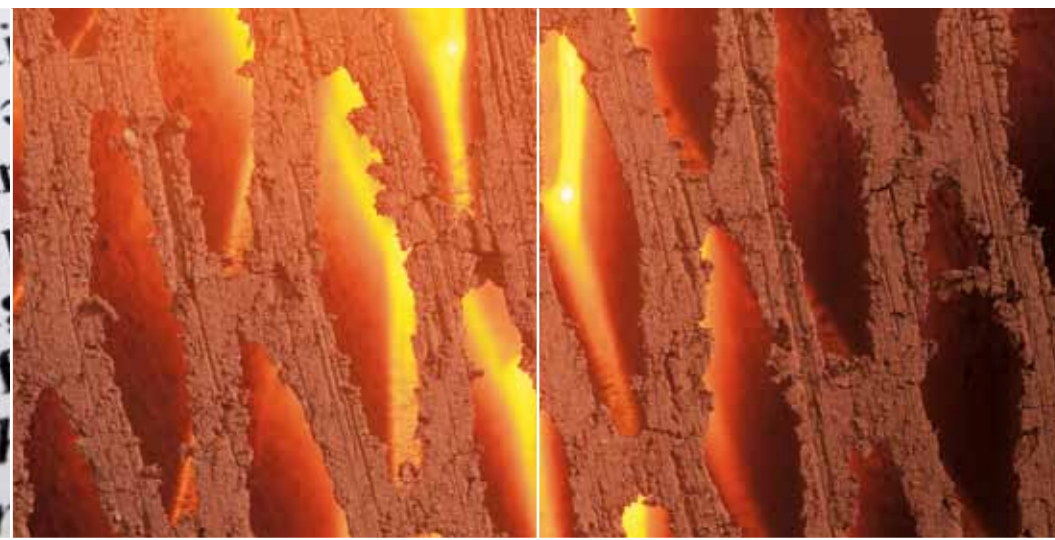
Further reducing both construction time and weather dependency, Porotherm Prefabricated Wall Panels save time and money, whilst enabling builders to achieve prime quality masonry with high compressive strength.

Wall units are delivered to site for assembly, with fully detailed drawings to designer's calculations. Bespoke structures e.g. curved or angled walls are possible, and there is no need for standardized grids. Gables, openings and temporary supports are all designed into the system – with installation available from specialist installers. This option is used widely in Europe and is being adapted for launch in the UK in the near future.



Porotherm Core Range

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Less is more

LESS water, less mess, less storage space

LESS mortar = Less dermal risk

LESS weight per block = Lower risk of RSS
(Typical block weights ≤ 11kg)

Overall less time, less cost, more quality, more value

	DIMENSIONS W x L x H (mm)	QUANTITY/ m ²	QUANTITY/ PACK No. (m ²)	WEIGHT EACH Kg	WEIGHT PACK (inc. pallet) Kg	UNIT GROSS DENSITY Kg/m ³	TYPICAL BLOCK DRY CONDUCTIVITY (Lambda) W/mK	TYPICAL ACOUSTIC RESISTANCE Rw(db) (Wet plaster both sides)	TYPICAL AIR TIGHTNESS (Wet plaster) m ³ /(h.m ²)	TYPICAL MEAN UNIT COMPRESSIVE STRENGTH N/mm ²	TYPICAL CHARACTERISTIC MASONRY STRENGTH N/mm ²	TYPICAL PRODUCTION RATE m ² /man/hr
 POROTHERM 100	100 x 300 x 224	15	160 (10.6)	6.4	1032	950	0.31	40	≤2.5	10	5.0	8 to 10
 POROTHERM 140	140 x 300 x 224	15	120 (8)	7.9	955	850	0.28	41	≤2.5	10	5.0	5 to 8
 POROTHERM 190	190 x 300 x 224	15	80 (5.3)	10.7	870	850	0.28	44	≤2.5	10	4.5	3 to 6
 POROTHERM 365 (T12)	365 x 248 x 249	16	60 (3.7)	14.1	854	620	0.12	47	≤2.5	10	3.0	2 to 5

STANDARD

Porotherm blocks comply with EN771-1, LD Classification and carry a CE mark 

CONSTRUCTION METHOD



First course bedded in normal mortar



Double check levels in all directions



Mix only enough Porotherm bed joint mortar



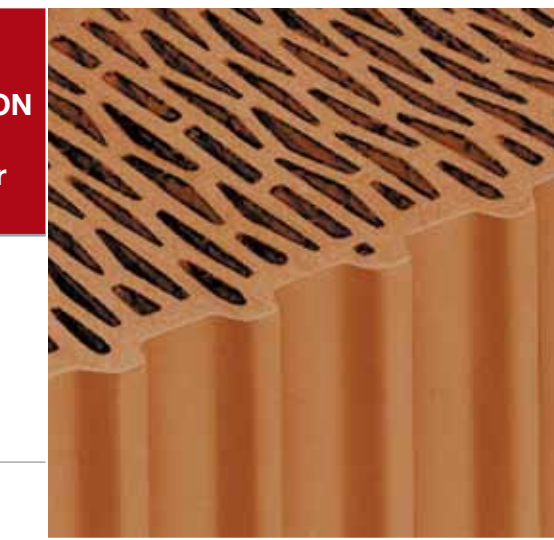
Apply using roller tool, scoop trowel or by dipping



Install wall ties and fix insulation



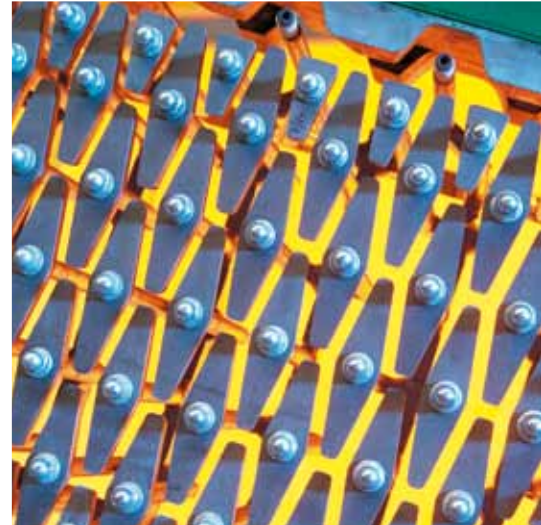
Cut blocks as required - alligator saw or bench cutter



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Other Block Formats

1. Reduced height starter blocks and lintel bearing blocks are available upon request to suit the Core Range blocks.
2. Wienerberger Ltd is also able to supply all the units currently supplied for use on superstores built using monolithic wall techniques pioneered in Germany.
3. Where the ultimate in thermal performance is required from the blocks themselves, Wienerberger can offer Porotherm units with Lambda values down to 0.08W/mK. The voids in these blocks are filled with Perlite (insulation material derived from volcanic ash). For example a T8 unit, 425mm thick, can result in a wall U value of 0.15W/m²K. These units were developed in Germany for the Passivhaus concept.

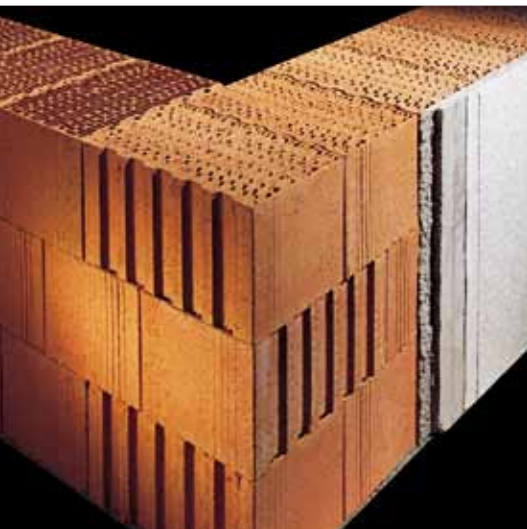
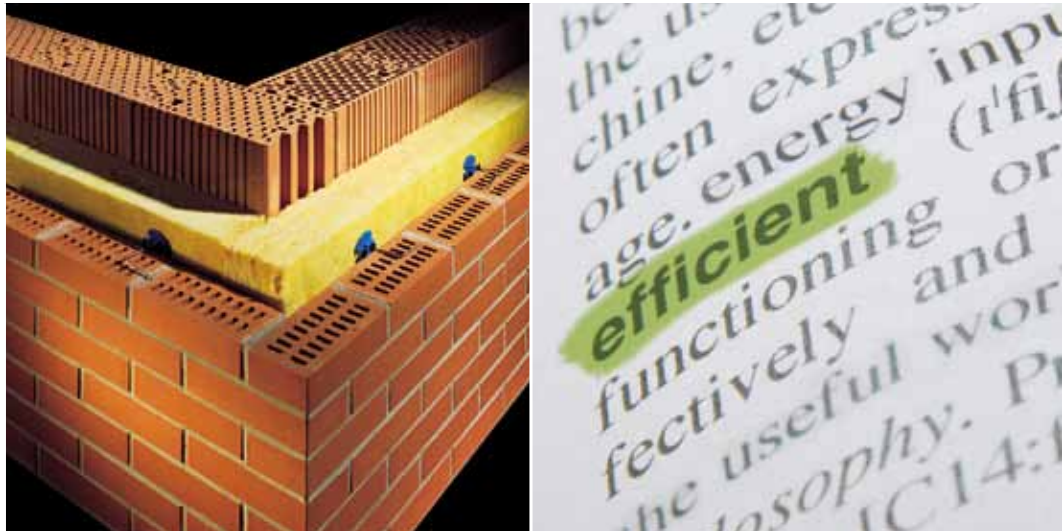


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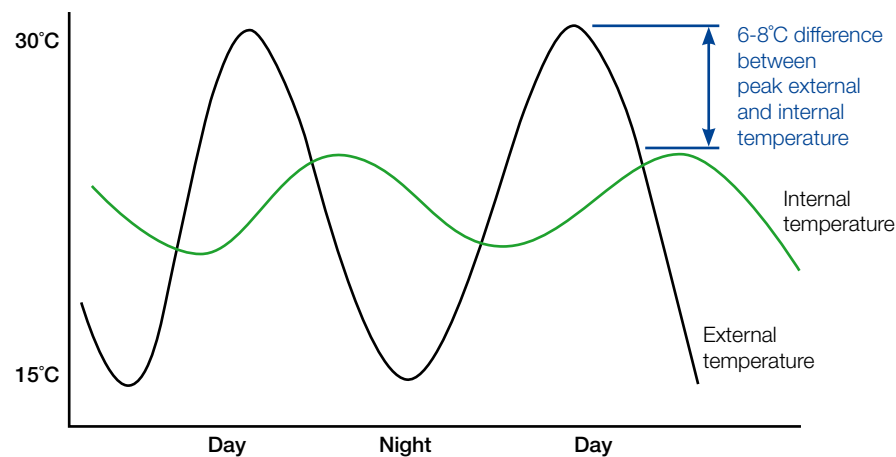
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Thermal efficiency.
Climate control.



Natural clay Porotherm products provide a healthy and comfortable living environment with a complete absence of pollutants and without sacrificing thermal efficiency. With a breathable structure that facilitates climate control, they create healthier living conditions by balancing and stabilising the relative humidity of the internal environment for improved comfort.

With high thermal mass and accumulation properties, Porotherm evens out temperature variations through thermal capacity effects, to protect against cold in winter and ensure a comfortable and healthy room in summer. In addition, their low moisture retention and fast drying properties optimise thermal protection, whilst gradual release of stored passive solar energy reduces heating costs. Perforation pattern, web/shell thickness and material density are all designed for optimum performance.



Typical masonry thermal mass/phasing effect
(actual performance depends upon material and thickness)



Offering outstanding ecological balance, Porotherm products are made to minimise environmental impact both in manufacture and assembly. Featuring MARSS content, low embodied energy and recyclable as hardcore, they are made from natural clay, and often include recycled paper and sawdust which burn out during the manufacturing process.

With a life expectancy anticipated to be over 100 years, Porotherm offers the ultimate in high performance, sustainable construction.

Working in Partnership

Wienerberger clay products meet national quality standards in every aspect of manufacture, distribution, use and recycling, and have been awarded the European Community 'Nature Plus' test mark which is supported by Greenpeace and the World Wildlife Fund.

We are corporate members of nine of the Wildlife Trusts based in our operational areas and are involved in projects encouraging biodiversity among threatened species such as Lapwings and Bats.

Making a difference in Society

We feel it is important to continue to strengthen local community ties and take an active interest in education, supporting local business and educational partnerships.

Our responsibility extends across the globe, with our parent company, Wienerberger, involved in many initiatives aimed at a sustainable future. We joined the UN Global Compact in 2003 – promoting good, corporate citizenship and work in partnership with the World Wildlife Fund on a number of joint projects.

We have donated €millions to a number of relief projects around the world and several former clay mining sites have been restored and returned to local authorities with our help.

Brickworks tend to be in rural areas around the globe and we are committed to ensuring that this beautiful, natural environment continues to flourish. We recognise the need to continually improve our processes and products to meet the needs of changing markets, while continually reducing our environmental impact.

We believe that by prudent use of natural resources and the latest technology to manufacture, we continue to provide environmentally-friendly products that ensure the highest quality residential and commercial environments.

Passionate about sustainability.

Our sustainability strategy encompasses many areas:

- Process
- Product
- The built environment
- Impact on society
- Working with business partners
- Global consistency
- Future developments

