

POROTHERM CAVITY

BUILD QUICKER. BUILD SMARTER.



ROOF / BRICK / PAVER / FACADE / BLOCK





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INTRODUCING POROTHERM. BUILD QUICKER. BUILD SMARTER. BUILD BETTER.

What is Porotherm?

Porotherm is a multi-cellular clay block walling system designed with efficiency and performance in mind.

The horizontal bed faces are engineered to provide +/- 0.5mm tolerance which allows the use of a 1mm thin layer mortar. The unique interlocking vertical joints do not require mortar.

The system has been expertly designed as a solution for any number of common construction requirements, including:

- Inner leaf brick-faced cavity walls
- Inner and outer leaves of rendered cavity walls
- Infill panels within framed structures
- Partition walls and separating walls
- Both load-bearing and non-load-bearing applications









WHY CLAY?

Understanding the natural material benefits

At Wienerberger we believe in the benefits of building with clay. It is the ideal raw material for long-lasting, low impact construction projects. At the forefront of our industry for over 5,000 years, the advantages of clay are many and varied, covering every aspect of modern building.

Economic

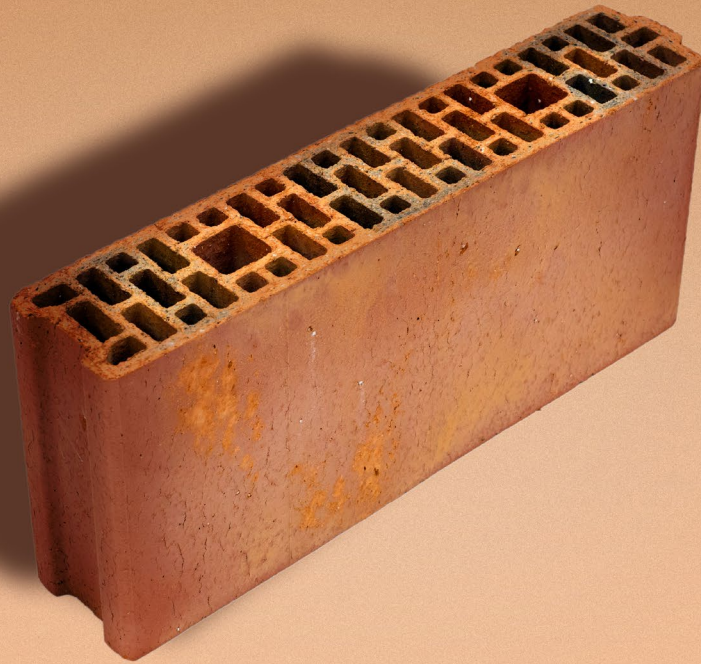
A building structure made of clay blocks can be constructed quickly, saving both time and money during construction. Due to the durability and stability of buildings comprising of clay materials, maintenance costs are low and assets typically achieve high resale values.

Versatile

Clay building materials can be used almost anywhere: walls, facades, roofs, gardens, terraces and open spaces. They're also suitable for use within a range of projects, whether it's the construction of family homes, apartment blocks, offices or public buildings.

Natural

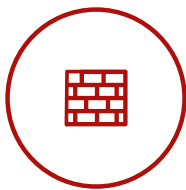
All our blocks, facing bricks, roof tiles and pavers are considered natural products because they consist mainly of two simple raw materials: clay and water. All our clay building components are free of VOC pollutants and allergens, promoting healthy indoor air quality.



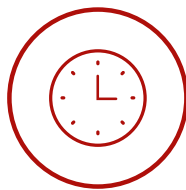
THE UK RANGE

The Porotherm range covers all your requirements for load bearing and non-loadbearing inner and outer leaves, for thermal efficiency and structural integrity as well as providing both partition and party wall acoustic requirements.

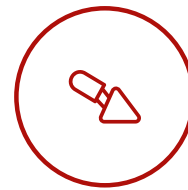
All blocks provide a range of benefits including:



Fewer blocks per m² compared to standard sized blocks



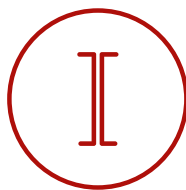
Less time to lay



Fewer cuts requiring pointing




Less wastage



Fewer perpends per m², aiding air tightness once parged



Versatility - one block meets all requirements

	Block Type		
	PLS500 100	PLS500 140	PLS500 190
			
Dimensions W x L x H (mm)	100 x 500 x 224	138 x 500 x 224	188 x 500 x 224
Quantity / Pack No. (m ²)	100 (11.2)	72 (8.0)	50 (5.6)
Weight Each kg	11.1	13.3	18.7
Weight Pack (inc pallet) kg	1142	991	965
Unit Gross Density kg/m ³	950	850	850
Thermal Conductivity W/mK	0.29	0.26	0.26
Wall Typical Air Tightness (Parged) m ³ /(h.m ²)	≤1.2	≤1.2	≤1.2
Typical Mean Unit Compressive Strength N/mm ²	10	10	10
Typical Characteristic Masonry Strength fk(N/mm ²)	6.5	5.0	4.5

BUILD QUICKER.



Achieve up to storey height (3m) within a day



Weather-tight construction allows for parallel internal and external work



Lighter, safer, and easier to lay

0°C

Work down to zero degrees with ZeroPlus mortar

BUILD SMARTER.



Achieve cost certainty with options for cavity and monolithic



Less waste and less stock on site lowers costs

Up to 95%

Uses less water than traditional methods



Interlocking construction with no mortar on vertical joints

BUILD BETTER.



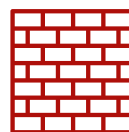
Cradle to Cradle Certified®



Thermally and acoustically efficient

A1

Class A1 fire resistant



Suitable for multiple wall types

THE ECONOMICS OF POROTHERM



Porotherm delivers cost savings across the whole project, thanks to its speed, efficiency and safety benefits. Projects can be completed more accurately and quickly, with less wastage.

Speed of laying

Compared to other methods Porotherm precision clay blocks can be laid significantly faster, delivering time-saving benefits.

Optimise your stock

All blocks within the cavity wall range have a mean compressive strength of 10N/mm^2 , providing solutions for all applications. This reduces the variety of block types and strengths required on-site.

Efficiency in the build programme

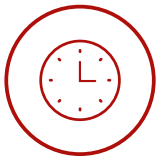
Although the price per square metre of block work is comparable to other masonry materials, the speed and efficiency that the Porotherm system offers on-site creates substantial savings in virtually every area. This starts with a clear reduction in preliminary costs when including the cost of the mortar.

Aside from the ease of working with it, Porotherm also makes a powerful economic argument for a wide variety of projects.





WHY CHOOSE POROTHERM?



FASTER.

More speed. No compromise.

Our Porotherm multi-cellular clay block walling system is a faster way of building.

But increasing the build speed doesn't come with any compromise in performance or longevity – it's simply a reflection of the system's engineering and design.

- Engineered blocks with roller applied thin layer bed mortar and interlocking perp-ends ensure speed and quality of construction
- The ability of inner leaf build allows early roof installation and ensures a weathertight structure to allow parallel working for internal and external trades, thereby reducing overall build times
- Porotherm constructions are not restricted by cold weather working as the Zeroplus mortar can be used at zero degrees centigrade on a rising scale
- Porotherm construction is the masonry equivalent of a timber frame build but without the timeframe required for offsite manufacture



DRIER.

Less water. More weathertight.

The Porotherm system is also fundamentally drier, which, in conjunction with the speed of the system, takes external finishes off the critical path.

- The ability to build Porotherm inner leaf blockwork two storeys in advance of external facing allows early roof installation for weathertightness and removes brickwork from the critical path



MORE EFFICIENT.

Less resource. More performance.

Porotherm's efficiency does not simply come from speed of construction, it is also cleaner and safer than traditional methods.

Porotherm's engineered interlocking perp-end system, the use of thin layer mortar which is mixed in required quantities, alongside the construction, provides savings of up to 95% in water demand and 93% in mortar usage.

- The clay blocks can be used to build a thermally and acoustically efficient wall that's both breathable and Class A1 fire resistant
- There is no moisture shrinkage at all with movement provision not needed in long runs of wall less than 20m in length – no disruption to finishes, fewer movement joints and vastly reduced risk of cracking
- Reduced snagging costs – although Porotherm experiences no moisture shrinkage, the process of inner leaf build and ensuring a weathertight envelope earlier in the build minimises the risk of moisture movement to other building components e.g. timber



SAFER.

Better engineered. Easier to build with.

Porotherm is designed to make construction more efficient in every way, and this can help on-site installation to be as simple and safe as it can possibly be.

- Porotherm blocks have no sharp edges and all blocks fall inside CDM manual handling requirements
- All Porotherm blocks are inert with no hazard to user or environment
- The bed joint mortar is mixed locally to the work area using a mechanical whisk, reducing the need for cement mixers, reducing forklift movements and simplifying site safety management





INSTALLATION

Here is a quick overview of the Porotherm multi-cellular clay block walling system installation process.



Step 1

Lay the first course on a traditional sand-cement mortar bed



Step 2

Ensure blocks are level, horizontal in both directions and vertically plumb. This is crucial because there is only a 1mm bed joint thereafter



Step 3

Mix ZeroPlus according to manufacturer's instructions



Step 4

Apply ZeroPlus to blocks with a roller



Step 5

Repeat until the wall is complete



Step 6

Block-cutting is straightforward

For a detailed understanding of the Porotherm System in regards to technical information and on-site support, including fixtures and accessories, chasing for electrical and plumbing services and further information around installation, please see our accompanying Porotherm multi-cellular clay block walling system Best Practice Guide, which can be downloaded or a hard copy can be requested.



CASE STUDY

BLACKBURN
CATHEDRAL



The project

First built in 1826, the Grade II listed Blackburn Cathedral is one of the most iconic houses of worship in Northern England.

The site of the Cathedral, which was officially consecrated in 1977, has been a place of worship for over a thousand years, dating back to the Norman era, when it became home to the first stone church.

Fast-forward a millennium and in June 2012, the Cathedral embarked on another ambitious first, announcing an £8.5 million plan to construct a clergy court and cloister garth - the first of its kind in the UK for over 570 years.

With the historical importance of Blackburn Cathedral, considerate material selection was paramount to the success of the project.

As well as ensuring that the new building materials complemented the existing structures, the architects at the global firm, Purcell, focused on finding a walling solution that would minimise wastage on-site.

Furthermore, with the location of the building at the heart of Blackburn town centre, it was important that the materials would maximise storage capacity and ensure ease of access on a very tight site.

The Solution

To streamline the building process, while respecting the Cathedral's history, the architects at Purcell specified our versatile Porotherm block walling system.

The system offers a winning combination of precision-engineering and reassuringly traditional building values, which made it a perfect fit for the project, which would bring new life to a true British heritage site.





Porotherm's performance regarding thermal, strength and density also meant that one block type suited all requirements, which reduced storage requirements and ensured easy access for building professionals onsite.

From both a speed of build and an aesthetic point of view, the Porotherm system surpassed the expectations of both contractor and architect.

The speed of the system was exemplified on the Dandy Walk elevation, which required fast completion in order for public highway works to begin. This could not have been completed in the timeframe using traditional building methods.

The precise dimensions of Porotherm came to the fore when the render base coat was applied. From an aesthetic perspective the ability to provide movement joints at 20m centres created a wonderfully smooth finish.

Testimonial

“Porotherm has enabled not only a speedier build but also proven how well a truly innovative system interlocks brilliantly with the historic fabric of the Cathedral.”

Canon Andrew Hindley,
Project Client

Credits

Project	Blackburn Cathedral
Site location	Blackburn
Client	Clergy Court
Product	Porotherm PTH100







POROTHERM TRAINING

Understanding exactly how Porotherm works and how it can benefit your project enables you to get the most from your construction methods, and the most from your materials too. We have a network of Porotherm training centres ready to enhance your skills and understanding.

Bespoke training can be provided to suit tradespeople, site management and all interested parties. We offer essential hands on experience with both the traditional UK cavity range and monolithic range.

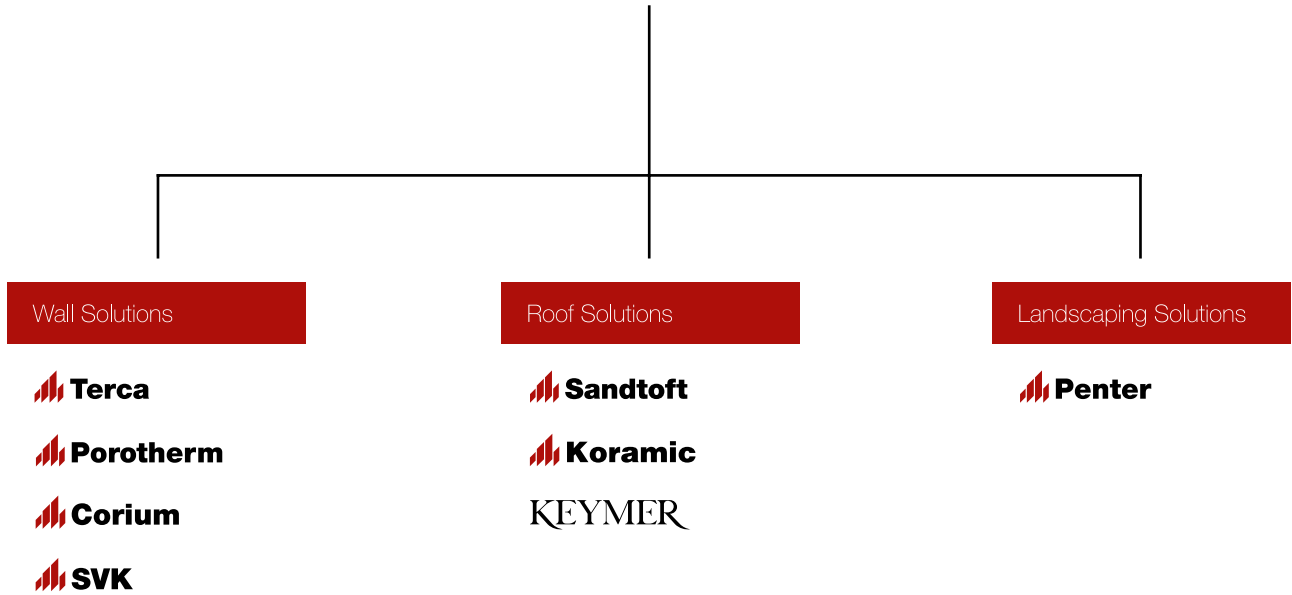
Our technical team can also provide on-site support and consultancy, ensuring your project can optimise the performance and quality provided by Porotherm at every stage of the construction process.

For more information on the Porotherm training options available, please call **0161 491 8200**

Accreditations

Porotherm Multi-Cellular Clay Block System:

- Complies with BS EN 771-1
- Can be designed in accordance with Approved Document A or BS EN 1996-1-1
- Holds NHBC Accept Certification
- Holds KIWA Certification
- Silver Cradle to Cradle Sustainability Certification: assessed in the safety, circularity and responsibility of materials and products across five categories of sustainability performance



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Have questions?

Want to know more, or are you looking for support with your next project? Visit our website to contact us. Our team of experts are ready to answer your questions.