Application of Aircrete Blocks
<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>To provide the specifier with a greater understanding of aircrete blocks:</td>
</tr>
<tr>
<td>• Properties</td>
</tr>
<tr>
<td>• Capabilities</td>
</tr>
<tr>
<td>• Applications</td>
</tr>
<tr>
<td>• Benefits</td>
</tr>
</tbody>
</table>
History of Aircrete

- Developed in Sweden in 1924
- Floor and roof screed in 1949
- Aircrete blocks first used in late 1950’s
- Over 225 manufacturing plants worldwide: Europe, Asia, Middle East, Africa, America and Australia
- These plants produce over 30 million m³ of material per year

Overview: A brief explanation of the technical development of Aircrete

History of how Aircrete was developed as blocks.
  - developed as an alternative to building with timber

Figures show the success of Aircrete blocks throughout the World. 30 million cube = 30 bn 100mm blocks
<table>
<thead>
<tr>
<th>UK Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Used by major housebuilders throughout the country</td>
</tr>
<tr>
<td>• Aircrete block sales are approx. 2.9 million m³ per annum</td>
</tr>
<tr>
<td>• Aircrete accounts for approx. 1/3 of all concrete blocks used in the UK</td>
</tr>
</tbody>
</table>

Emphasize the success of aircrete blocks in the UK market.
Brief explanation of the production process I.e. Ingredients, mixing, cooking, cutting process and packaging.

• Mix Pulverised fuel ash (PFA) and/or sand* with water to form a slurry. (*Sand is ground at Westbury)
• Slurry is heated and mixed with Cement & lime.
• Add a small quantity of aluminium powder.
• Pour into moulds and is left to set for 30-40 minutes
• Quality check.
• Hydrogen causes the mix to bubble up to full density.
• Quality check
• Tip slab from the mould* (temp is about 60°C. Slab is also self supporting)
  *Boro Green only (sides of mould removed in Pollington & Westbury)
• Cut slab into block size and remove top and sides
• Into autoclave for approx 9-12 hours at 200°C and 200 psi
• Quality check and trim off the bottom of the slab.
• Wrap and strap. Note the batch number on the wrapper.

LEAVE STANDING 24Hrs BEFOR USE.
Generic benefits of Aircrete. These features are true for all products in the range

Highlight the good performance of the blocks in each of these points

Many product features are due to composition of product eg. cellular structure

**Emphasis on:**

**Lightweight** - The cellular structure of the material ensures a lightweight construction. During installation, most aircrete blocks can be lifted with one hand providing significant productivity advantages.

**Workability** - I.e. cutting & chasing using hand tools

NB, Resistant to sulfate attack up to and including Class 4 soil conditions
# Properties of Aircrete Blocks

<table>
<thead>
<tr>
<th>Properties</th>
<th>Low Density</th>
<th>Medium Density</th>
<th>High Density</th>
<th>High Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness (mm)</td>
<td>100 - 265</td>
<td>75 - 355</td>
<td>90 - 355</td>
<td>90 - 355</td>
</tr>
<tr>
<td>Compressive Strength (N/mm²)</td>
<td>2.8 3.5#</td>
<td>4.0 7.0</td>
<td>8.4*</td>
<td></td>
</tr>
<tr>
<td>Density (kg/m³)</td>
<td>460</td>
<td>620</td>
<td>750</td>
<td>750</td>
</tr>
<tr>
<td>Thermal Conductivity (W/mK)</td>
<td>0.11</td>
<td>0.15</td>
<td>0.19</td>
<td>0.19</td>
</tr>
</tbody>
</table>

3.5N Dense block: Thermal Conductivity 0.47
7.0N Dense block: Thermal Conductivity 1.06

* Equivalent to 10N/mm² (Exclusive to Celcon)
# Made to order product only

Chart to show the comparison between types of aircrete block

Table shows that the higher the compressive strength, the less thermally efficient the blocks are.

The figures below the chart show the thermal performance of dense blocks. The poor performance compared to aircrete needs to be highlighted (with the greater need for thicker insulation to meet Regs).

Emphasize the Made to order only of Solar 3.5N blocks and that the 8.4 is an exclusive product to Celcon
### Identification

<table>
<thead>
<tr>
<th>SOLAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>The V-key covers approx. 2/3 of the block face.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The V-key covers the block face completely</td>
</tr>
</tbody>
</table>

Each manufacturer has its own way of identifying their blocks, this shows how we identify ours.
Each manufacturer has its own way of identifying their blocks, this shows how we identify ours.
### Relevant Design Criteria

- **Strength**
- **Thermal Efficiency**
- **Price**
- **Durability**
- **Buildability**
- **Fixing**
- **Manual Handling**

Highlighting the key factors that may effect the choice of product/construction method.

**NB, Strength:** Could also mention the load bearing capabilities of the base.

**Thermal Efficiency:** Well insulated walls leads to greater energy efficiency within the building eg reduction in fuel costs, smaller boiler can be specified.

**Price:** Not just material costs, but also laid costs

**Manual Handling:** Majority of blocks fall below 20kg recommendation for repetitive lift.
<table>
<thead>
<tr>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Below Ground</td>
</tr>
<tr>
<td>• Floors</td>
</tr>
<tr>
<td>• Inner Leaf of Cavity Wall</td>
</tr>
<tr>
<td>• External Leaf of Cavity Wall</td>
</tr>
<tr>
<td>• Solid Walls</td>
</tr>
<tr>
<td>• Party Walls</td>
</tr>
<tr>
<td>• Internal Partitions</td>
</tr>
</tbody>
</table>

Brief explanation of the general applications of aircrete blocks, these are covered in greater detail later on in the presentation

NB: Other possible use of blocks are as a protective cladding from fire for other forms of construction eg steel frames.
Chandlers Building Supplies

Architect, Graham Middle Associates specified aircocrete 7N blocks to provide extra strength for Chandlers Building Supplies’ new HQ in Ringmer, East Sussex.

7N blocks were specified as the first floor is incorporated within the roof space, therefore increasing the load at the top of the construction. As a result large first floor spans reinforced with steel were needed to support the floor structure and aircocrete 7N provided external wall strength at areas of load-bearing to support both the floor and the roof.

Standard aircocrete blocks were also specified for the external and partition walls, as they provide good acoustic performance - an important consideration when designing office workspace. The thermal efficiency of the blocks means the HQ has an average wall U-value well within the Building Reg requirements.
**Medium Density (Standard)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Density</td>
<td>620 kg/m³</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>4.0 N/mm²</td>
</tr>
<tr>
<td>K or λ Value</td>
<td>0.15 W/mK</td>
</tr>
<tr>
<td>BBA Certificate</td>
<td>86/1689</td>
</tr>
<tr>
<td>Size</td>
<td>440x215mm</td>
</tr>
<tr>
<td>Thicknesses</td>
<td>75 - 355mm</td>
</tr>
<tr>
<td>Also available as:</td>
<td></td>
</tr>
<tr>
<td>Flooring Block - 440 x 560 x 100mm</td>
<td></td>
</tr>
<tr>
<td>Jumbo Units: 440 x 430mm (100 - 125mm thick)</td>
<td></td>
</tr>
</tbody>
</table>

Explanation of product features for Standard 4N/mm² blocks:

- **Strength figures**
- **Thermal Performance figures**
- **BBA certificate number**

Highlight the additional product ranges available with this strength. These are again covered in greater detail later on (including BBA certificate number)

Foundation blocks are covered latter in the presentation
### Applications for 4N/mm² Aircrete Blocks

<table>
<thead>
<tr>
<th>Internal leaf of Cavity Walls</th>
<th>External leaf of Cavity Walls</th>
<th>Solid Walls</th>
<th>Separating/Party Walls</th>
<th>Partitions</th>
<th>Multi-Storied Foundations</th>
<th>Suspended Floors</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

- **Housing**
- **Commercial & Industrial Buildings**
  - Partitions
  - Infill for frames
  - Simple finishes

Table to show all the applications of 4N/mm² aircrete blocks

Plus highlighting the advantages of use in commercial & industrial buildings (especially Jumbo Units which are ideal due to increased productivity)

Finishes: Areas where aesthetics are not important aircrete blocks can be painted, or left unfinished.

Foundations: Point out that regular aircrete blocks can be used in cavity foundation construction, with lean mix infill. Solid Foundation blocks are dealt with later.
### Low Density

<table>
<thead>
<tr>
<th>Solar 2.8 &amp; 3.5*</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Density</td>
<td>460 kg/m³</td>
</tr>
<tr>
<td>Compressive Strength</td>
<td>2.8 or 3.5* N/mm²</td>
</tr>
<tr>
<td>K or λ Value</td>
<td>0.11 W/m K</td>
</tr>
<tr>
<td>BBA Certificate</td>
<td>95/3096</td>
</tr>
<tr>
<td>Size</td>
<td>440 x 215mm</td>
</tr>
<tr>
<td>Thicknesses</td>
<td>100 - 355mm</td>
</tr>
</tbody>
</table>

* Also available as Jumbo Units 440 x 430mm (100 - 140mm thick)

* Special Order

---

Explanation of product features for Solar range 2.8 or 3.5N/mm² blocks:

- **Strength figures**
- **Thermal Performance figures**
- **BBA certificate numbers**

Highlight that Jumbo Units (discussed in greater detail latter on) are available as Solar
Applications for Aircrete 2.8N/mm² Blocks

<table>
<thead>
<tr>
<th>Internal leaf of Cavity Walls</th>
<th>External leaf of Cavity Walls</th>
<th>Solid Walls</th>
<th>Separating/Party Walls</th>
<th>Partitions</th>
<th>Multi-Storey Foundations</th>
<th>Suspended Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Housing**
- **Commercial**
- **Clear Cavity?**

Table to show all applications for 2.8N/mm² aircrete blocks

Clear Cavity?: Discussing whether you need additional insulation when using Solar blocks

Refer to Book of Blocks for possible cavity solutions

Other possible use: Multi-Storey construction which is non-loadbearing i.e. in steel framework.

Cavity Foundations: Solar blocks can only be used for the inner leaf of a foundation.
**Hi-Density**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Density</td>
<td>750 kg/m³</td>
</tr>
<tr>
<td>K or λ Value</td>
<td>0.19 W/mK</td>
</tr>
<tr>
<td>BBA Certificate</td>
<td>90/2462</td>
</tr>
<tr>
<td>Size</td>
<td>440 x 215mm</td>
</tr>
<tr>
<td>Thicknesses</td>
<td>100 - 355mm</td>
</tr>
<tr>
<td>Also available as Jumbo Units</td>
<td>440 x 430 x 100mm</td>
</tr>
</tbody>
</table>

**Hi-Seven**

- Compressive Strength: 7.0 N/mm²

**Hi-Ten**

- Compressive Strength: 8.4 N/mm²
- 10 N/mm² can be achieved in certain design situations.

Unique to Celcon

Explanation of product features for Hi-Strength 7.0 & 8.4N/mm² blocks:

- Strength figures
- Thermal Performance figures
- Highlight Jumbo Units

Plus explanation on Hi-Ten® blocks (explaining the last paragraph on design situations)

Foundation blocks are covered latter on in this presentation.
### Applications for Aircrete 7 & 10N/mm² Blocks

<table>
<thead>
<tr>
<th>Internal leaf of Cavity Walls</th>
<th>External leaf of Cavity Walls</th>
<th>Solid Walls</th>
<th>Separating/Party Walls</th>
<th>Partitions</th>
<th>Multi-Storey</th>
<th>Foundations</th>
<th>Suspended Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>✭</td>
<td>✭</td>
<td>✭</td>
<td>✭</td>
<td>✭</td>
<td>✭</td>
<td>✭</td>
<td>✭</td>
</tr>
</tbody>
</table>

- Developed for buildings 3+ storeys high, industrial, commercial and housing
- Compatible with lower strength blocks elsewhere on the project, maintaining continuity

Table to show all the applications of 7 & 10N/mm² aircrete blocks

First bullet point is self explanatory

Second bullet point explains that these blocks can be used in conjunction with other types of Celcon block on site.

Foundations: Again mention cavity construction.
Hi-Strength for Tonbridge & Malling Housing Association

Aircrète 10N, 7N and standard blocks were specified for this residential development in Tonbridge, Kent.

The development consists of a four-storey block of 21 units, and a three-storey block of 14 units.

To provide load-bearing strength, Hi-Ten were used in the foundations and through to first floor level. Aircrète standard and 7N blocks were incorporated throughout the upper levels. The partially filled cavity walls provided a U-value of 0.39W/mK².

Each storey is equipped with a lift, the lift shaft being constructed from 7N aircrete blocks to provide the required structural integrity.
**Foundation Blocks**

- Sizes 250 up to 355mm thick
- Foundation 4 N/mm² (BBA 86/1689)
- Foundation 7 or 10e- N/mm² (BBA 90/2462)
- Less than half the weight of equivalent aggregate blocks
- Supports cavity or solid walls
- Faster laying rate
- Improves floor U-Value
- Saves cost of:- cavity ties, lean mix cavity fill

---

Foundation Blocks - Size of blocks
- Strength of blocks
- BBA cert number
- Weight advantages (compared size like for like)
- Cost savings
- Improved thermal performance, especially when used with Aircrete Flooring blocks (up to 25% better)

Laying Rate:
Foundation blocks are roughly three times quicker to lay and one man can do the job.
<table>
<thead>
<tr>
<th>Material</th>
<th>Rate (m²/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brick (2 leaves)</td>
<td>2.95</td>
</tr>
<tr>
<td>Dense block (2 leaves)</td>
<td>6.75</td>
</tr>
<tr>
<td>Foundation block</td>
<td>11.6</td>
</tr>
</tbody>
</table>

*Based on 450mm deep foundation*

Not just rates of laying, but additional costs saved:
1) Mortar for brick and dense block
2) Lean mix for cavity fill
3) Cavity Ties
Product features that show why aircrete Foundation blocks can be used below DPC level

Plus advice on the type(s) of mortar that should be used below ground level, linking to a chart to show mortar strengths
Properties and benefits of aircrete Flooring blocks

Emphasis on the thermal performance benefits compared to solid concrete floors - “U-value” is a link to a graph comparing U-values for Beam & aircrete block infill and Solid concrete floors.

Fewer beams required when flooring blocks are laid along the 560mm width. Resulting in cost savings
0.5 P/A is typical for housing

[NB, Exposed Perimeter length (P) / Floor Area (A)]

Not just benefits of having a thermal block but also the improved performance of Beam & Block with thermal buffer zone under floor void
Additional benefits of using aircrte blocks as beam infill are:

- Faster laying
- Cost savings
- Lower dead weight
- Easily cut

Note: Regular size blocks (440x215) can also be used as infill.

Faster Laying: Larger size flooring blocks result in less blocks to be laid. Still a one man lift.

This leads to cost savings, as well as the point on the previous slide about less beams required.

Lower dead weight, allows for longer beam spans, or lighter beam sections can be used.

Highlight the fact that standard size blocks can be used, but more productivity benefits are gained by using the Flooring blocks.
Carkeek Developments - Plymouth

Carkeek Developments needed an aircrete solution that would achieve a SAP rating of over 75 for its Western Challenge Housing project in Plymouth.

All dwellings feature aircrete 275mm Foundation blocks, and these combined with 100mm infill blocks for the beam & block floor, helped to achieve a floor U-value of 0.35W/mK²

The properties’ clear cavity walls are constructed using aircrete 125mm low density (solar) blocks for the inner leaf and 100mm standard blocks for the outer leaf - achieving a high level of insulation without the need for any additional insulation.
Thin-Joint System

- 440 x 430mm Jumbo Units or standard size blocks
- 2-3mm mortar joint (Celfix Mortar)
- Productivity is increased compared to conventional block laying
- Up to 10% enhancement in wall U-value
- Fast & cost effective way of building
- Approved by BRE & BBA
- Separate CPD Seminar available on Thin-Joint

Bullets to list components of system & main advantages

Productivity: larger blocks-faster laying rate, greater bond strength, build higher in a day

U-value: Thinner mortar joint, greater area of block which is better insulant than conventional mortar

Build Quality: Inner leaf can be built up first, eliminating problem of mortar snots on wall ties, cleaner cavities.

Refer them to our CPD Seminar (available soon) on thin-joint for further information
Cavity Walls

- Aircrete blocks are used extensively in construction for:-
  - Structural support
  - Thermal insulation
- Low Density (Solar) blocks are ideal for clear cavity solutions
- Medium Density (Standard) is used in partial or fully filled constructions.
- See technical literature for solutions

Solar - Ideal for clear cavity solutions because of thermal properties of blocks. This is further enhanced if Solar is used in both leaves of the wall.

E.g. Brick Outer-50mm cavity-115mm Solar-27mm Thermalboard plus = **0.45W/mK**

or

16mm render-115 Solar-50mm cavity-115mm Solar-9.5 Plasterboard on dabs = **0.43W/mK**

Standard - Thickness of insulation can be reduced when using Standard compared to dense aggregate blocks.

NB: Clear cavity is possible with Standard if thermal board lining is used

U-values are contained in the Celcon “Book of Blocks” see pages 39 - 43
Using 265mm Solar in a solid wall is the simplest way to meet the building regs without using additional insulation.

The finishes used both internally and externally will affect the U-value. With the exception of render & sand/cement plaster used in conjunction, they all fall below 0.45W/mK.
Internal partition walls

• 100mm Medium Density (Standard) generally used
• Improved sound insulation
• Very light weight compared to dense block walls
• Greater benefits using Thin-Joint

Structure of blocks i.e air bubbles, mean that sound insulation is much better when compared to timber stud/plasterboard (as per example on next slide)

Lightweight means that blocks are laid quicker (blocks are easy to handle)

Thin-Joint: greater productivity, further improvements in sound insulation, & build time meaning that the wall can be finished more quickly.
Food Sciences Building University of Nottingham

Standard aircrete was specified to help create the futuristic design of the new Food Sciences Building at the University of Nottingham. The £2.2million contract was undertaken by Thomas Fish Construction.

All partition walls were formed using standard aircrete blocks to reduce sound transmission from room to room. (39dB compared to 33dB for plasterboard on studwork option).

The blocks’ light weight was also a factor in their specification because of loadbearing restrictions on the steel frame.
The sound performance of the wall will be dependant on the above equation irrespective of materials.

Careful Design - location of sockets, joists built in or not.
Separating Wall Const. - Cavity walls will generally perform better than solid.
Associated Structure - floor construction, flanking wall construction
Proper Site Practice - Good workmanship etc.. I.e. mortar joints fully filled
Emphasize that only wet plaster can be used on solid wall construction.
Aircrete blocks have excellent resistance to fire.
Can be used as fire-break walls
Also can be used as a protective cladding for other forms of construction eg steel frames

Figures above taken from the BRE report
• Aircrete block Walls in excess of 6m should be designed as a series of panels, separated by movement joints at max. 6m centres (if un-reinforced) and 3m from a bonded return.

BJR used up to max of: 6m un-reinforced
  approx. 9m if reinforced every 3rd course
  approx. 11m if reinforced every other course
  approx. 13m if reinforced every course
Adequate length to distribute stresses to nearby movement joints. Or into adjacent areas of blockwork, extending 600mm each side of the opening.

Masonry grade reinforcement should be used in all cases, plastering grade types are NOT suitable (eg Expamet).

If dissimilar materials bear onto Celcon blocks (floor units, precast concrete beams, lintels), a slip plane should be provided at the bearing eg DPC material.
Wall Ties

- Flexible wall ties with max. spacing:
  - 900mm horizontally
  - 450mm vertically

NB. For the Thin-Joint System Helical ties should be used.

Ties should be evenly distributed over the wall area, normally in a staggered pattern.

Additional ties should be provided at:
- Within 225mm of the vertical edge of all window & door openings
- At vertical unreturned edges, including movement joints
- At sloping unreturned edges, such as at the roof verge
This slide really used as an overview for the following one.

Preparation: Block surfaces should be clean of dust, loose particles or contamination before application of finish
Plasterboard: Standard and laminated thermal boards can be bonded directly to the blockwork.
Standard boards can be fixed using plaster dabs
Thermal boards should be fixed using an appropriate gap-filling adhesive, secondary nailing is also required (in case of fire)

13mm plaster achieved in two coats (10mm + 3mm finish)
Because of the wall accuracy in Thin-Joint, a spray plaster (3-4mm) can be used, this can reduce the time taken.

Blockwork wetting: Relatively small areas at a time

Although traditionally tiling is applied to a wall which has got a plaster finish, they can be laid straight onto the blockwork, if the wall is plumb (Thin-Joint adv)

For areas of low aesthetic importance the blocks can be painted
Again this slide really used as an overview for the following one.

Preparation: Block surfaces should be clean of dust, loose particles or contamination before application of finish
Tile Hanging - Tiles should be hung on horizontal battens, with membrane behind

Weatherboarding - Hung on vertical battens, with membrane behind

Rendering - One of the most common finishes to see not performing properly. (eg cracking). But can be done very successfully - if you get proper advice from Technical Services Dept.

Thin coat render 3-4mm can be used on thin joint walls because of greater accuracy of construction
Fixings

- **Fixing into aircrete blocks is simple and effective**
- **Screws, plugs or nails as appropriate**
- **Very secure and reliable fixing**

Lightweight fixtures: Light door frames, skirtings, linings. - proprietary nail fixing, cut nails - should be driven to minimum depth of 50mm into blockwork.

Medium-weight: Heavier door frames, or battens and small fixtures - proprietary plugs and woodscrews are recommended - screws should penetrate block to a min. depth of 25mm.(I.e 40mm from finished surface)

Heavier-weight items: Radiators and cupboards - proprietary plugs recommended - fixings should not be closer to the free edge of the block than the depth of embedment.
Diagrams to show example types of fixing:

Helical nail & Direct fixing for lightweight fixtures.

Plug & Screw, Anchor and Turbo fixing for medium-weight fixtures.

Fischer GB for heavy weight items.
Technical Teams

• Technical Sales Division
  - Personal contact with specifying & regulatory professionals

• Technical Services Department
  - Detail design and specification advice

• Research & Development
  - Developing new products, techniques and standards both home and abroad

Technical Sales Dept:
Deals with specifying and regulatory professionals
Office and site visits made to develop construction solutions to meet the needs of the designer
Assist ASAP with the brand and/or performance specification

Technical Services Dept:
Hotline for customers
Structural design advice
Advice on Meeting Building Ergs.
Energy calicos

All technical teams have a close association with industry groups i.e. DETR, BRE, BBA, BIAT, NHBC

R&D:
UKAS approved Lab
Product Development
Involved in developing Eurocodes, and Standards
Visual to show the role of each department in communicating with the customer/potential customer.

Emphasis should also be placed on the internal communication involved between departments.

Eg support literature for TSM’s, training, lead generation etc

R&D: their main communication process is with industry groups/bodies. Info then passed on to other departments, who inform customers.
Environmental Issues

- Main ingredient is PFA which is waste from coal fired power stations
- Less additional insulation is required when using aircrete blocks
- Aircrete blocks have the ability to store heat (latent heat capacity)
  - This heat is then radiated back into the house when the temperature drops
  - Resulting in temperature stability

Note to speaker: PFA is indeed the main ingredient across the company as a whole (I do appreciate that sand is used at Westbury)

Insulation materials are normally derived from mineral based sources combined with man made resins or from oil based resources. So the less you use the better!

The following is taken from the “Design & Performance of Traditionally built houses” by Alan Tovey, for the THB. Resulting from a BRE report.

Latent Heat Capacity: Blocks absorb heat from the heating system and other incidental sources eg. Sunlight. This heat is then radiated back into the property, helping to maintain the temperature. The thermal capacity also helps during the summer as it reduces the peak temperatures by 5°C or so, thus providing a more comfortable living environment.
## Summary

- Aircrete blocks are: Thermally efficient, strong, resistant to fire, frost and sulfate attack
- Celcon blocks provide a solution for many applications
- Aircrete can reduce the need for additional insulation
- Codes of Practice & Regulations can be found in the Celcon Book of Blocks (Chapter 7)

A Summary listing all the key issues covered in the presentation.