Eco-brick

By Wienerberger

More than just a brick

ROOF / **BRICK** / PAVER / FACADE / BLOCK

Wienerberger

About Wienerberger

Wienerberger supports and enables the construction industry to create a better future for the built environment. We do this by providing a wide range of building products, systems and solutions, creating long-lasting partnerships and nurturing exceptional, enduring careers; all whilst placing sustainability at the centre of our strategy

We are one of the UK's largest producers of bricks and clay blocks, as well as being a market leader for clay roof tiles. Our operations are extensive, with 22 sites employing over 2000 people, managed from our head office in Cheadle, Stockport.

Wienerberger has supplied the construction industry with quality building products for over 200 years. Now, with innovative and sustainable solutions for the whole building envelope, our multi-specialist team work with our customers to take ideas to completion and beyond.

From bricks to piping, from roof tiles to solar panels, we offer one of the broadest product portfolios of solutions for new build, renovation and infrastructure project, in the construction business. Our global experience, local expertise and innovation combine to make buildings – and our customers' businesses – fit for the future.

Find out more about our products and services at **wienerberger.co.uk**

Contents

NHBC ACCEPTS

bit.ly/NHBC-WB

NHBC Accepts is a recognition of an innovative system that has been extensively assessed by a third party to meet robust NHBC Standards.

The urgency of sustainable architecture

A shift is underway in our industry, an urgency underscored by the relentless march of climate change and the evolving dynamics of legislation. Part L Building Regulations are set in place and the Future Homes Standard is on the horizon. These changes are clear indicators that the status quo is no longer acceptable, even if they are taking longer than expected to come into force.

The Future Homes Standard is an important development in our quest for a sustainable future. However, its timeline remains uncertain, and active involvement from professionals like you is crucial to shape it effectively.

Implementation may still be a few years away. But why wait for the ink to dry on new standards when the call to action is clear and present? Your clients demand not just aesthetics and functionality within budget and timelines, but an added layer—sustainability.

No longer a nice-to-have, sustainability is a must-have. If sustainability isn't a priority for your clients, perhaps it is a value that is important to you personally, or your practice is pushing for it to be a top consideration in every project you take on to give you a competitive advantage.

The challenge is to incorporate sustainability effectively amidst the constraints you face daily. We shouldn't be asking, "Can we create and build beautiful, functional, and sustainable buildings?" Instead, we should be asking, "How quickly can we adapt our practices to ensure we do?"

Change can be daunting, but consider that our global climate is changing at an unprecedented rate. The environmental impact of the built environment is significant. Yourselves as builders and architects together with Wienerberger as building product manufacturer are both in a unique position to mitigate this to the best of our abilities. We need to focus on two things: reducing the embodied carbon emissions of new buildings and improving the operational efficiency of existing ones. That's where Eco-brick comes in...

What is Eco-brick?

A slim-line brick that offers **more** wall thermal performance **with** increased insulation & **less** upfront and embodied carbon

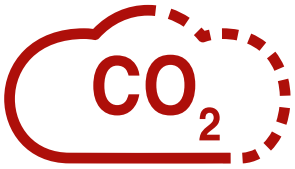
Eco-brick is the perfect choice for environmentally aware housebuilders and specifiers who must achieve the uplift to standards in Part L of the building regulations. It enables you to achieve a reduction in upfront embodied carbon per square metre of brickwork.

The Eco-brick system offers all the performance and aesthetics of a standard format brick system, its slim-line profile offers an impressive 37.5mm of additional cavity space which when used for extra insulation will result in lower U values or, will give the option to reduce the overall wall footprint to provide additional internal living space.

Eco-brick system comes with its own components and is available in a wide range of colours and has been used successfully in Europe for over a decade.

Having received NHBC Accepts certification, and with Wienerberger on hand to provide on-site support, Eco-brick is ready to be adopted across the UK, by housebuilders and specifiers who want a competitive edge.

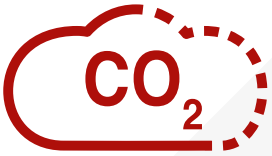
Benefits in brief



Up to 31% reduction in upfront embodied carbon.

36% slimmer profile allows increased insulation.

Up to 37% reduction in transport journeys.



Up to 5 tonnes of CO_2 saved through reduction in transportation.

Up to 36% reduction in mortar and water requirements.

36% lighter in weight.

Recognition of an innovative system that has been extensively assessed by a third party to meet robust NHBC standards.

Eco-brick has been tried, tested and used successfully in Europe for over a decade.

On-site support and service options available.

PLEASE NOTE | All measurements are based on Eco-bricks produced in our Warnham factory compared to their equivalent in standard English size. All calculations are based on per square metre of brickwork. Modelling is based on a 3 bedroom house (8,000 bricks) and an estate comprising of 100 houses. Transportation is based on an average delivery of 114km.

All calculations used are available upon request by emailing wbukmarketing@wienerberger.com

Why Eco-brick is the right choice for you

Eco-brick stands apart as an evolutionary alternative for innovative housebuilders and specifiers.

A first of its kind in the UK, Eco-brick offers a sustainable building solution to forward thinking housebuilders who are wanting to meet the advisory target of the government's New Homes Strategy aiming to deliver 300,000 new homes a year, as well as new regulatory and legislative requirements including the Future Homes Standard.

Eco-brick offers the industry a paradigm shift towards better insulated building stock, improved energy efficiency and reduced upfront carbon emissions.

The changing face of homes

At Wienerberger, we adopt a 'Fabric First' approach across our building products and materials and are continuously investing in product development to ensure we can help housebuilders meet the changing shape of our homes and communities. The use of Eco-brick whether singularly or with our clay Porotherm blocks offers the potential to lower U values.

What are U values?

U values measure how effective a home's fabric is at preventing heat transference between the inside and outside of the home. The lower the U value the better, as this indicates more thermally resistant wall constructions.

More insulation or living space

A **36% slimmer profile** offers increased insulation. This provides the opportunity for potential savings on energy bills by adding an additional 37.5mm of insulation or allows potential increase in living space via a reduction in the wall footprint. Using this additional space for thicker insulation will help to deliver walls with better insulating performance. This in turn will improve the building's overall energy efficiency and create the opportunity for improved EPC ratings and lower operational energy demand and bills for homeowners.

Easy to build with

Eco-bricks are easier to handle as they are **36% lighter in weight**. They are laid using traditional techniques with minimal awareness training required, making them easy to build with. They also take up less room when stored on site.

Eco-bricks also have the potential to reduce the risk of Repetitive Strain Injury when used long term.

Upfront embodied carbon reduced

Less raw material and energy is used in manufacturing which results in a **31% reduction in upfront embodied carbon** per square metre of brickwork.

Less mortar means less water

There are potential cost savings for housebuilders when building with Eco-brick as it requires up to **36% less mortar** due to its narrower profile. A reduction in mortar also generates a reduction in on-site water requirements.

Fewer journeys = fewer emissions

Slimmer brick means more bricks per load and a this can lead to a potential **37% reduction in the number of HGV journeys** required.

This reduction will have a knock on effect on emissions. Up to **5 tonnes of CO_2** could be saved, thereby reducing housebuilders' environmental impact (calculation based on a site of 100 houses).

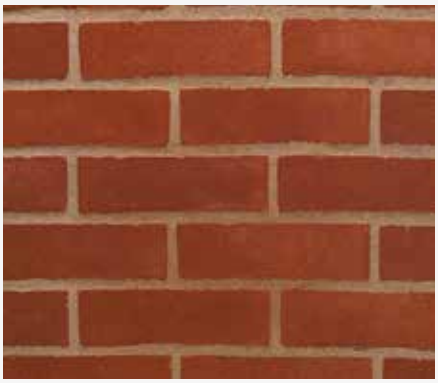
In addition, fewer HGV deliveries has social benefits too, including reducing noise nuisance, air pollution and safety risks for communities.

Eco-brick has all the properties of a standard clay brick including strength, durability and the ability to deliver a quality build with longevity.

New construction single family homes in Vinkt, Belgium using Pampas Eco-bricks

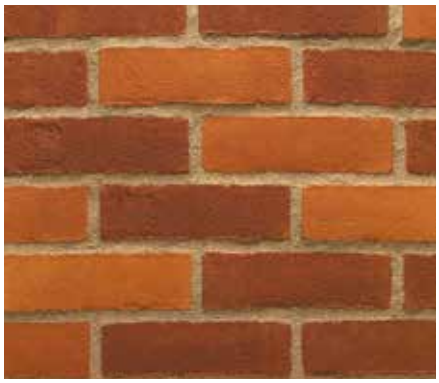
The Eco-brick range

Eco-bricks are available in a number of formats, manufactured here in the UK and imported from Europe. They are available in a range of beautiful colours to meet the aesthetic needs of your projects.

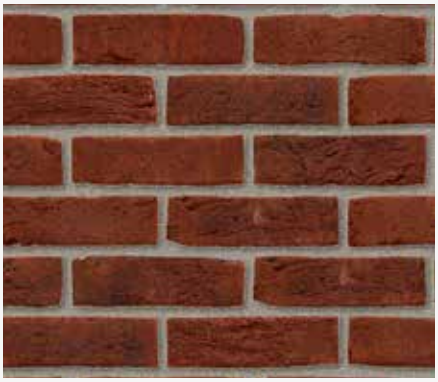


Warnham Red*

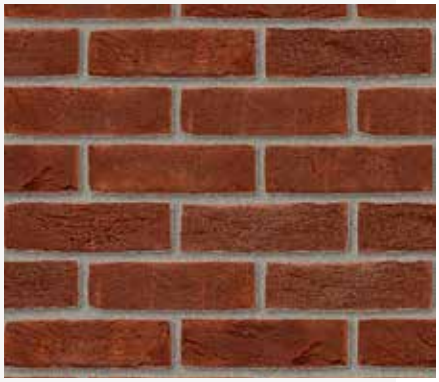
Chartham Multi*



Red Orange Blend*



Pampas



Haywood Red

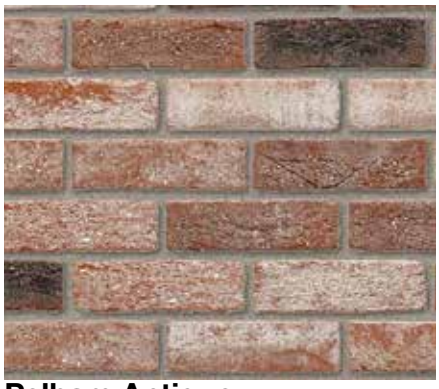
Jado Red

Product name	Type	Production factory	Dispatch location	Size tolerance		Durability	Active soluble salts	Compressive strength (N/mm^2)	Water absorption (%)	Pack quantity	Individual dry brick weight (kg)
				Mean	Range	BS EN 771-1					
Warnham Red	S	Warnham	Warnham	T2	R1	F2	S2	12	15	800	1.53
Chartham Multi	S	Warnham	Warnham	T2	R1	F2	S2	12	15	800	1.53
Red Orange Blend	S	Warnham	Warnham	T2	R1	F2	S2	12	15	800	1.53
Pampas	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.48
Haywood Red	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.49
Jado Red	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.49

S = Stock

*The panels shown are standard facing bricks and may have slight variations in them.

The Eco-brick range


Pelham Antique


Muria Yellow


Helios White


Clarus Cream


Nila Cream


Langdale


Oud Romaans


Saturn Grey


Remo Grey


Bowland


Kassandra


Olde Cheshire

Product name	Type	Production factory	Dispatch location	Size tolerance		Durability	Active soluble salts	Compressive strength (N/mm^2)	Water absorption (%)	Pack quantity	Individual dry brick weight (Kg)
				Mean	Range	BS EN 771-1					
Pelham Antique	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.48
Muria Yellow	S	Lanaken	Import depots	T1	R1	F2	S2	25	17	904	1.47
Helios White	S	Kortemark	Import depots	T1	R1	F2	S2	25	17	880	1.48
Clarus Cream	S	Peruwetz	Import depots	T1	R1	F2	S2	25	17	840	1.54
Nila Cream	S	Lanaken	Import depots	T1	R1	F2	S2	25	17	904	1.53
Langdale	S	Lanaken	Import depots	T1	R1	F2	S2	25	17	904	1.53
Oud Romaans	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.48
Saturn Grey	S	Peruwetz	Import depots	T1	R1	F2	S2	25	14	840	1.48
Remo Grey	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.47
Bowland	S	Lanaken	Import depots	T1	R1	F2	S2	25	14	904	1.47
Kassandra	S	Beerse	Import depots	T1	R1	F2	S2	12	15	798	1.49
Olde Cheshire	S	Beerse	Import depots	T1	R1	F2	S2	12	15	798	1.17

S = Stock

Eco-brick system components

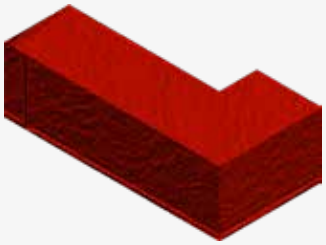
The Eco-brick system comes with a range of its own components specially designed to work with the reduced brick width of 65mm. All components will be available and supplied as part of the Eco-brick system which means we will calculate and supply the right components according to the requirements of your projects.

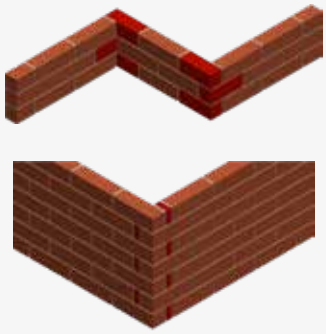
Lintels[1]

Air bricks

Cavity trays

Periscopes





Corner bricks[2]

DPC rolls

Weep vents

Wall ties

[1]We don't offer lintels directly, they can be sourced from your regular supplier
[2]A range of corner brick options are available (see pages 22-27).

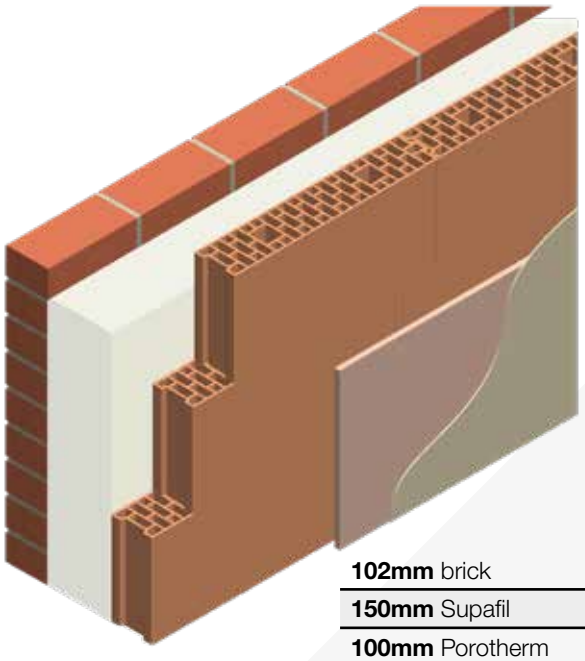
Haywood Red Eco-brick used on a project in Beveren, Belgium

Wall build ups

Using Porotherm clay blocks with Supafil insulation

Standard brick and footprint

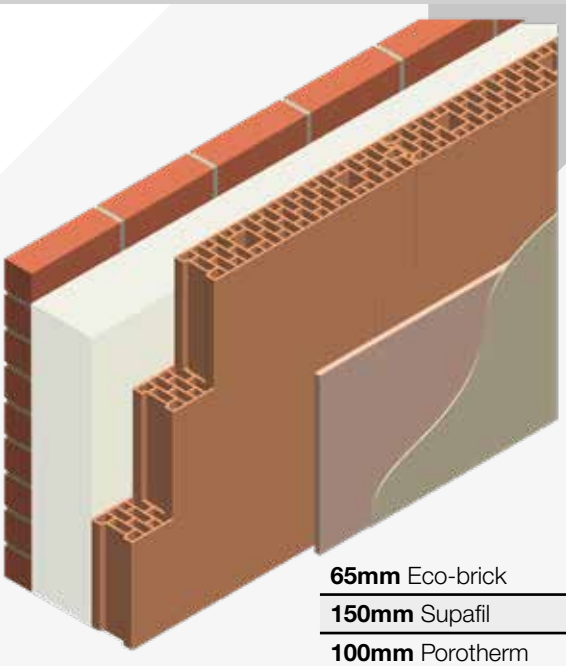
Total footprint = **352mm**
U value = **0.19W/m²K**



102mm brick
150mm Supafil
100mm Porotherm
Parge & Dri lined on dabs

Eco-brick and reduced footprint

Total footprint = **315mm**
U value = **0.19W/m²K**

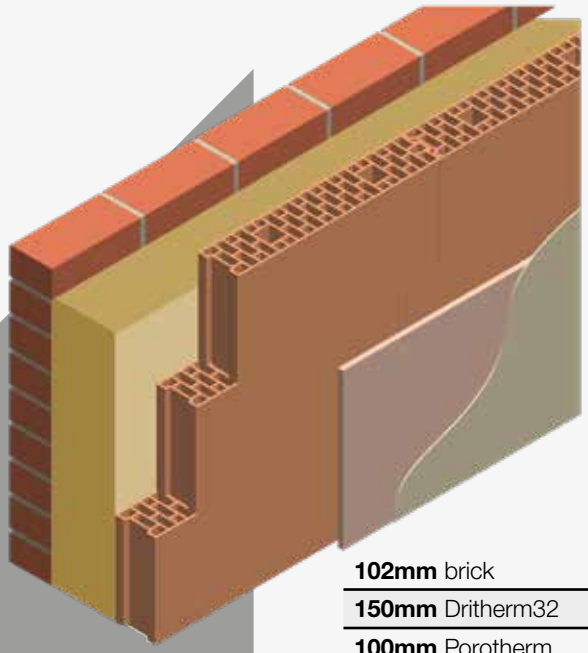


65mm Eco-brick
150mm Supafil
100mm Porotherm
Parge & Dri lined on dabs

Using Porotherm clay blocks with Dritherm32 insulation

Standard brick and footprint

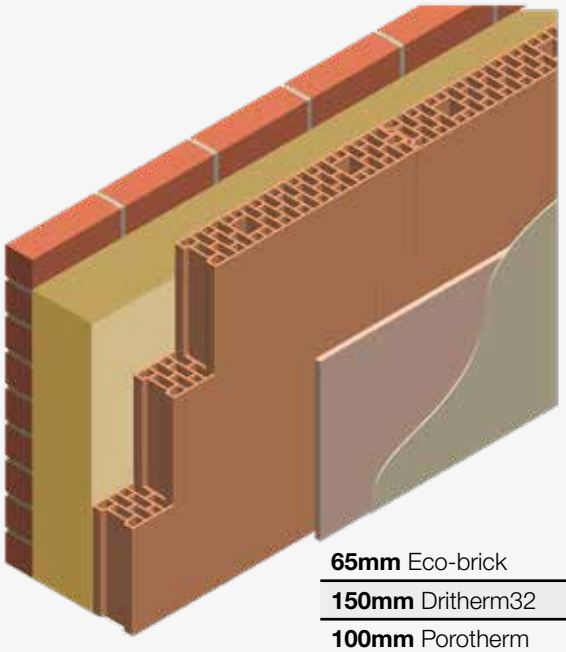
Total footprint = **352mm**
U value = **0.18W/m²K**



102mm brick
150mm Dritherm32
100mm Porotherm
Parge & Dri lined on dabs

Eco-brick and reduced footprint

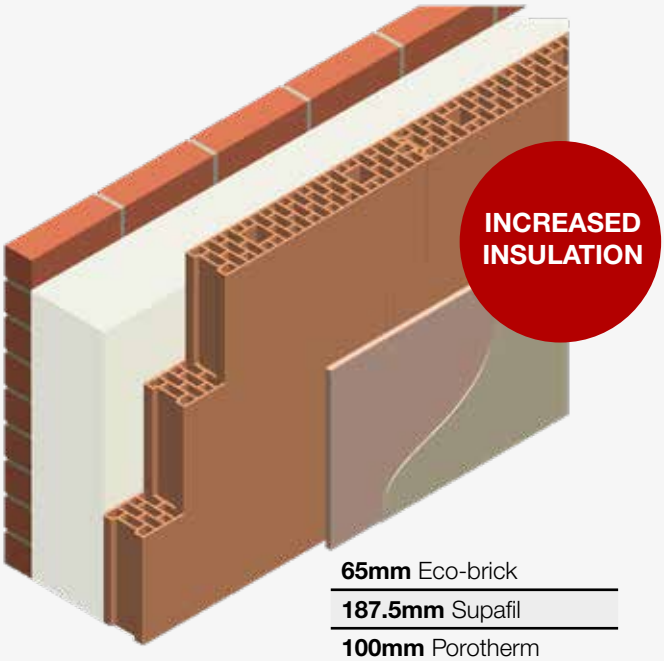
Total footprint = **315mm**
U value = **0.18W/m²K**



65mm Eco-brick
150mm Dritherm32
100mm Porotherm
Parge & Dri lined on dabs

Eco-brick and standard footprint

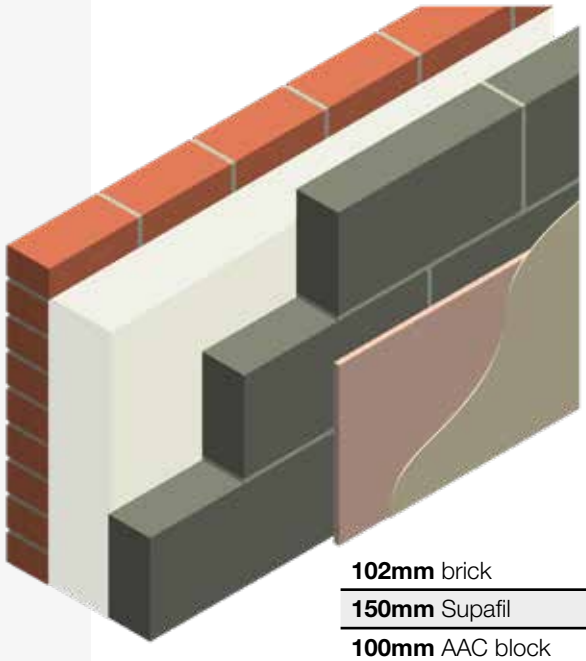
Total footprint = **352.5mm**
U value = **0.16W/m²K**



65mm Eco-brick
187.5mm Supafil
100mm Porotherm
Parge & Dri lined on dabs

Standard brick and footprint

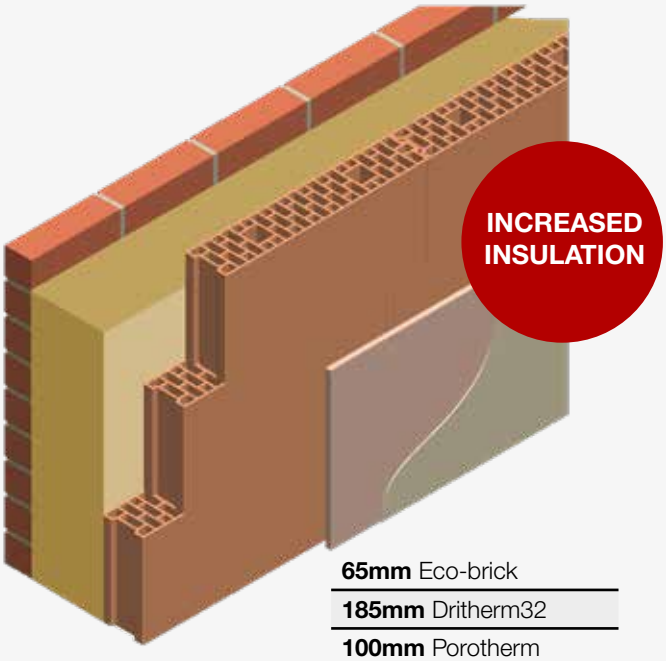
Total footprint = **352mm**
U value = **0.18W/m²K**



102mm brick
150mm Supafil
100mm AAC block
Parge & Dri lined on dabs

Eco-brick and standard footprint

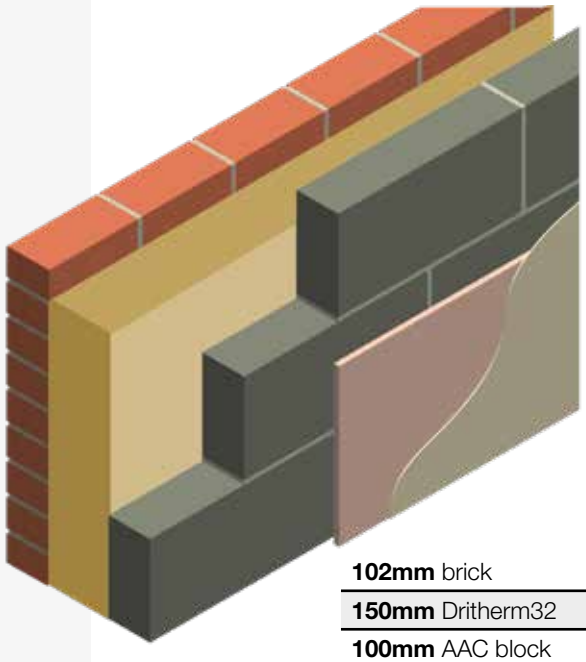
Total footprint = **350 mm**
U value = **0.16W/m²K**



65mm Eco-brick
185mm Dritherm32
100mm Porotherm
Parge & Dri lined on dabs

Standard brick and footprint

Total footprint = **352mm**
U value = **0.18W/m²K**

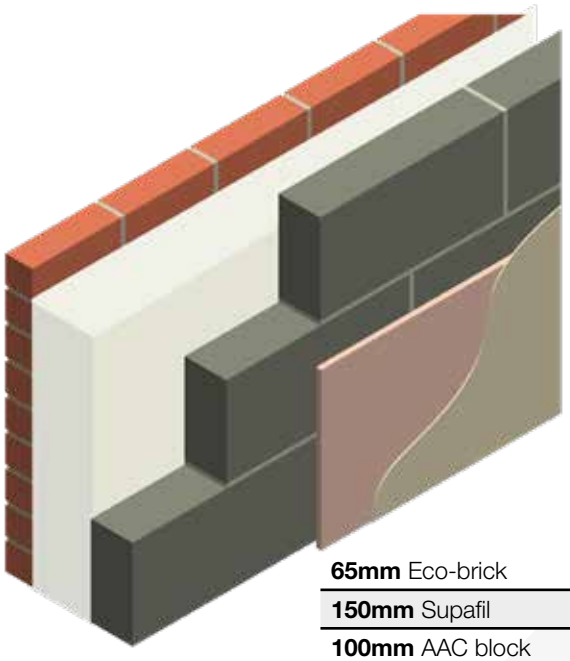


102mm brick
150mm Dritherm32
100mm AAC block
Dri lined on dabs

Using Aircrete AAC blocks with Supafil insulation

Eco-brick and reduced footprint

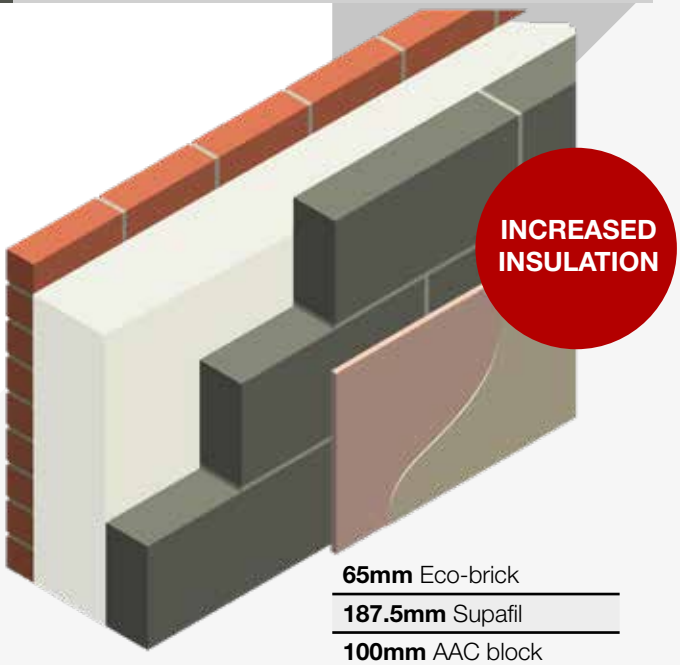
Total footprint = **315mm**
U value = **0.18W/m²K**



65mm Eco-brick
150mm Supafil
100mm AAC block
Parge & Dri lined on dabs

Eco-brick and standard footprint

Total footprint = **352.5mm**
U value = **0.15W/m²K**

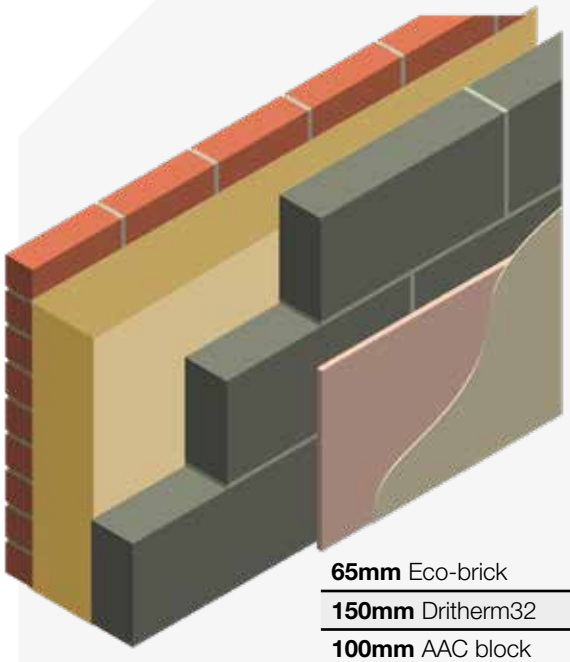


65mm Eco-brick
187.5mm Supafil
100mm AAC block
Parge & Dri lined on dabs

Using Aircrete AAC blocks with Dritherm32 insulation

Eco-brick and reduced footprint

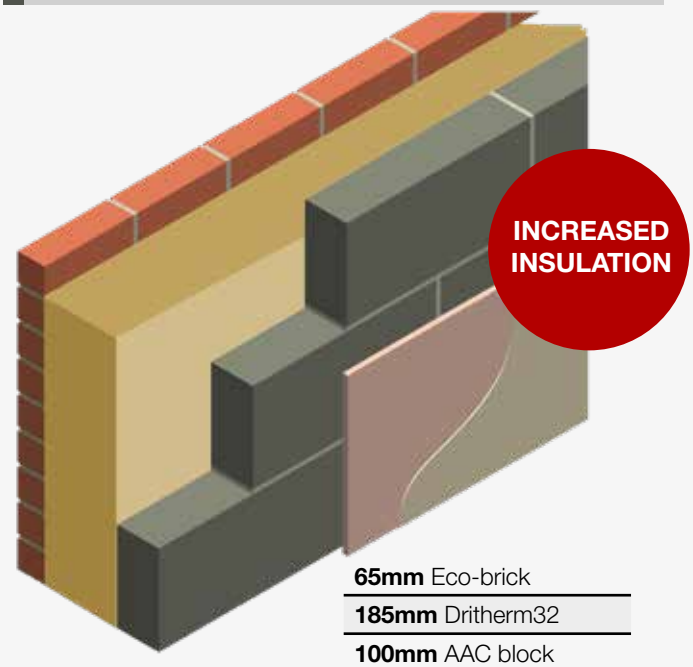
Total footprint = **315mm**
U value = **0.18W/m²K**



65mm Eco-brick
150mm Dritherm32
100mm AAC block
Dri lined on dabs

Eco-brick and standard footprint

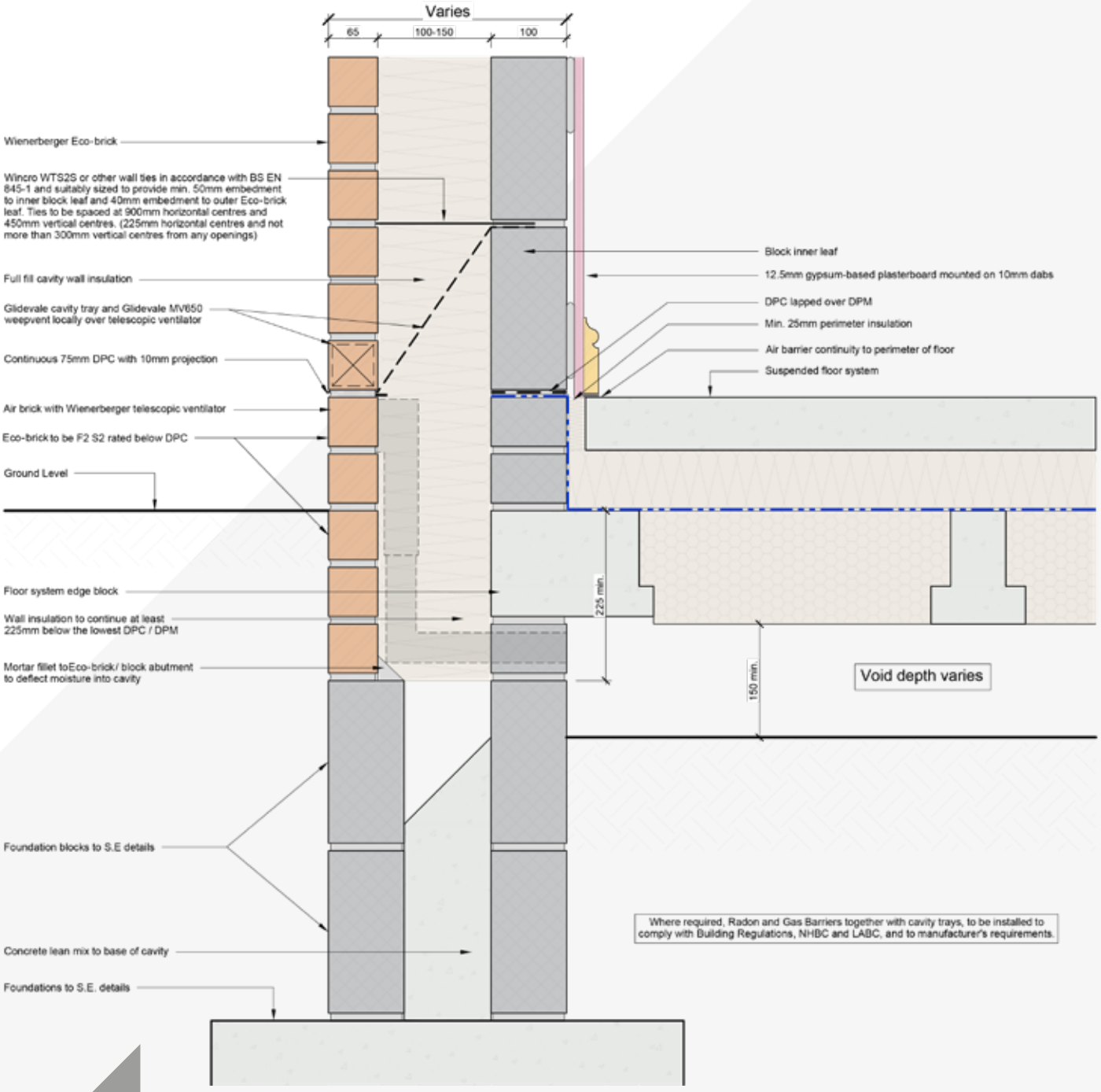
Total footprint = **350mm**
U value = **0.15W/m²K**



65mm Eco-brick
185mm Dritherm32
100mm AAC block
Parge & Dri lined on dabs

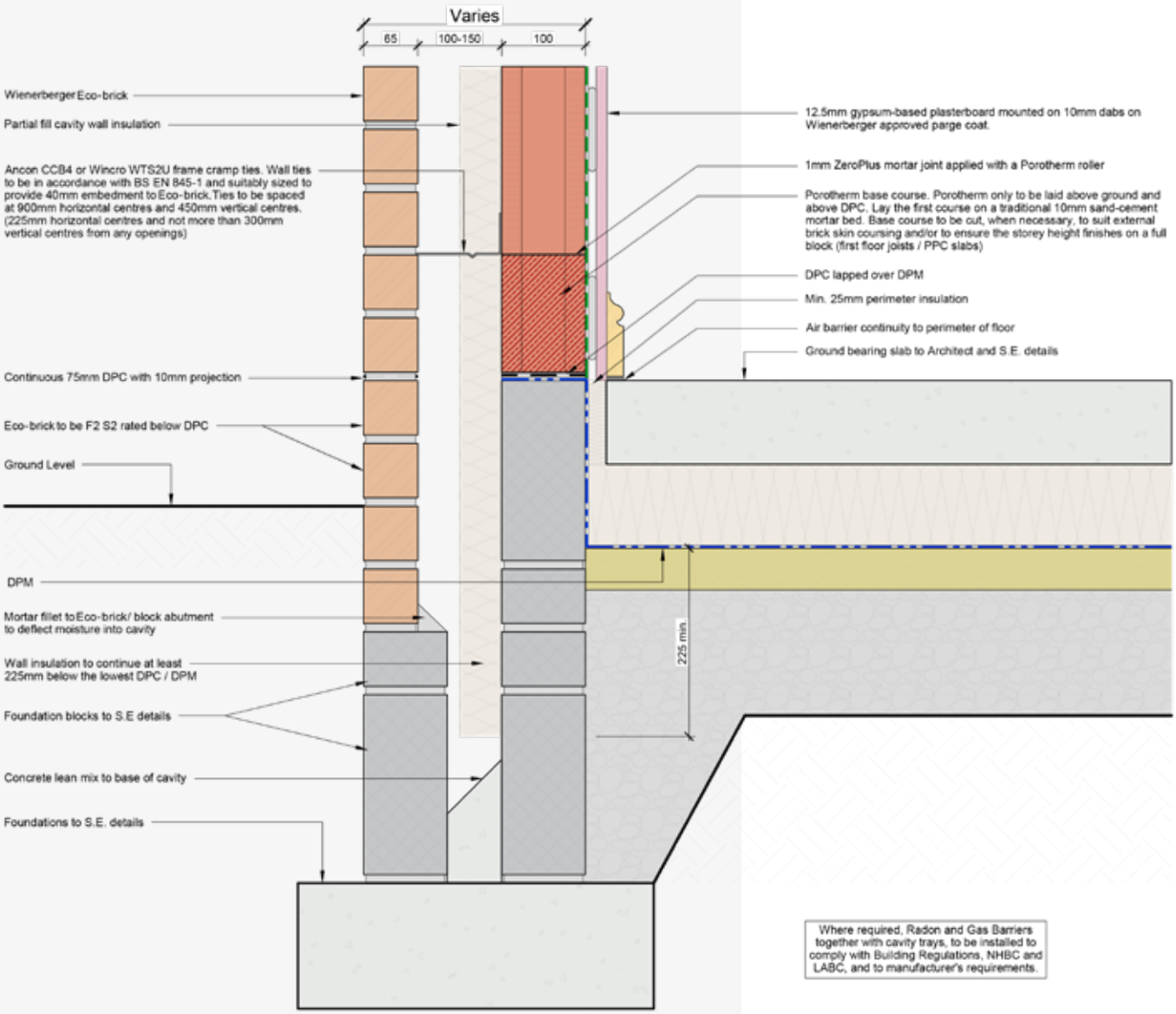
Wall details

Full fill cavity using concrete blocks



Block full fill cavity wall to jetfloor suspended floor

Partial fill cavity using Porotherm clay blocks



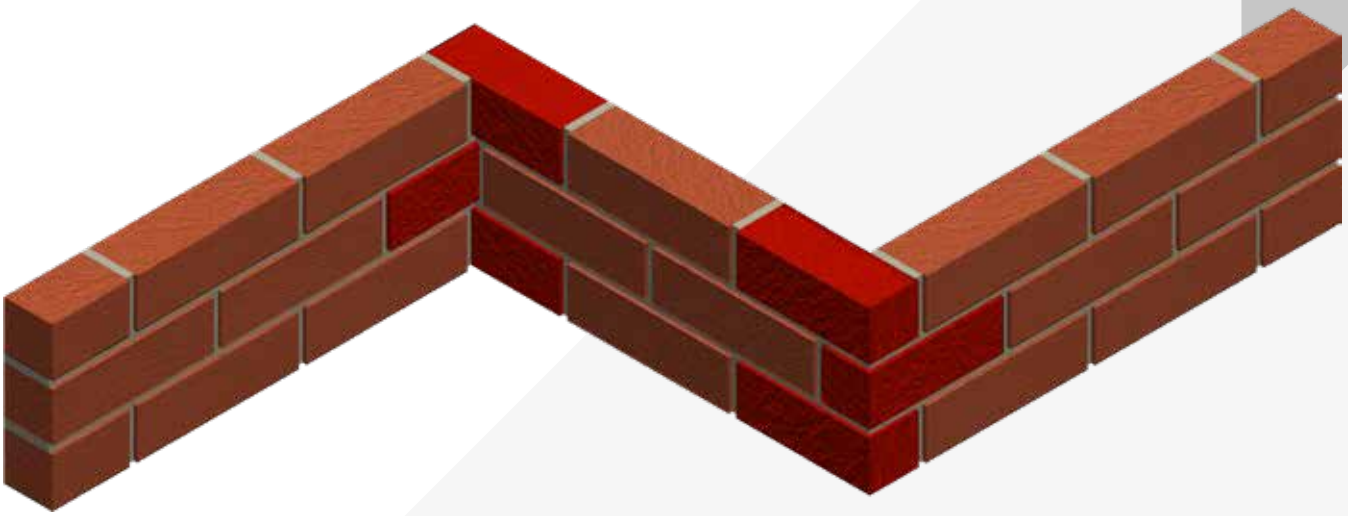
Porotherm partial fill cavity wall to ground bearing slab

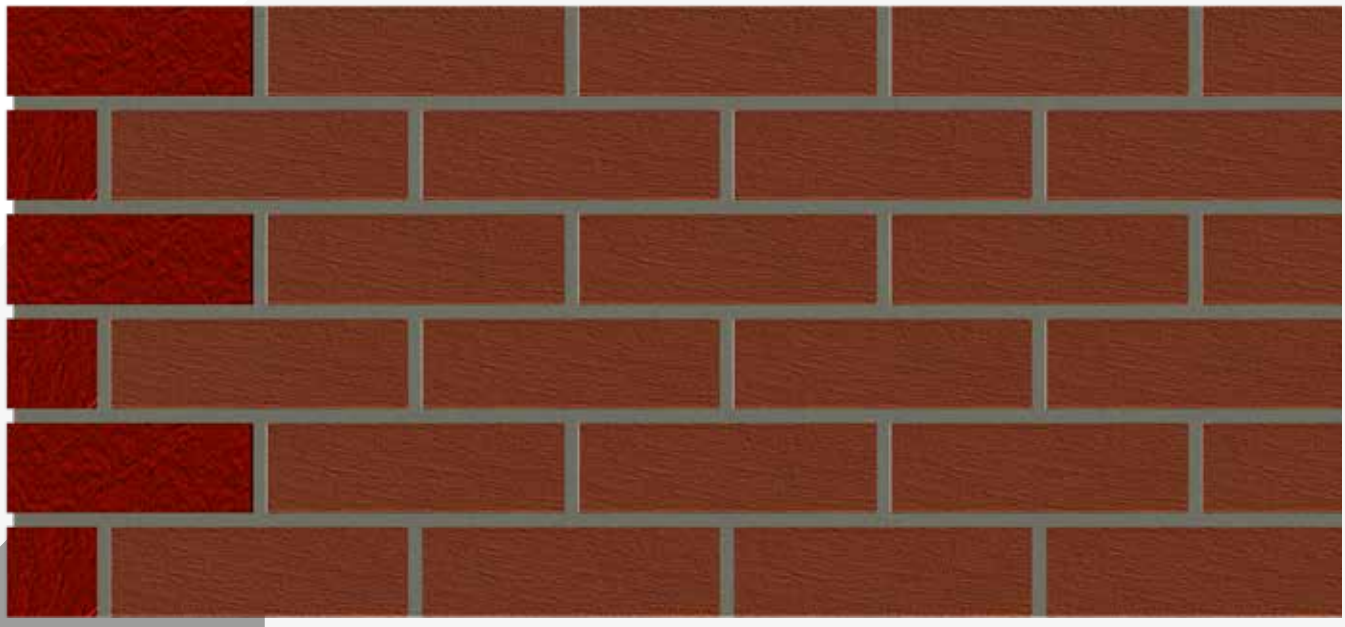
This information is for reference only and should not be regarded as a substitute for the role carried out by the architect or structural engineer.

All design and installation with Eco-brick should be in accordance with British and European Standards, Codes of Practice, Building regulations and ancillary component manufacturers' guidance

Corner options | 178mm cut

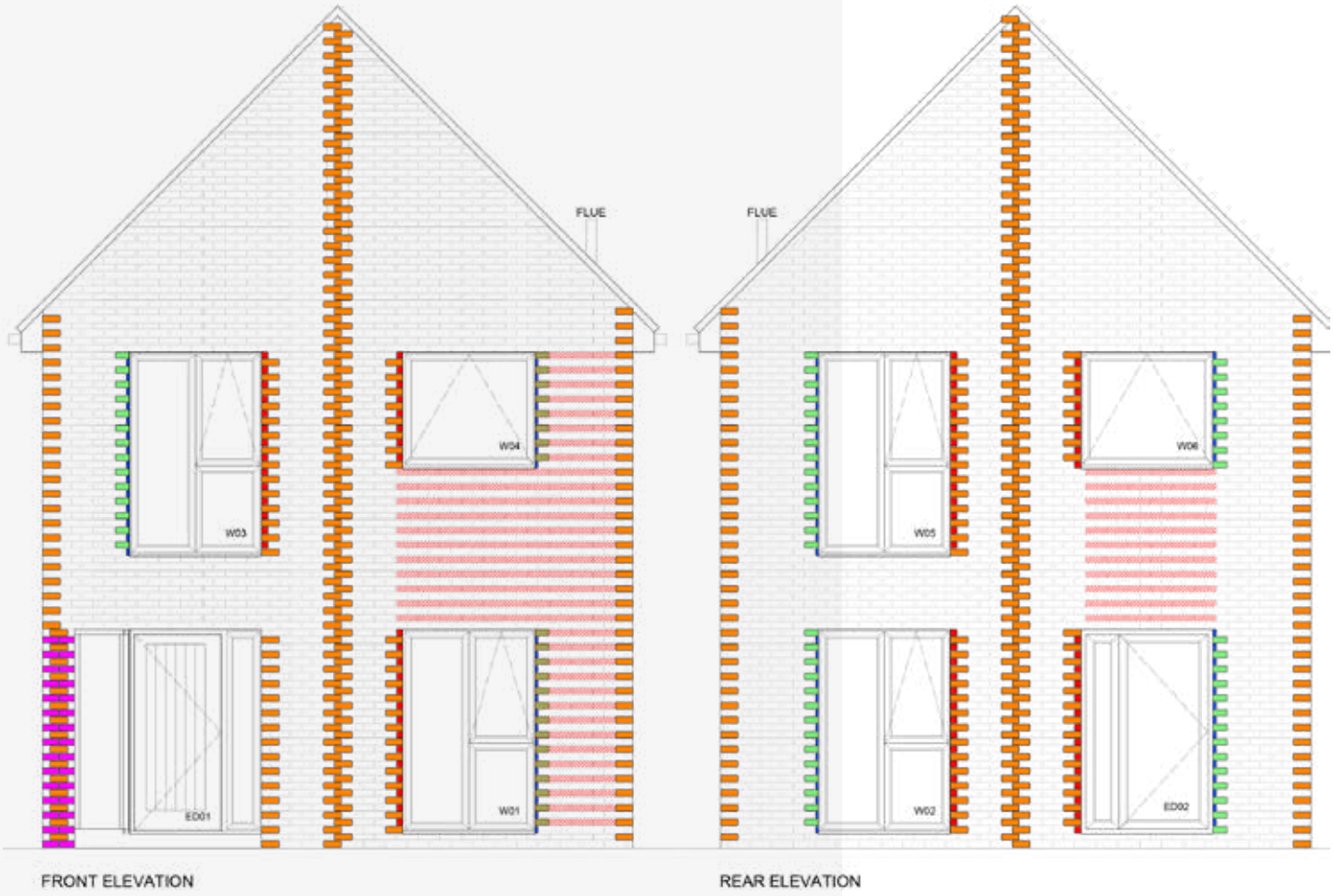
When using the Wienerberger 65mm Eco-brick system, care should be taken at the setting out stage in order to achieve and maintain half bond. 178mm cuts are used at the corners and reveals to achieve half bond.





The number of courses laid per hour should be limited by the stability of the fresh masonry. It is recommended to work on greater lengths of masonry than with traditional brickwork in order to restrict the height without reducing productivity. The maximum height per lift is no different to traditional brickwork when tied to blockwork.

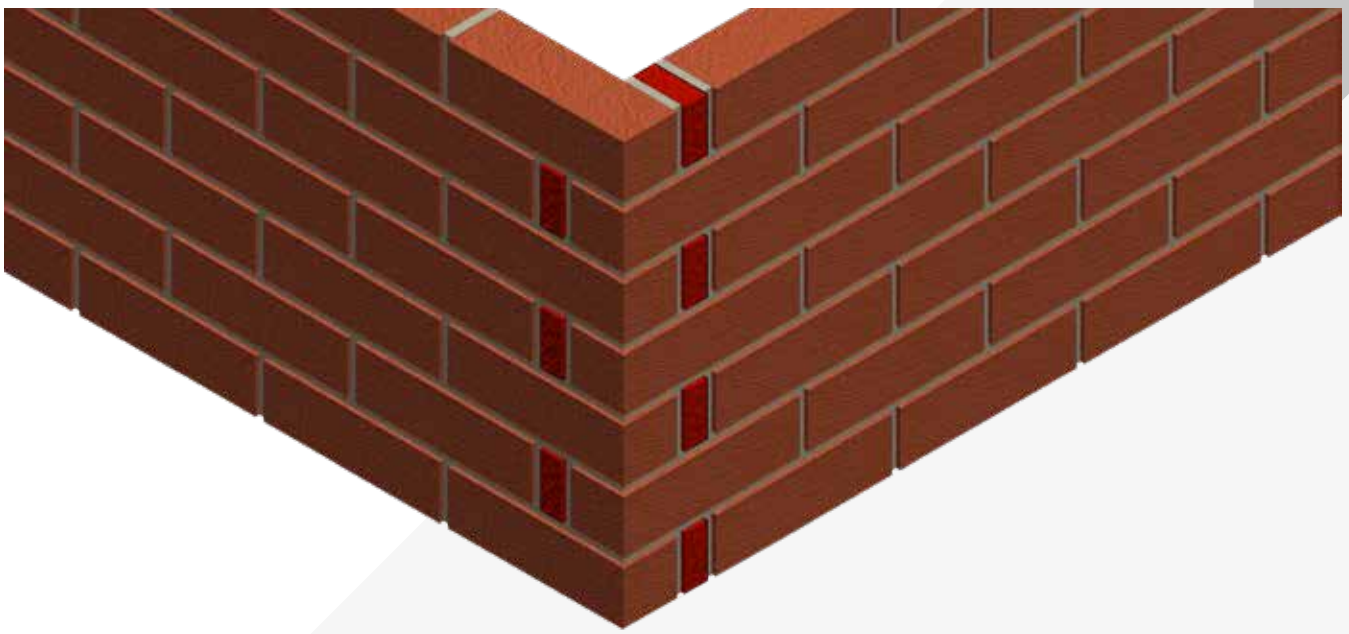
FRONT AND REAR ELEVATIONS

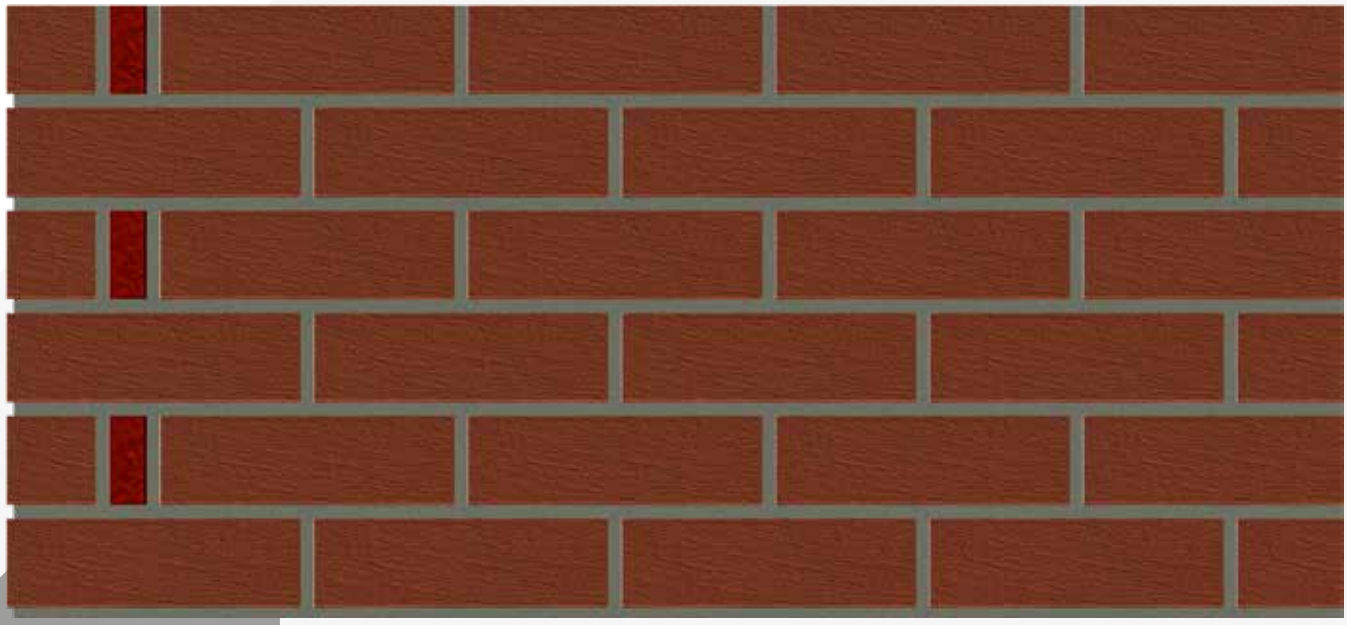


- 178mm cut (perpend)
- 178mm cut (stretcher face)
- 159mm cut
- 140mm cut
- 65mm cut
- 27.5mm cut
- denotes projecting brick max. 10mm

Corner options | 27.5mm cut

When using the Wienerberger 65mm Eco-brick system, care should be taken at the setting out stage in order to achieve and maintain half bond. 27.5mm cuts are used at the corners and reveals to achieve half bond.





The number of courses laid per hour should be limited by the stability of the fresh masonry. It is recommended to work on greater lengths of masonry than with traditional brickwork in order to restrict the height without reducing productivity. The maximum height per lift is no different to traditional brickwork when tied to blockwork.

FRONT AND REAR ELEVATIONS

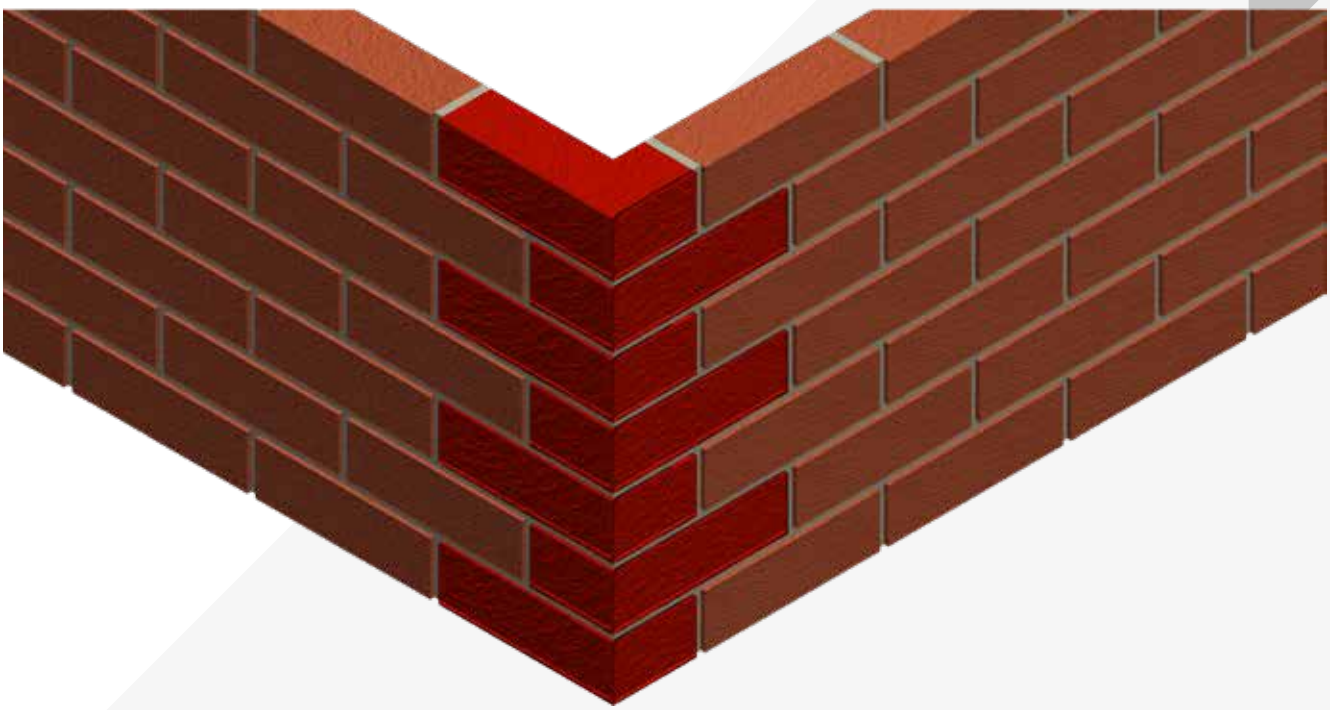
102.5mm cut

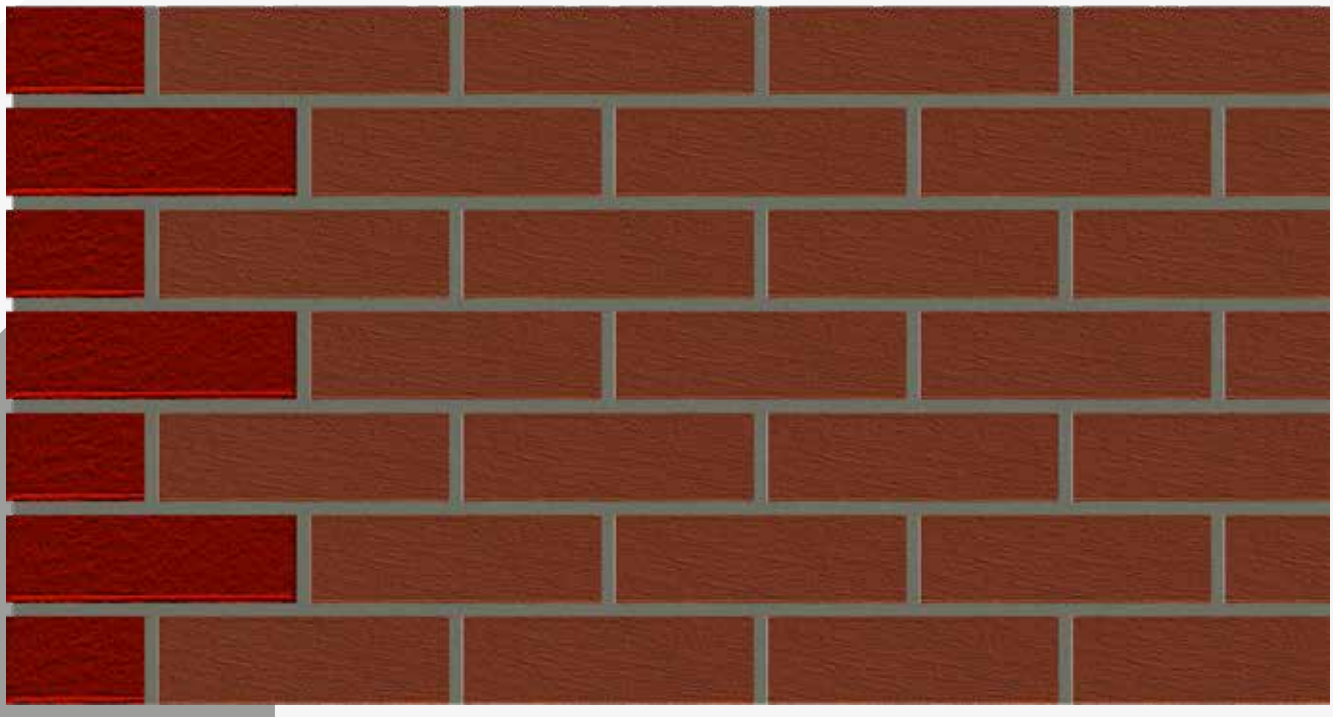
27.5mm cut

Corner options | Special brick

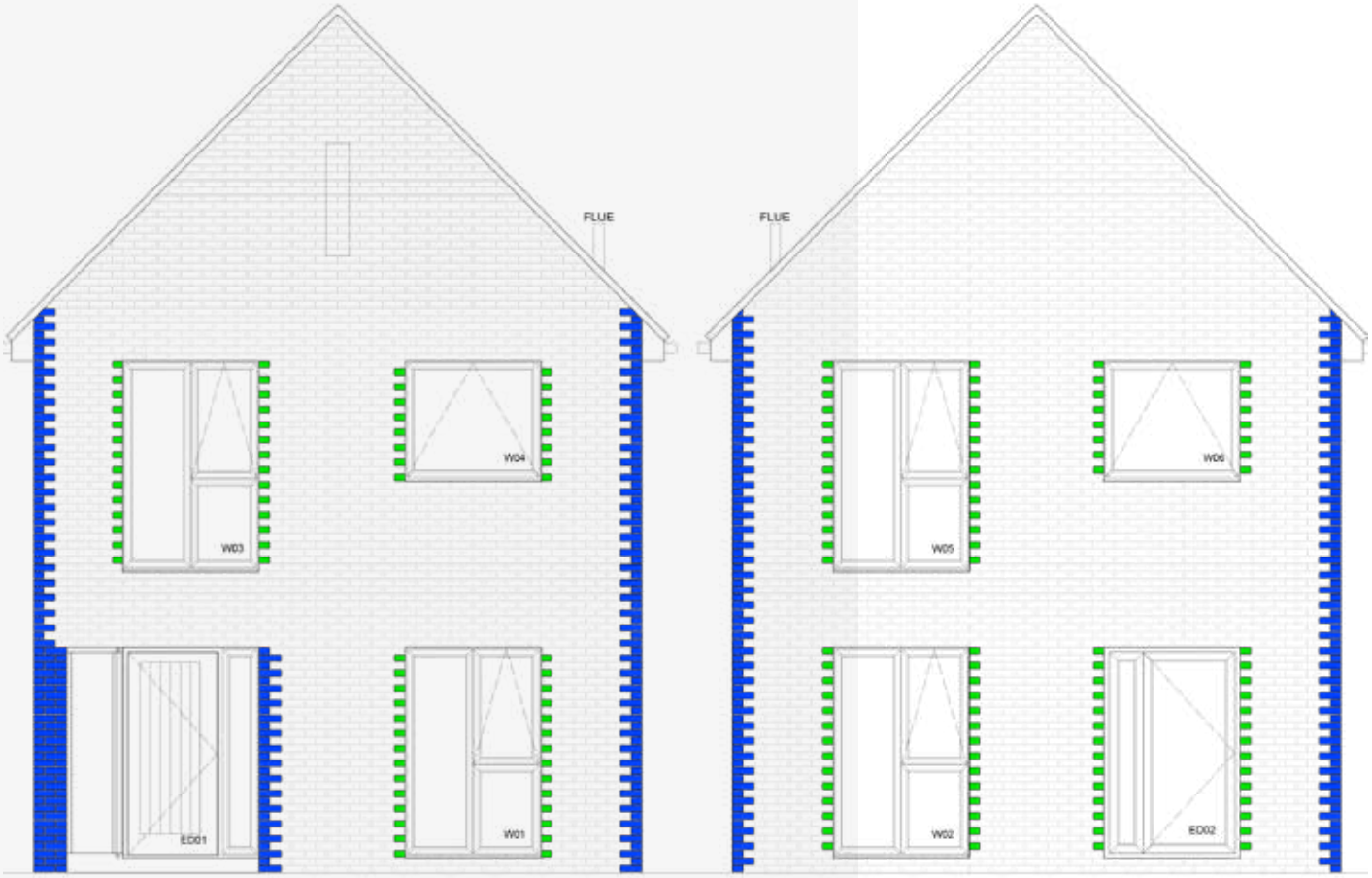
When using the Wienerberger 65mm Eco-brick system, care should be taken at the setting out stage in order to achieve and maintain half bond.

Corner brick specials can be used at the corners and to achieve half bond. Corner brick specials can be cut and bonded or formed by cutting out the back section of a traditional brick.





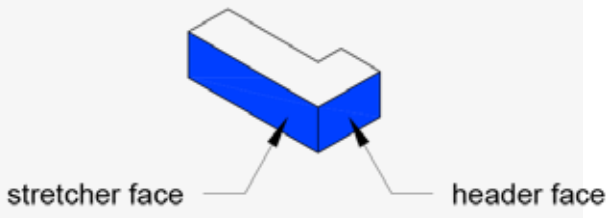
FRONT AND REAR ELEVATIONS



102.5mm (half brick)

Corner brick special (header face)

Corner brick special (stretcher face)



Working with Porotherm

What is Porotherm?

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

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.

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

MORE EFFICIENT.

Less resource. More perform

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

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

Here to support you

Our unrivalled product training and on-site construction site start-up, helps you introduce a new product with confidence.

Technical Services from Wienerberger include ongoing support with questions and advice specific to the product, accessories, ancillary materials, methods, etc.

We'll also supply you with a whole range of information and advice including;

- High quality BIM Objects
- Housepack information
- Take-off including all Eco-brick products and components
- Full suite of Eco-brick construction details
- Awareness training provided pre and on-site on use of Eco-brick
- Site start-up attendance by Wienerberger
- Staged monitoring and inspections to ensure compliance with WallSpec/ HomeSpec
- Close working relationship with Site Management
- Direct contact with Wienerberger for advice and assistance throughout construction of building envelope
- Provision of 15 years WallSpec/HomeSpec warranty upon final sign off
- All services provided free of charge.

Design services

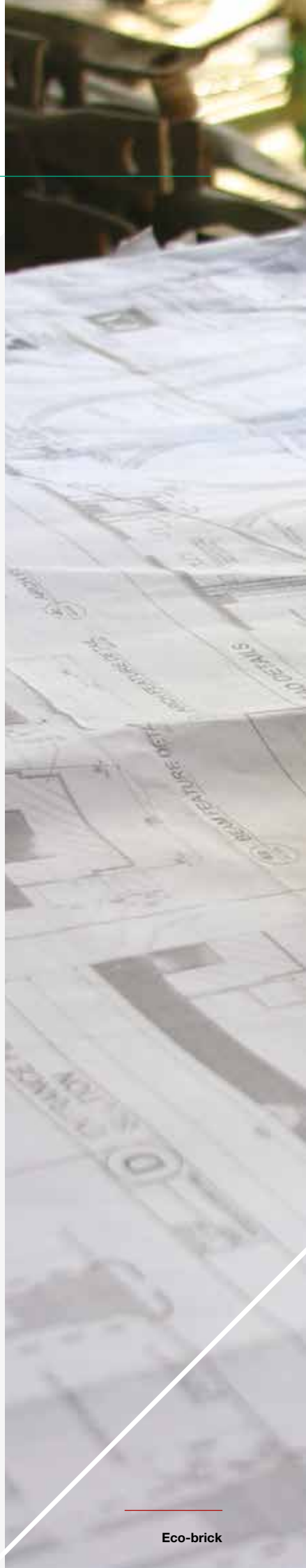
Specialist design, technical expertise.

Wienerberger's Design Services team offers specialist design and technical expertise, providing effective and helpful advice to achieve successful brickwork.

The services offered range from guidance on the most appropriate product selection for particular projects and applications through to final product specification including current building standards and codes of practice, special shaped bricks, bond patterns, movement joints and brickwork detailing.

A comprehensive knowledge of special shaped bricks combined with the use of CAD software enables us to assist in detailing customer requirements where Wienerberger bricks have been specified.

For more information contact Design Services at wbukdesignservices@wienerberger.com



Let your walls show their true colours

A wide range of timeless and contemporary shades of colour ensures we have the right one for your project.

This image is for illustration purposes only. For the full range of colour and size formats please visit or website or contact your Wienerberger representative.

Requesting a sample

Interested in a product?
Get a sample delivered to your door

Simply visit **wienerberger.co.uk** and select the product you're interested in. Complete the form and leave the rest to us.

You will receive a confirmation email and your samples will be sent out to you as soon as possible by our customer support team.

Looking for some inspiration?

Chartham Multi

Chartham Multi

Chartham | UK standard

Warnham Red | UK standard

Warnham Red | UK standard

Oud Romaans | European build

PLEASE NOTE | These images are illustrative only and have either been built in Europe or using the standard UK size version of the brick and are marked accordingly

Pampas | European build

Pelham Antique | UK standard

Pampas | European build

Pampas | European build

Wienerberger

Wall Solutions

- Terca
- Porotherm
- Corium

Roof Solutions

- Sandtoft
- Koramic
- KEYMER

Landscaping Solutions

- Penter

Wienerberger Ltd
Wienerberger House
Brooks Drive
Cheadle Royal Business Park
Cheadle, Cheshire
SK8 3SA

0161 491 9450
wbukmarketing@wienerberger.co.uk
@wienerbergeruk
wienerberger.co.uk/eco-brick

ECO 05/24

The Institute of Customer Service MEMBER

Eco-brick By Wienerberger