

Products and Applications guide

2025



H+H aircrete – the building block of choice.

For over 75 years, H+H has been a trusted supplier of high-quality aircrete products, earning a strong reputation for our collaborative approach and commitment to adding value throughout the construction process.

From the early planning stages through to design, distribution and on-site construction, we work closely with our customers to deliver responsive, reliable and efficient service. Our approach is built on true partnership – because we believe that working together leads to better outcomes.

At the core of our offering is our technically advanced, high-performance aircrete. But we deliver more than just blocks. We specialise in the design and construction of durable, cost-effective structural wall solutions that meet the demands of modern building practices.

Thanks to their thermal efficiency, acoustic performance and load-bearing capabilities, H+H aircrete products provide straightforward solutions for meeting today's Building Regulations—and are already supporting the transition to the Future Homes Standard.

Our solutions are also well-suited to more advanced building methods, including MMC and Passivhaus. We've partnered with housebuilders for decades to help deliver homes that are energy-efficient, practical and future-ready.

Sustainability is at the heart of everything we do. Up to 70% of the raw materials used in our Celcon Blocks are recycled and 99% are sourced from UK or European suppliers – reducing the environmental impact of transport.

As part of the H+H International company, we are committed to achieving net zero carbon emissions by 2050, guided by third-party verified Science-Based Targets to ensure transparency and accountability.

At H+H, we're not just building blocks – we're building the future of construction.

Autoclaved Aerated Concrete (AAC) – also known as Aircrete

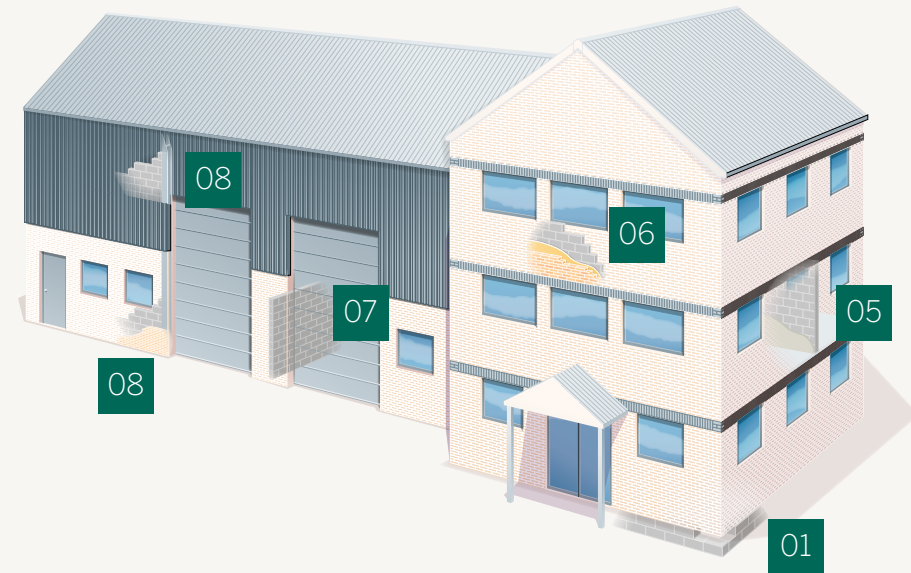
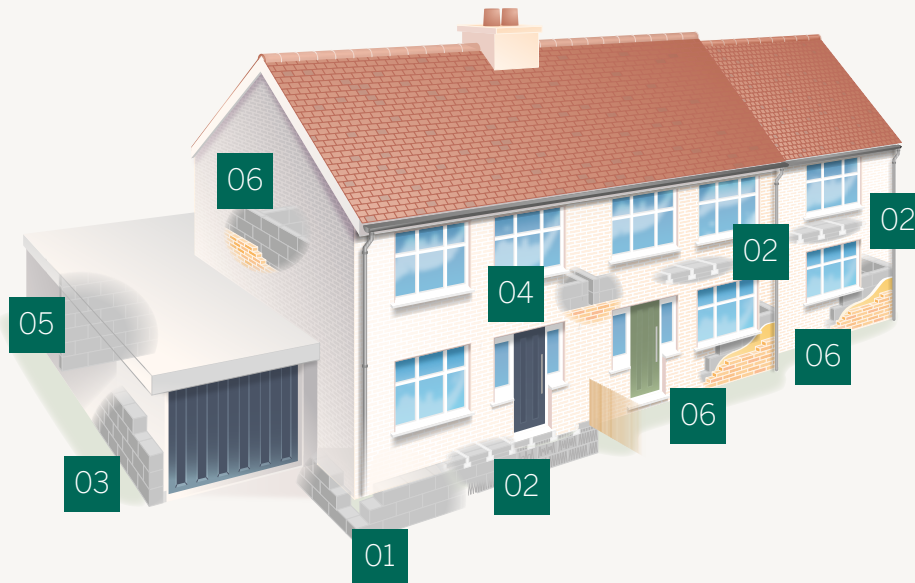
Autoclaved aerated concrete (AAC), or aircrete, is a lightweight, versatile precast concrete used in UK construction since the 1950s. Made from cement, lime, water, pulverised fuel ash, and aluminium powder, it forms air bubbles and is cured under high-pressure steam to create a strong, insulating material. Known for its excellent thermal, acoustic and fire performance, aircrete is used in internal and external walls, beam-and-block flooring, and reinforced elements. Produced in various sizes, it is easy to handle on site. Modern aircrete prioritises sustainability, using recycled content and locally sourced materials to support carbon reduction and future building standards.



Housing, Commercial, Public and Industrial

The complete building material

You can use H+H aircrete throughout the house from foundations to roof. H+H aircrete is designed to meet our own exacting quality standards as well as providing constructions to meet the requirements of Building Regulations for internal partition walls, solid walls, cavity walls, separating walls, cavity and solid foundation walls and suspended floors.



H+H products can be used to build many types of industrial and commercial buildings including; schools, offices, factories, warehouses and hospitals.

H+H aircrete can be used for many applications including foundations, partition walls, external walls (both solid and cavity) and as infill to steel and concrete framed buildings. A variety of finishes – brick, render, metal cladding etc, may be employed.

- | | |
|----------------------------------|---------------------------------------|
| 01 Solid Foundations | 05 Partition Walls |
| 02 Beam and Block floors | 06 External Cavity Walls |
| 03 Solid Wall Construction | 07 Fire Walls |
| 04 Separating and Flanking Walls | 08 Infill to steel and concrete frame |

The Ultimate Masonry Product

Strong

- Loadbearing
- Suitable for foundations of houses and low-rise flats
- Supports up to 4 storeys without a structural frame
- Block strength from 2.9N/mm² to 8.7N/mm²

Excellent Thermal Insulation

- Reduces the amount of additional insulation
- Offers enhanced thermal insulation when used in walls, foundations and beam and block floors reducing the amount of insulation required
- Significantly contributes to satisfying Part L of the Building Regulations

Lightweight

- Meets CDM regulations for manual handling (except Foundation Blocks)
- Easy to transport
- Less than half the weight of the equivalent aggregate block
- Reduces the building load in high rise construction
- Can enable wider spans in beam and block floors



Fireproof

- Fire resistant (100mm walls, up to 4 hours, 2 hours if load-bearing)
- Non-combustible to Class A1 (the highest class)

Robust and Durable

- Low wear and tear
- Resists sulfate attack in foundations
- Water-resistant
- Frost-resistant
- Does not rot or decay
- Excellent ballistic impact performance
- Is not susceptible to insect attack

Versatile

- Accepts a wide range of finishes
- Multi-purpose – use for entire buildings
- Adaptable for use in innovative designs
- Easy to alter or extend during or after the build process

User-friendly

- Easy to fix to
- Can securely hold fixings for heavy loads
- Easy to work using simple hand tools
- Virtually maintenance-free
- Easy to achieve airtight construction
- Stretch wrapped for protection and tidiness using recyclable materials
- Delivered where required on pallets for easy movement and storage

Thermal Mass

- Helps to create a comfortable living environment
- Provides an even temperature range in winter or summer

Airtightness

- Can be used to achieve excellent airtightness on site

Excellent Sound Insulation

- Achieves 40dB sound insulation for internal partition walls (100mm blocks)
- Comfortably satisfies Part E of the Building Regulations by Pre-Completion Testing or Robust Detail methods of compliance
- Useable in flats and apartments as well as houses

H+H and the Environment

- Easy to cut, reducing on-site waste
- Made using pulverised fuel ash (an industrial by-product) or a mixture of PFA and sand when applicable
- Constructions obtain the highest rating within the Green Guide to Housing Specification
- Light weight allows greater volumes delivered at once, reducing journeys
- Most production waste material is recycled back into the manufacturing process; none is sent to landfill
- Can be recycled for use as aggregate
- Made using up to 70% recycled material
- 99% of raw materials are sourced within the UK or Europe

Certification

- Approved by the BBA
- UKCA marked, meeting the latest European Standards
- Accepted by the NHBC
- Certified under BS EN ISO 9001
- All factories are BS EN ISO 14001 compliant
- H+H Ltd was the first company to achieve 'Very good' in the BES 6001:2008 standard for the Responsible Sourcing of Construction products and is now rated as 'very good'
- H+H has been awarded BS EN 16001 for energy efficiency and the BSI kitemark for Energy Reduction Validation (ERV)



H+H aircrete products offer a complete building material that meets the requirements of the Building Regulations, with the flexibility to offer solutions to hospitals, schools, offices, industrial warehouses and housing (social and private).



Product

H+H Product range

Our product guide is intended to provide as much information as possible to our customers. We are unable to provide exhaustive information on our blocks, technical details and transport. Queries should be directed to your stockist or obtained from our Customer Services or Technical Department prior to purchase.

Make the right choice – a simple guide



Grade and Finish Identification

	Solar Grade* (blue)	Standard Grade (none)	High Strength Grade* (black)	Super Strength Grade* (red)
Celcon Foundation Block# 325 x 215mm				
Celcon Block# 440 x 215mm and Foundation Blocks (all sizes)				
Celcon Block Coursing Unit# 215 x 65mm				
Celcon Plus Block - Plain Face 630 x 215mm				
Jumbo Bloks - Plain Face 630 x 250mm				

* Whilst the colour reference for Solar Grade, High Strength and Super Strength Grades remain consistent, the positioning of the line may vary.

Block surfaces may be plain or scratched subject to plant of manufacture and logistics of supply.

Celcon Blocks

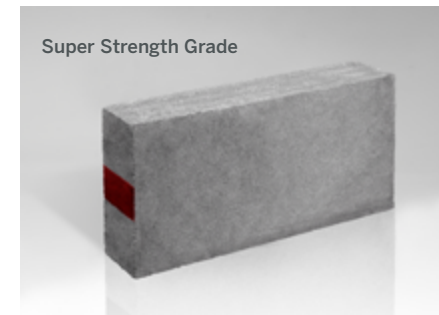
Celcon Blocks in Solar, Standard, High Strength and Super Strength Grades are the most commonly used aircrete block in the H+H range.

All Celcon Blocks are BBA certified, are fire resistant (100mm walls, up to 4 hours, 2 hours if load-bearing dependent upon the Grade) and have been classified non-combustible to Class A1 (the highest class). Celcon Blocks are available in thicknesses from 75mm to 355mm Foundation Blocks and can be used in the applications listed.

For specific technical information on the Grades available in this range, please refer to pages 9 and 10.

Applications

- Internal and external leaf of cavity walls
- Solid walls
- Separating walls (except Solar Grade)
- Partitions
- Flanking walls
- Multi-storey buildings
- Foundations/Below ground level
- Beam and Block floors (except Solar Grade)



Face size	All Grades 440mm x 215mm				
Block Thickness (mm)	75	100	140	150	215
Solar Grade Weight (kg) [†]	-	5	8	8	12
Standard Grade Weight (kg) [†]	5	7	10	11	16
High Strength Grade Weight (kg) [†]	-	10	14	15	21
Super Strength Grade Weight (kg) [†]	-	10	14	15	-

	Solar Grade	Standard Grade	High Strength Grade	Super Strength Grade
Compressive Strength	2.9N/mm ²	3.6N/mm ²	7.3N/mm ²	8.7N/mm ²
Thermal Conductivity	0.11 W/mK	0.15 W/mK	0.18 W/mK	0.18 W/mK
Density	460 kg/m ³	600 kg/m ³	730 kg/m ³	730 kg/m ³

[†] Block weights at typical moisture content when laid. (Some manufacturers may quote weights which have not allowed for this.)

21: Numbers in **Bold** Type indicate that the product is above the recommended single person repetitive manual handling limits.

All shaded areas indicate that the product is a stock item. Other sizes can be made to order subject to minimum quantities.

Foundation Blocks

Celcon Foundation Blocks are commonly produced in a range of thicknesses for use below ground level. Offering beneficial thermal performance, they are suitable for the support of cavity or solid walls, framed construction or suspended floors, including beam and block floors. They are resistant to moisture and freeze/thaw conditions likely to occur below ground.

With exceptional resistance to freeze/thaw conditions and sulfate attack when they occur below ground level: BBA certificate 01/3816 confirms that all Celcon Foundation Blocks are suitable for use in soil conditions from DS1 to DS4.

Celcon Foundation Blocks can be laid below ground level without mortar perpend. Simply lay them with mortared horizontal bed joints and then butt them together to prevent the passage of vermin.

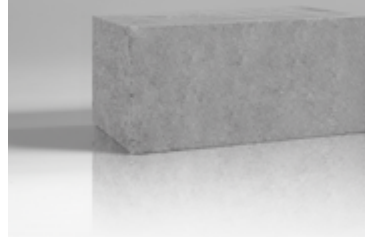
Solar Grade can also be used below ground (See page 9 for information).

All Celcon Foundation Blocks may also be used above ground, with appropriate finishes, for solid wall construction.

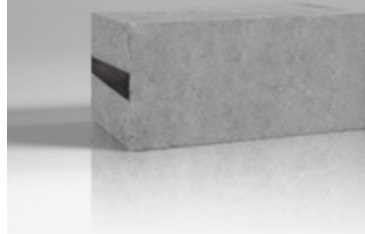
Applications

- Foundations
- Solid wall construction

Foundation Block Standard Grade



Foundation Block High Strength Grade



Face size	Standard Grade 440mm x 215mm			High Strength Grade 440mm x 215mm		
Block Thickness (mm)	275	300	355	275	300	355
Block Weight (kg) [†]	20	22	26	27	29	35

Face size	Standard Grade 300mm x 215mm	High Strength Grade 300mm x 215mm
Block Thickness (mm)	325	325
Block Weight (kg) [†]	16	19

	Standard Grade	High Strength Grade
Compressive Strength	3.6N/mm ²	7.3N/mm ²
Thermal Conductivity	0.24 W/mK*	0.29 W/mK*
Density	600 kg/m ³	730 kg/m ³

[†] Block weights at typical moisture content when laid. (Some manufacturers may quote weights which have not allowed for this.)

22: Numbers in **Bold** Type indicate that the product is above Single person repetitive manual handling limits.

All shaded areas indicate that the product is a stock item. Other sizes can be made to order subject to minimum quantities.

* Please note that the thermal conductivity quoted for use below ground is different to that when used above DPC, because they may have higher moisture content.



Solar Grade

Solar Grade is principally used where enhanced thermal performance is required.

With a superior thermal conductivity Solar Grade blocks are suitable for two storey buildings and can be used below DPC. Solar Grade is available in thicknesses from 100mm to 215mm, and are third party accredited under BBA and certified for use in the applications listed.

Applications

- Internal and external leaf of cavity walls
- Solid walls
- Partitions
- Flanking walls
- Below DPC

Note: Solar Grade aircrete is identified with a blue line on the block. Whilst the colour remains consistent, the positioning of the line may vary.

Celcon Block Solar Grade



Standard Grade

Standard Grade is extremely versatile and can be used below DPC, as infill for beam and block flooring systems, as well as above the ground in the walling applications listed.

Celcon Blocks, Standard Grade are BBA certified and available in thicknesses from 75mm up to 355mm. Due to its all round performance, it is possible for 100mm Standard Grade Block to be used throughout a build – in floors and all walls eliminating any site confusion.

Applications

- Internal and external leaf of cavity walls
- Solid walls
- Separating walls
- Partitions
- Multi-storey buildings
- Foundations
- Beam and Block floors
- Flanking walls

Celcon Block Standard Grade



High Strength and Super Strength Grade

High Strength Grade and Super Strength Grade are used principally where higher compressive strengths are required such as in the foundations and lower storeys of three and four storey buildings, piers under high vertical loads and in multi-storey buildings.

Higher strength grades are available in compressive strengths of 7.3N/mm² and 8.7N/mm² and in thicknesses from 100mm to 355mm (Super Strength up to 150mm). They are third party accredited under BBA and certified for use in the applications listed.

Applications

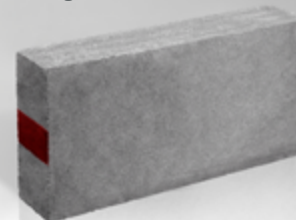
- Internal and external leaf of cavity walls
- Solid walls
- Separating walls
- Flanking walls
- Partitions
- Multi-storey buildings
- Foundations
- Beam and shock floors



High Strength Grade



Super Strength Grade



Coursing Units

Coursing units are produced from the same material and are suitable for all the same applications as conventional size Celcon Blocks, allowing consistency within the building fabric.

They are suitable for use both externally and internally in load-bearing and non load-bearing situations.

Load-bearing walls should not be constructed of Coursing Units as the only masonry unit.

Applications

- Protect against cold bridging
- Infill above doors and windows
- Coursing at floor and ceiling level
- Making up between joists

Coursing Units



Face size	Coursing Units 215mm x 65mm		
Unit Thickness (mm)	100	140	150
Standard Coursing Unit Weight (kg) [†]	1.1	1.5	1.6
High Strength Coursing Unit Weight (kg) [†]	1.4	2.0	2.2
Super Strength Coursing Unit Weight (kg) [†]	1.4	2.0	2.2

	Standard Grade	High Strength Grade	Super Strength Grade
Compressive Strength	3.6N/mm ²	7.3N/mm ²	8.7N/mm ²

[†] Block weights at typical moisture content when laid. (Some manufacturers may quote weights which have not allowed for this.)

All shaded areas indicate that the product is a stock item. Other sizes can be made to order subject to minimum quantities.



Celcon Plus Blocks

Celcon Plus Blocks are 630mm long and provide an alternative to the 440 x 215mm face format block and are suitable for similar applications (see below).

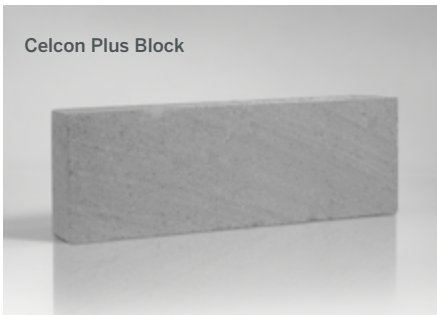
This range is produced using the latest manufacturing technology which rank them amongst the most dimensionally accurate blocks available.

Celcon Plus Blocks are available in Solar Grade 2.9N/mm², Standard Grade 3.6N/mm², High Strength Grade 7.3N/mm² and Super Strength Grade 8.7N/mm².

Applications

- Internal and external leaf of cavity walls
- Solid walls
- Separating walls (except Solar Grade)
- Flanking walls
- Partitions
- Multi-storey buildings
- Foundations

Celcon Plus Block



Face size	Celcon Plus Blocks 630mm x 215mm				
Block Thickness (mm)	100	140	150	200	215
Solar Grade Weight (kg) [†]	8	11	12	16	17
Standard Grade Weight (kg) [†]	10	14	15	20	-
High Strength Grade Weight (kg) [†]	12	17	18	24	-
Super Strength Grade Weight (kg) [†]	12	17	18	24	-

	Solar Grade	Standard Grade	High Strength Grade	Super Strength Grade
Compressive Strength	2.9N/mm ²	3.6N/mm ²	7.3N/mm ²	8.7N/mm ²
Thermal Conductivity	0.11 W/mK	0.15 W/mK	0.18 W/mK	0.18 W/mK
Density	460 kg/m ³	600 kg/m ³	730 kg/m ³	730 kg/m ³

[†] Block weights at typical moisture content when laid. (Some manufacturers may quote weights which have not allowed for this.)

24: Numbers in **Bold** Type indicate that the product is above Single person repetitive manual handling limits.

All shaded areas indicate that the product is a stock item. Other sizes can be made to order subject to minimum quantities.



Jumbo Bloks

H+H Jumbo Bloks offer beneficial productivity, with as few as 6.3 blocks completing 1m² of walling. Their use with thin layer construction enhances the speed of build on site.

Applications

- Internal and external leaf of cavity walls
- Separating walls (except Solar Grade)
- Flanking walls
- Partitions
- Multi-storey buildings

Jumbo Blok



Face size	Jumbo Bloks 630mm x 250mm	
Block Thickness (mm)	100	140
Solar Grade Weight (kg) [†]	9	13
Standard Grade Weight (kg) [†]	12	17
High Strength Grade Weight (kg) [†]	14	20
Super Strength Grade Weight (kg) [†]	14	20

	Solar Grade	Standard Grade	High Strength Grade	Super Strength Grade
Compressive Strength	2.9N/mm ²	3.6N/mm ²	7.3N/mm ²	8.7N/mm ²
Thermal Conductivity	0.11 W/mK	0.15 W/mK	0.18 W/mK	0.18 W/mK
Density	460 kg/m ³	600 kg/m ³	730 kg/m ³	730 kg/m ³

[†] Block weights at typical moisture content when laid. (Some manufacturers may quote weights which have not allowed for this.)

All shaded areas indicate that the product is a stock item. Other sizes can be made to order subject to minimum quantities.



Vertical Wall Panels

Celcon Vertical Wall Panels are a new generation of mechanically handled aircrete product that builds on the efficiency of thin-layer construction. These products offer all the benefits of aircrete material with proven site productivity.

Developed to enhance the key benefits of our thin-joint system; speed and quality of build with reduced waste, H+H Celcon Vertical Wall Panels offer all the attributes of aircrete as a building material whilst offering additional value to the project.

Celcon Vertical Wall Panels are made to extremely tight manufacturing dimensional tolerances, supplied specifically for use with a combination of ancillary products and bonded using H+H's proprietary element mortar to provide a nominal 3mm joint. This ensures a quality and quick build with little or no site wastage.

Celcon Vertical Wall Panels are sold as a package including most materials required to build the walls and priced accordingly.

Dimensions (mm) (LxHxT)	600 x 2325 x 100
Compressive Strength	4.0N/mm ²
Thermal Conductivity	0.17 W/mK
Density	575 kg/m ³



Benefits

- Excellent thermal insulation
- Excellent fire resistance
- Strong
- Good Thermal Mass
- Airtight
- Excellent Sound insulation
- Robust and Durable
- Lightweight
- Sustainable
- User friendly
- Design flexibility

Applications

- Internal leaf of cavity walls
- Separating walls
- Partitions



ACCEPTS
REVIEWED
SYSTEM





Our blocks are designed to be used in both traditional and specific Modern Methods of Construction to increase the efficiency of the building process and enhance the performance of the finished project.

Application

Below Ground

Heat loss from ground floors is most critical at their perimeter. H+H's range of Foundation Blocks can significantly improve thermal performance and reduce heat loss when used below ground level.

H+H Foundation Blocks are available in a range of thicknesses designed for the foundation walls, from concrete footings up. They are equally suitable for the support of cavity walls, solid walls and timber-framed construction.

H+H Foundation Blocks will reduce additional insulation; trenches can be back filled as soon as installation is complete, usually the same day.

The raw materials used in the production of Celcon Foundation Blocks give them their excellent resistance to sulfate attack and frost damage, thus making them ideal for use below ground in soil conditions unsuitable for many other types of masonry.

BBA appraisal includes assessment of the resistance of the Celcon Blocks to the freeze/thaw conditions likely to occur below ground level.

Celcon Foundation Blocks are easy to handle, have third party accreditation from the British Board of Agrément (BBA) and are also deemed suitable for use by the NHBC.

Foundation Blocks

- One Celcon Foundation Block replaces two 100mm concrete blocks
- Trenches can be back filled as soon as installation is complete
- Impressive load-bearing capabilities can be achieved for multi-storey buildings
- Weigh a third of an equivalent dense aggregate block
- No cavity ties required or concrete fill in the cavity
- No need to mortar perp joints – blocks can be dry butted



External Walls

External walls can be built using either cavity or solid construction, with each having distinct advantages in specific situations.

Solid Walls

Solid walls are a very fast and effective solution for wall construction, which is rapidly gaining popularity. H+H aircrete's close cell structure results in excellent resistance to water penetration and easily meets the requirements of Part C of the Building Regulations.

In solid wall construction H+H aircrete can be used with a variety of external finishes such as render, brick slips and cladding systems. Additional insulation can be added by the use of proprietary insulated systems and/or insulated plaster board.

Cavity Walls

In a cavity external wall construction each leaf fulfills specific requirements. The external leaf protects the structure from the penetration of moisture whilst the inner leaf provides the main structural support of the building. The overall wall construction must also meet the thermal requirements of the Building Regulations.

The combination of H+H aircrete's moisture resistance, strength and thermal insulation performance means they can be used for

both the internal and the external (with appropriate finish) leaves of a cavity wall. This provides the designer with a wide choice of solutions using H+H products for most types of building, from residential and commercial to industrial walls are value engineered and free from technical risk.



Flooring

H+H aircrete is ideally suited as an infill for beam and block flooring systems.

Beam and block floors constructed using Celcon Blocks are lightweight, easy, quick and safe to lay and provide a significant contribution to energy conservation due to their inherent thermal properties.

When used as a floorblock 100mm Celcon Blocks are recommended for infill. Celcon Blocks Standard and High Strength Grade 440 x 215mm aircrete is covered by a BBA

certificate for use as infill in beam and block floors.

In addition, Celcon Block Super Strength Grade can also be used successfully as floorblocks within the beam and block system.

When used as floorblocks, Celcon Blocks will also further improve thermal insulation in conjunction with H+H Foundation Blocks.



Internal Walls

H+H aircrete is ideal for use in partitions between rooms and for separating walls between flats, apartments and houses.

Separating Walls and associated Flanking Walls

H+H aircrete has excellent sound insulation properties and is suitable for the construction of separating walls and their associated flanking walls, allowing continued use of familiar construction methods.

Solutions meeting the requirements of Part E of the Building Regulations are available using either Pre Completion Testing (PCT) or the Robust Detail (RD) methods of compliance for both houses and flats or apartments.

Internal Partition Walls

H+H aircrete is ideally suited for the construction of both loadbearing and non-loadbearing internal walls. Using H+H products creates a more robust partition, adding overall rigidity to the structure making it less prone to damage and easier to fix to than studwork.

Due to the lightweight nature of H+H aircrete, timber joists can support partitions constructed from aircrete. The joists must be properly designed and sized to suit the span and loading. Steel or concrete beams, concrete floors or

beam and block floors can also support aircrete partitions.

H+H aircrete partitions easily meet the sound insulation requirements of current Building Regulations.



Celfix Mortar

With an initial bond time of around 15 minutes, storey height panels of masonry can be achieved in one lift and structurally loaded within 1-2 hours.

Celfix is supplied by H+H, dry in 25kg bags and should be added to water (approx. 4.5 litres per bag). Applied with either a scoop or sledge to maintain a consistent joint thickness of 2mm, it remains workable within the bucket for several hours.

When working in winter conditions, it is possible to lay Celfix mortar in temperatures of 0°C and rising.

Applications

- Cavity walls (internal and external leaf)
- Solid walls
- Partition walls
- Separating walls
- Flanking walls
- Multi-storey buildings

Celfix Mortar Approximate yield per 25kg bag – 2mm joints

Block Thickness (mm)*		100	140
Plus Block 630 x 215mm (7.29 blocks/m² laid)	m² blockwork	6.86	4.90
	No. of blocks	50.0	35.7
Jumbo Block 630 x 250mm (6.28 blocks/m² laid)	m² blockwork	7.65	5.46
	No. of blocks	48.0	34.2

* Representative sample of block sizes only. Please note that these figures are based on experience of 'typical' yield figures for a single bag of 25kg Celfix when constructing Thin-Joint blockwork on site. These yields will vary with site requirements and operative technique or ability.

Traditional Mortar System

As a general rule, cement: lime: sand mortars give a stronger bond than plasticised mortars of a similar compressive strength

Mortar designation (M4) is the strongest that should be used with traditional block-work above DPC level and is generally suitable, provided structural considerations do not demand a stronger mix and the masonry is protected during construction from saturation and freezing.

Below DPC level, mortars of designation (M6) (1½:4 cement: lime: sand) particularly where there is a risk of freeze/thaw, or (M4) may be used, according to soil conditions.

Recommended Mortar Types			
Type of Mortar	Mortar Strength		
	Proportion by volume	Designation	Class
Celfix (thin layer) Mortar	-	-	M10
Cement:lime:sand	1:½:4*	(ii)*	M6*
Cement:lime:sand	1:1:6	(iii)	M4
Cement:sand with plasticiser	1:6	(iii)	M4
Masonry cement:sand	1:5	(iii)	M4

* For use below DPC

Note: H+H does not supply materials required to create traditional mortar



Thin-joint System

H+H aircrete products can be bonded using either traditional mortar or by using Celfix mortar, provided by H+H, ideally suited to the Thin-Joint System.

The H+H Thin-Joint System combines the range of high quality accurately dimensioned aircrete Jumbo Bloks and other formats, with Celfix, a specially developed thin layer mortar.

A classified Modern Method of Construction (MMC), this well-established BBA approved system utilises the fast setting Celfix mortar. Celfix allows a building to be constructed faster and to a better quality, with follow-on trades able to start work sooner in a weatherproof environment.

Quality

The improvements in build quality gained from the use of the Thin-Joint System are:

- Improved thermal performance
- Improved stability during construction
- Improved build accuracy of finished walls
- Reduction of site wastage
- Cleaner cavities

Speed

The Thin-Joint System allows construction times equivalent to off-site system-build solutions, without their associated lead times.

Flexibility

As with traditional building methods, the construction is carried out on site. This allows the builder to overcome problems which may have been overlooked or changed since the design stage and simplifies modifications to the building should it need to be extended or adapted to suit future lifestyles.

Benefits

- Fast setting mortar
- No mortar 'swimming' allowing continuous laying
- Ease of mixing and laying mortar
- Dimensionally highly accurate blocks
- First fix trades can be brought forward
- Larger block formats used

Applications

- Cavity walls (internal and external leaf)
- Solid walls
- Partition walls
- Separating walls
- Flanking walls
- Multi-storey buildings



H+H aircrete is a versatile, light and easy to use product used in the building industry from foundations to internal walls.

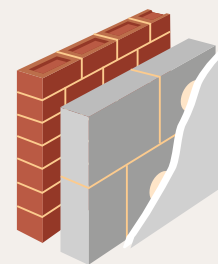


Solutions

Simple Solutions to Building Regulations (Sound)

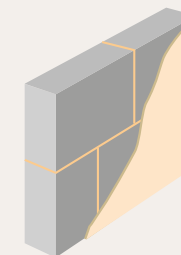
H+H UK products can easily achieve the requirements of National Building Regulations for England and Wales.

Excellent sound insulation qualities, which allow continued use of familiar construction methods with only minimal modifications to achieve the regulations for internal walls, floors and separating (party) walls and flanking walls.



Flanking Wall

100mm Any Celcon Block
Any finish



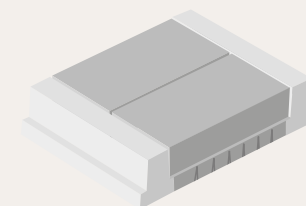
Internal Partition Wall

100mm Celcon Block Standard Grade
Any finish ($R_w = 40\text{dB}$)



Separating Wall

See Pages 23



Internal Beam and Block Floor

Minimum 40mm screed (sand/cement)
100mm Celcon Block Standard Grade 440 x 215mm
12.5mm plasterboard ceiling ($R_w = 40\text{dB}$)

Robust details for acoustic performance

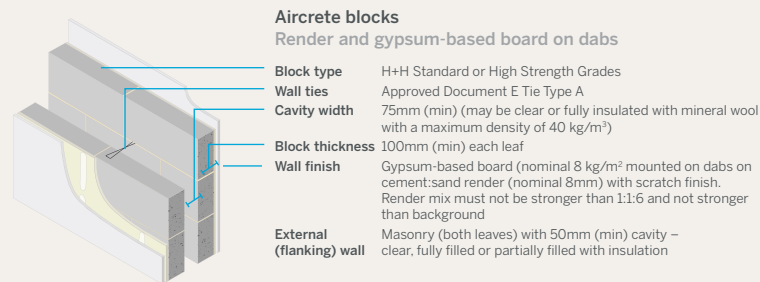
What is a robust detail? A Robust Detail, for Part E of Building Regulations, is a separating wall or floor construction which has been assessed and approved by Robust Details Limited (RDL).

In order to be approved, each Robust Detail must:

- Be capable of consistently exceeding the performance standards given in Approved Document E to the Building Regulations for England and Wales
- Be practicable to build
- Be reasonably tolerant to workmanship

Robust Detail designs are pre-tested to higher standards than those required by Approved Document E of the Building Regulations before being approved by Robust Details Limited (RDL). Therefore, if you register your build with RDL and build in compliance with Robust Details, you won't have to carry out pre-completion sound testing.

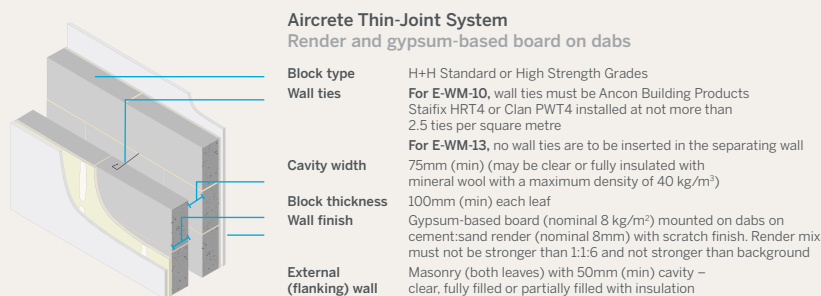
E-WM-6 Separating Wall – Cavity Masonry



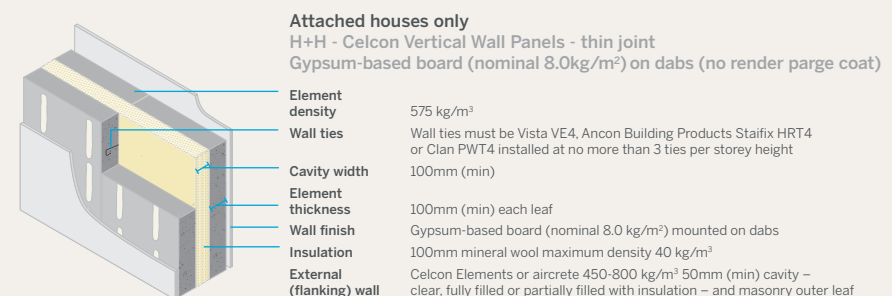
E-WM-23 + 24 + 30 + 35 Separating Wall – (traditional or thin joint)



E-WM-10 & 13 Separating Wall – Cavity Masonry (thin joint)



E-WM-31 Separating Wall – Celcon Vertical Wall Panels 100mm (min)



Note: All RDL Information provided here is accurate at the time of going to press. For details of any changes and to keep up to date with current assessments, visit www.robustdetails.com

Simple Solutions to Building Regulations (Structure)

Guidance for block strengths suitable for low rise housing is given in Approved Document A to the Building Regulations (England and Wales), the Small Buildings Structural Guidance document for the Building (Scotland) Regulations and BS 8103-2.

These documents give simple rules and guidance on block strength requirement based on various criteria including limiting dimensions for wall heights, lengths, openings and floor/roof spans.

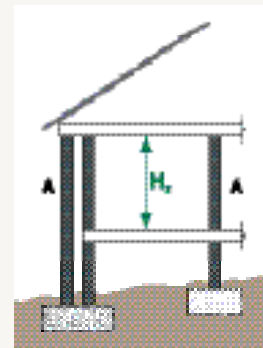
The structural requirements are summarised here. It should be remembered that structural calculations can still be carried out, which may lead to more economical solutions.



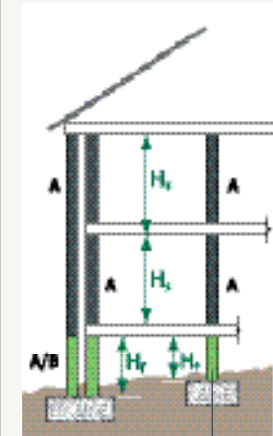
Declared Compressive Strength of H+H Products

	Solar Grade	Standard Grade	High Strength Grade	Super Strength Grade
BS EN 771-4	2.9N/mm ²	3.6N/mm ²	7.3N/mm ²	8.7N/mm ²

Single Storey

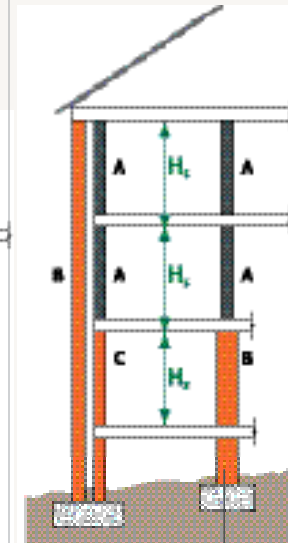


Two Storey



This wall to be at least 140mm thick in blockwork below ground floor level if height H_s is more than 1m

Three Storey



This wall to be at least 140mm thick blockwork

Notes

1. If H_s is not more than 2.7m, the compressive strength of blocks used in the wall should be as indicated by the key.
2. If H_s is more than 2.7m, the compressive strength of blocks used in the wall should be at least Condition B, or as indicated by the key whichever is greater.
3. If the external wall is solid construction, the blocks should have a compressive strength of at least that shown for the internal leaf of a cavity wall in the same position.
4. Timber roof construction, 12m max span.
5. Timber or concrete floor, 6m max span.
6. Wall lengths 12m max.

This diagram is taken from Figure 12 and Table 5 of BS 8103-2


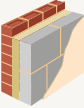


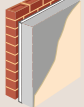
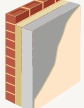
Key: Min Strength

- A** 2.9N/mm² where H_s is 2.7m max
- A/B** H_s less than or equal to 1m – 2.9N/mm²
 H_s greater than 1m – 7.3N/mm²
- B** 7.3N/mm²
- C** 7.3N/mm²

Simple Solutions to Building Regulations (Thermal)

H+H products' high thermal performance allows cost effective solutions to meet the current and increasingly stringent future requirements of Part L of the Building Regulations (England and Wales) and Section 6 of the Technical Handbook to the Building (Scotland) Regulations.

Below are just a small sample of the wall solutions available with H+H aircrete blocks.

	0.25W/m ² K	0.22W/m ² K	0.20W/m ² K	0.18W/m ² K	0.15W/m ² K	0.13W/m ² K
 Partial Fill Cavity Brick outer leaf Clear cavity	50mm Kingspan TW50 100mm Standard Grade Plasterboard on dabs 0.25W/m²K	65mm Kingspan TW50 100mm Standard Grade Plasterboard on dabs 0.22W/m²K	70mm Kingspan TW50 100mm Standard Grade Plasterboard on dabs 0.20W/m²K	90mm Kingspan TW50 100mm Standard Grade Any finish* 0.18W/m²K	100mm Kingspan K8 100mm Standard Grade Lightweight Plaster 0.15W/m²K	120mm Kingspan TW50 100mm Standard Grade Any finish* 0.13W/m²K
 Fully Filled Cavity Brick outer leaf	100mm Dritherm 32 100mm Standard Grade Plasterboard on dabs 0.25W/m²K	125mm Dritherm 34 100mm Standard Grade Any finish* 0.22W/m²K	125mm Dritherm 32 100mm Standard Grade Plasterboard on dabs 0.20W/m²K	150mm Dritherm 32 100mm Standard Grade Any finish* 0.18W/m²K	120mm Unilin Cavity Therm 100mm Standard Grade Any finish* 0.15W/m²K	145mm Unilin Cavity Therm 100mm Standard Grade Any finish* 0.13W/m²K
 Solid Wall – Internal Insulation Render finish	215mm Standard Grade 62.5mm Kingspan K118 0.25W/m²K	215mm Standard Grade 72.5mm Kingspan K118 0.22W/m²K	215mm Standard Grade 82.5mm Kingspan K118 0.20W/m²K	215mm Standard Grade 92.5mm Kingspan K118 0.18W/m²K	70mm Kingspan K5 215mm Standard Grade 52.5mm Kingspan K118 0.15W/m²K	70mm Kingspan K5 215mm Standard Grade 62.5mm Kingspan K118 0.13W/m²K
 Solid Wall – External Insulation Render finish	100mm EPS White OR 55mm Kingspan K5 215mm Standard Grade Any finish* 0.25W/m²K	120mm EPS White OR 65mm Kingspan K5 215mm Standard Grade Any finish* 0.22W/m²K	140mm EPS White OR 75mm Kingspan K5 215mm Standard Grade Any finish* 0.20W/m²K	160mm EPS White OR 85mm Kingspan K5 215mm Standard Grade Any finish* 0.18W/m²K	200mm EPS White OR 110mm Kingspan K5 215mm Standard Grade Any finish* 0.15W/m²K	170mm EPS White OR 100mm Kingspan K5 215mm Standard Grade 42.5mm Kingspan K118 0.13W/m²K
 Partial Fill Cavity Brick outer leaf Clear cavity	50mm Kingspan TW50 100mm H+H Vertical Panels Plasterboard on dabs 0.25W/m²K	60mm Kingspan TW50 100mm H+H Vertical Panels Plasterboard on dabs 0.22W/m²K	70mm Kingspan TW50 100mm H+H Vertical Panels Plasterboard on dabs 0.20W/m²K	90mm Kingspan TW50 100mm H+H Vertical Panels Any finish* 0.18W/m²K	100mm Kingspan K108 100mm H+H Vertical Panels Any finish* 0.15W/m²K	120mm Kingspan K108 100mm H+H Vertical Panels Any finish* 0.13W/m²K
 Fully Filled Cavity Brick outer leaf	100mm Dritherm 32 100mm H+H Vertical Panels Any finish* 0.25W/m²K	125mm Dritherm 37 100mm H+H Vertical Panels Plasterboard on dabs 0.22W/m²K	125mm Dritherm 32 100mm H+H Vertical Panels Any finish* 0.20W/m²K	100mm Unilin CavityTherm CT-PIR 100mm H+H Vertical Panels Plasterboard on dabs 0.18W/m²K	100mm Unilin CavityTherm CT-PIR 100mm H+H Vertical Panels 40mm Thermaline Plus on dabs 0.15W/m²K	100mm Unilin Cavity Therm CT-PIR 100mm H+H Vertical Panels 63mm Thermaline PIR on dabs 0.13W/m²K

Extensions

For extensions to existing dwellings 0.18W/m²K would be appropriate for England, 0.17W/m²K for Scotland and 0.18W/m²K for Wales.

* Any internal finish assumes dense plaster as worst case. Lightweight plaster or Plasterboard on dabs may also be used.

Above U-values are not exhaustive, please contact our Technical Department for other constructions or grades of block not shown.

H+H UK Ltd operate throughout England, Scotland and Wales. Working closely with our transport partner, supply is maintained to the highest standards and journeys are minimised to save emissions. Aircrete is supplied on pallets, depending on the product and our pallet recycling scheme has now been in operation since 2009.



Packs & Haulage

Product Marking

The product marking on packs includes the requirements under the Construction Products Regulation (CPR). A UKCA mark is applied to all packs, together with details of each product and a web address with access to the relevant Declaration of Performance (DoP).

See www.hhcelcon.co.uk/CPR

Packaging Layout

The layout of the updated product marking is shown below:

The key areas are:

- CPR web address
- Factory, Year, Day, and Time (coded as shown opposite)
- Product Strength
- Product Name
- Product Thickness

Q = Factory Identifier	B = Borough Green P = Pollington I Q = Pollington II
5 = Year Identifier	5 = 2025 6 = 2026 7 = 2027 etc.
178 = Day number	A spreadsheet giving the date from the day number is available if required
18.38 =	Time of Day

3.6N Standard 100

Code SRC100 Q5 178 18:38
 Block wt = 7kg m²/pack 10
 UK see hhcelcon.co.uk/CPR

CDM Regulations

The Health and Safety Executive (HSE) deals with all aspects of construction work in Great Britain. Construction is Britain's biggest industry and one of its most dangerous. The HSE has an initiative to improve health and safety standards during all construction work. This includes ensuring that building sites are adhering to safety procedure such as manual handling.

Handling of blocks should be undertaken in accordance with guidance given in HSE Construction Information sheet CIS77 'Preventing injury from handling heavy blocks' and in accordance with the Manual Handling Operation Regulations 1992 (as amended).

Block Weights

Although no specific weight limits are given in legislation, the now withdrawn CONIAC Construction sheet 37 suggests that repetitive handling of blocks over 20kg can increase risk of injury, therefore when designing or specifying blocks, the lightest block that fulfills the performance criteria should be chosen.

Most H+H blocks will fall well below this limit. Block weights can be found on individual product pages within this guide, see pages 7 to 13.

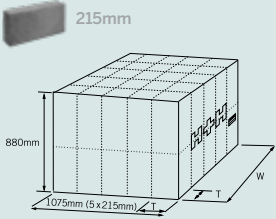
Aircrete Solutions

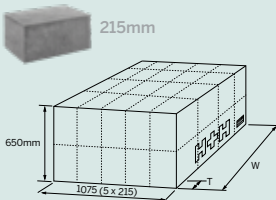
The cellular structure of aircrete ensures a product that is both strong and lightweight, thus providing significant productivity and health and safety advantages.



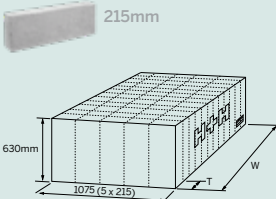
Pack Information

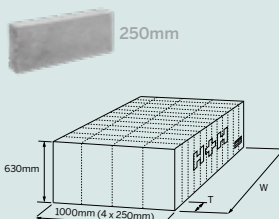
1200mm pallet size

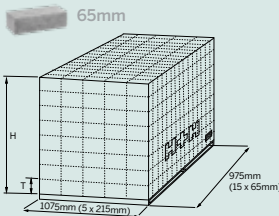
Celcon Blocks and Celcon Foundation Blocks (440mm x 215mm)	Block Thickness (mm) = T	75	100	140	150	200	215	275	300	355
		Blocks/m ² laid 9.88 (10mm joints)								
	Coverage per pack (m ²)	16.2	12.2	8.1	8.1	6.1	5.1	4.1	4.1	3.0
	Number of blocks per pack	160	120	80	80	60	50	40	40	30
	Pack width (mm) = W	1200	1200	1120	1200	1200	1075	1100	1200	1065
	Pack weight – Solar Grade (kg)*	-	660	615	-	-	590	-	-	-
	Pack weight – Standard Grade (kg)*	875	875	815	875	875	785	800	875	775
	Pack weight – High Strength (kg)*	-	1175	1095	1175	1175	1055	1075	1175	1045

Celcon Foundation Blocks (300mm x 215mm)	Block Thickness (mm) = T	75	100	140	150	200	215	275	300	355
		Blocks/m ² laid 13.27 (10mm joints) T = 325mm								
	Coverage per pack (m ²) – 10mm joint	-	-	-	-	-	-	2.8	-	-
	Number of blocks per pack	-	-	-	-	-	-	40	-	-
	Pack width (mm) = W	-	-	-	-	-	-	1075	-	-
	Pack weight – Standard Grade (kg)*	-	-	-	-	-	-	640	-	-
	Pack weight – High Strength/Super Strength (kg)*	-	-	-	-	-	-	740	-	-

 Note: These blocks may be laid 300mm thick giving a coverage per pack of 3.0m²

Celcon Plus Blocks (630mm x 215mm)	Block Thickness (mm) = T	75	100	140	150	200	215	275	300	355
		Blocks/m ² laid 6.94 (10mm joints) 7.29 (2mm joints)								
	Coverage per pack (m ²) – 10mm joint	-	8.6	5.8	5.8	4.3	-	-	-	-
	Coverage per pack (m ²) – 2mm joint	-	8.2	5.5	5.5	4.1	-	-	-	-
	Number of blocks per pack	-	60	40	40	30	-	-	-	-
	Pack width (mm) = W	-	1200	1120	1200	1200	-	-	-	-
	Pack weight – Solar Grade (kg)*	-	470	440	470	470	-	-	-	-
	Pack weight – Standard Grade (kg)*	-	620	575	620	620	-	-	-	-
	Pack weight – High Strength/Super Strength (kg)*	-	720	670	720	720	-	-	-	-

Jumbo Bloks (630mm x 250mm)	Block Thickness (mm) = T	75	100	140	150	200	215	275	300	355
		Blocks/m ² laid 6.28 (2mm joints)								
	Coverage per pack (m ²) – 2mm joint	-	7.6	5.1	-	-	-	-	-	-
	Number of blocks per pack	-	48	32	-	-	-	-	-	-
	Pack width (mm) = W	-	1200	1120	-	-	-	-	-	-
	Pack weight – Solar Grade (kg)*	-	440	410	-	-	-	-	-	-
	Pack weight – Standard Grade (kg)*	-	575	535	-	-	-	-	-	-
	Pack weight – High Strength/Super Strength (kg)*	-	670	625	-	-	-	-	-	-

Celcon Coursing Units (215mm x 65mm)	Block Thickness (mm) = T	75	100	140	150	200	215	275	300	355
		Blocks/m ² laid 10.1 (10mm joints) 8.7 (2mm joints)								
	Coverage per pack (m ²) – 10mm joint	-	10.1	5.1	5.1	-	-	-	-	-
	Coverage per pack (m ²) – 2mm joint	-	8.7	4.4	4.4	-	-	-	-	-
	Number of blocks per pack	-	600	300	300	-	-	-	-	-
	Pack height (mm) = H	-	800	560	600	-	-	-	-	-
	Pack weight – Standard Grade (kg)*	-	645	455	485	-	-	-	-	-
	Pack weight – High Strength/Super Strength (kg)*	-	870	610	650	-	-	-	-	-

* Pack weight excludes pallet

Haulage Details

At H+H we predominantly use articulated flatbed vehicles to move and manage our product deliveries.

The size of an H+H delivery is dependent on:

- Quantities ordered
- The product ordered
- The vehicle it is delivered on

To help gain maximum benefit we ask that when placing an order you simply request a full load.

Commercial Benefits

- Fewer drops at site
- Less yard time lost
- Less paperwork
- More time for dealing with customers

And its good for the environment

- Less vehicles clogging up the road
- Lower CO₂ emissions
- Less noise for the branch /site neighbours

A pallet collection service is available. Phone 0800 282488 to arrange. Collections require a minimum of 50 pallets from any supplier, not just pallets provided by H+H UK Ltd.

General Service Charter Haulage Conditions

- Load sizes are based on fully loaded articulated vehicles with a gross capacity of 44 tonnes.
- A level and firm hard standing must be available to receive deliveries. Pallets if required (and have not been requested on the delivery) should already be laid out.
- Waiting Time – The first hour on site or at merchant yard will not usually incur a waiting time penalty, but there will be a charge of £70 once the hour is exceeded. Should time on site or at the merchant yard exceed 2 hours in total the waiting charge will be £300.
- Prices quoted are based on full artic flat or artic crane loads delivered to mainland UK or mainland ports only, these will be delivered free of additional charge, subject to Waiting Time above.
- Incomplete loads will incur a charge for each pack less than full load capacity. The charge is £25 per pack within standard delivery area and £40 per pack outside the standard delivery area with a minimum charge of £125 and an extended lead-time for delivery.
- Rigid vehicles are only available in restricted areas at an additional charge of £500 and a maximum 20 working days' lead-time for delivery following receipt of order.
- Split loads are available at a charge of £150 per load within a 10 mile radius (ordered by a builders' merchant for delivery part to site and remainder to the Merchants yard) if over 10 miles apart additional charges will apply.
- Draw-Bar vehicles are available at an additional charge of £75 and may be subject to an extended leadtime.
- Dropping a trailer from a draw bar and making multiple drops from the rigid wagon can be arranged for a fee plus any waiting time per c) above. Please contact our Delivery & Service Team for a quotation.
- Cancellations made later than 24 hrs prior to dispatch or once the vehicle has been loaded will be subject to a restocking charge of 20% of the invoice value and cost of haulage already incurred if appropriate.
- Refusal on Delivery will be charged at cost of transport, restocking charges, plus unloading and reloading if applicable.
- A diversion charge, at cost of transport, will be payable should an order be diverted or returned before or upon arrival onsite or at the depot.
- Credit for returned goods will only be made once resalable product has been returned and the cost of haulage is paid.
- If a driver is requested to park outside a site due to lack of space and a parking ticket is enforced, the charge will be forwarded to the customer for reimbursement.
- Due to the ever-changing compliance requirements of vehicles entering the ULEZ postcodes, all deliveries into this area will attract a surcharge of £15.
- Deliveries to the Isle of Wight will incur an additional charge to cover the ferry cost and may be subject to an extended lead-time.

Site Completions

- Each site (where we have delivered full loads) for the purpose of site completion will be allowed one incomplete load at no additional charge, with an extended lead-time for delivery.

Deliveries

- Our normal delivery hours are between 8am and 4pm. Other times can be arranged by agreement.
- Notice of delivery will be given.
- Full loads of stocked product delivered on articulated vehicles will be made within 10 working days after receipt of order subject to market conditions and product availability.

Pallet Information

Pallets are available at a cost of £5 each.



For further information and to check our most up-to-date product range, or to find your nearest stocking merchant, please visit our website or contact the following departments:

Sales

For sales enquiries or to find your local stockist please contact:
Tel: 01732 886444

Technical

For technical enquiries please contact:
Tel: 01732 880580
Email: technical.services@hplush.com

Head Office

H+H UK Limited
Celcon House, Ightham, Sevenoaks
Kent TN15 9HZ
Tel: 01732 886333
Email: info.uk@hplush.com

www.hhcelcon.co.uk



H+H UK will always endeavour to reflect our product range and technical information as accurately as possible. We may however, need to update both from time to time during the life of this brochure. Please check with either our Sales or Technical departments to obtain the latest information prior to specification and purchase.

