



WINTER 2009



# Take 5 Living Spaces

# News from the Editor

## Winter 2009

### IBSTOCK DZINE MAGAZINE

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Front Cover: Two Houses, Dublin

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## Another Successful Year in 2009 Brick Awards

The 2009 Brick Awards winners were announced at the beginning of November and Ibstock had yet another successful year winning 9 of the 14 categories and the overall Supreme Award.

Full details of the winning buildings are in the attached supplement, two are featured in detail in this issue – the winners of the Best International Project and Innovative Use of Brick and Clay products.

## Bath University Study Tour of Barcelona

The third year in the School of Architecture and Engineering at the University of Bath have undertaken a study trip to Barcelona as part of a design project to create an assembly building that addresses the conflict existing in the region with regard to the culture, history and language.

Part sponsored by Ibstock, the study trip involved a number of building visits and lectures, including presentations from the urban designer Beth Gali of Enric Miralles, the architects for the Scottish Assembly, and Carlos Ferrater - the designer of the Barcelona Botanical Institute.

The students worked in tutor-lead units to map and define the urban structure of the city and made choices about their preferred sites for the assembly building based on what they learnt. The design project is being run in collaboration with the RIBA Building Futures Team and was exhibited in Portland Place in March 2009 and again at a warehouse exhibition in Shoreditch in July 2009.



## SUDS

The use of Sustainable Urban Drainage Systems (SUDS) has been a planning requirement for many driveways since October 2008. Ibstock has developed the first range of clay stock brick pavers that can be used with an appropriate SUDS sub-base or water harvesting systems.

The unique concealed spacers allow the pavers to be laid in many decorative patterns without unsightly gaps and even wearers of high heels will find walking on the pavers easy.

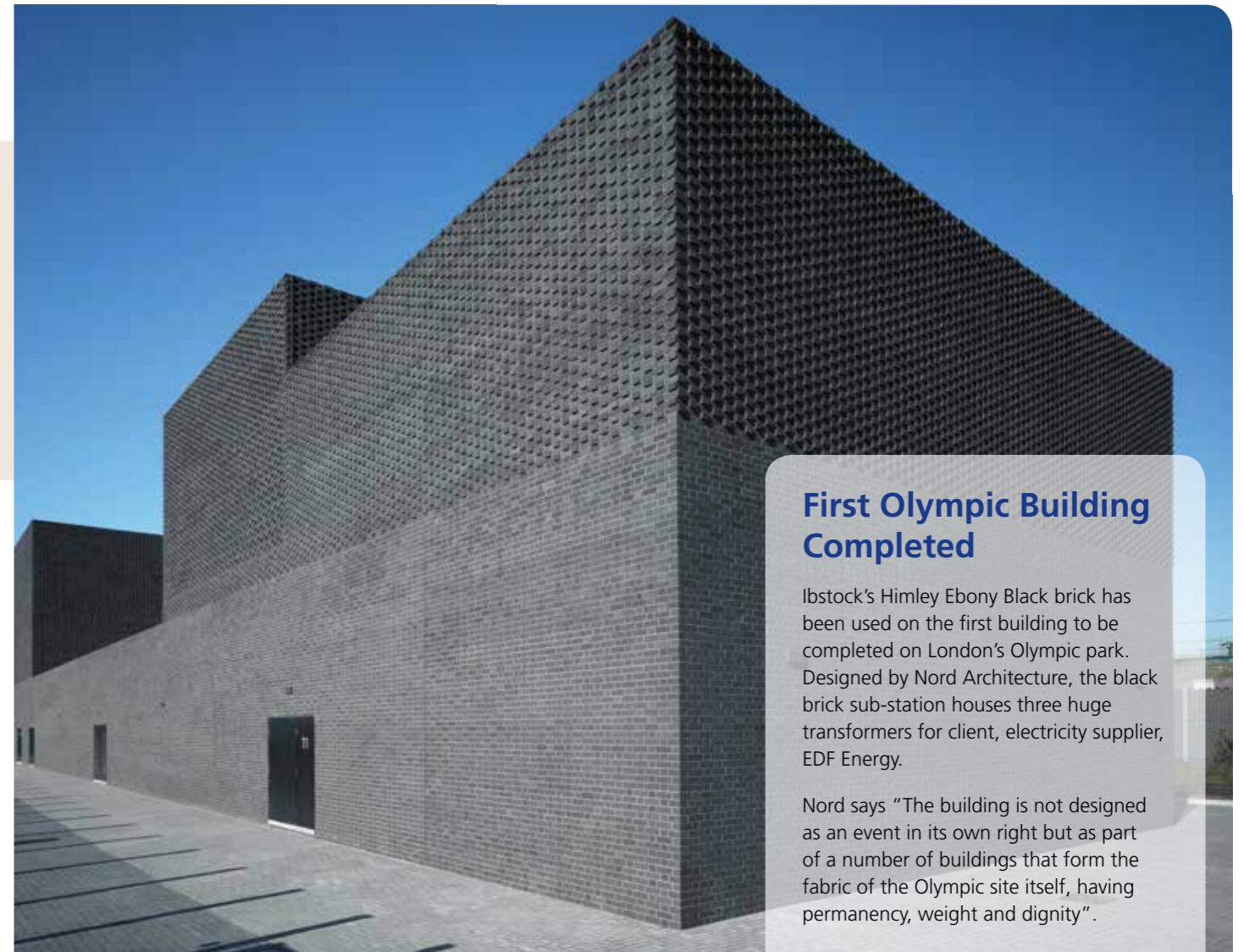
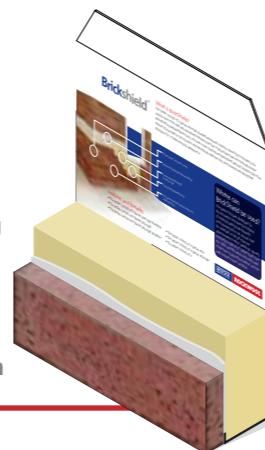
For more information visit [www.ibstock.com](http://www.ibstock.com)



## BrickShield™

Developed in conjunction with Rockwool, BrickShield solves the problem of how to insulate solid walls, whilst maintaining a brick finish. Combining a brick slip fixed to insulation, the system is ideal for insulating solid walled properties during renovation or refurbishment.

Further details of this exciting new product are available by visiting [www.ibstock.com](http://www.ibstock.com)



## First Olympic Building Completed

Ibstock's Himley Ebony Black brick has been used on the first building to be completed on London's Olympic park. Designed by Nord Architecture, the black brick sub-station houses three huge transformers for client, electricity supplier, EDF Energy.

Nord says "The building is not designed as an event in its own right but as part of a number of buildings that form the fabric of the Olympic site itself, having permanency, weight and dignity".

## Technical Topic

### Discolouration of materials due to saturation

The effects of saturation on absorbent materials can be aesthetically disconcerting if not properly understood. Discolouration or darkening can appear during various stages of construction, usually after rainfall, and can affect specific areas or random patches dependant on the circumstances or absorbency of the masonry unit.

Many materials used in construction are porous to a lesser or greater degree, whether they be stone, concrete, brick or mortar. Other materials such as glass, metals and plastics etc, are not absorbent and water will readily run off these components on to adjacent materials. This should be allowed for in design and detailing of buildings.

During rainfall, saturation of masonry can be intensified by other components, for example rain-water outlets prior to the down-pipes being fitted or scaffolding boards adjacent to freshly constructed masonry.

With brickwork, mortar takes at least a month to reach its optimum strength and hardness and therefore it is likely that water can penetrate readily and saturate units whilst the building is in an unfinished state. As with any

absorbent material, it will take time to dry out thoroughly and this will be governed largely on the time of year construction takes place and by the amount of protection afforded during the building process.

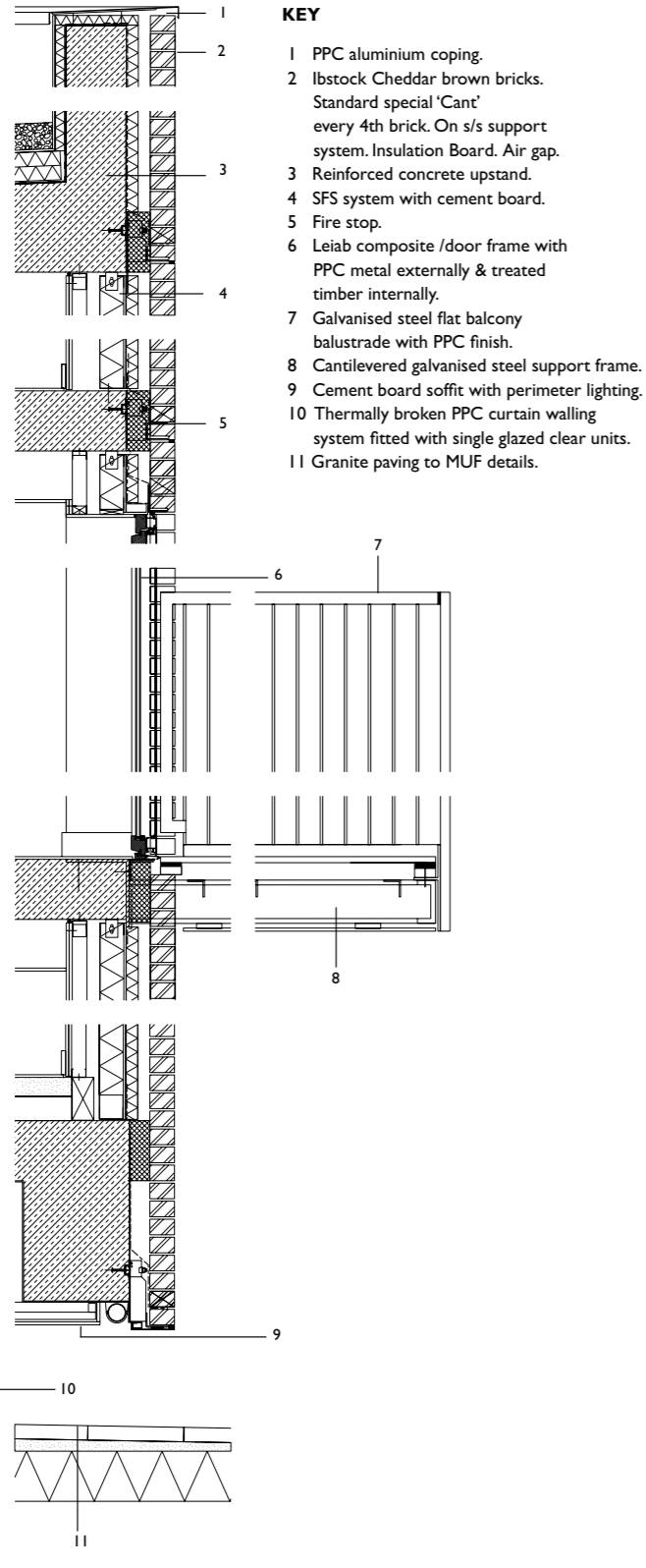
Good site practice and protection of newly laid masonry from rainfall can minimise saturation. Failing to provide this protection could trigger efflorescence and lime leaching from mortar or concrete components.



This building was subject to a period where no waterproof protection was in place before roof construction was completed.

# Bath House, Barking Central II

**Brick Type:** Cheddar Brown  
**Architect:** Allford Hall Monaghan Morris



**KEY**

- 1 PPC aluminium coping.
- 2 Ibstock Cheddar brown bricks. Standard special 'Cant' every 4th brick. On s/s support system. Insulation Board. Air gap.
- 3 Reinforced concrete upstand.
- 4 SFS system with cement board.
- 5 Fire stop.
- 6 Leiab composite /door frame with PPC metal externally & treated timber internally.
- 7 Galvanised steel flat balcony balustrade with PPC finish.
- 8 Cantilevered galvanised steel support frame.
- 9 Cement board soffit with perimeter lighting.
- 10 Thermally broken PPC curtain walling system fitted with single glazed clear units.
- 11 Granite paving to MUF details.

Detailed Design Intent. Vertical Section

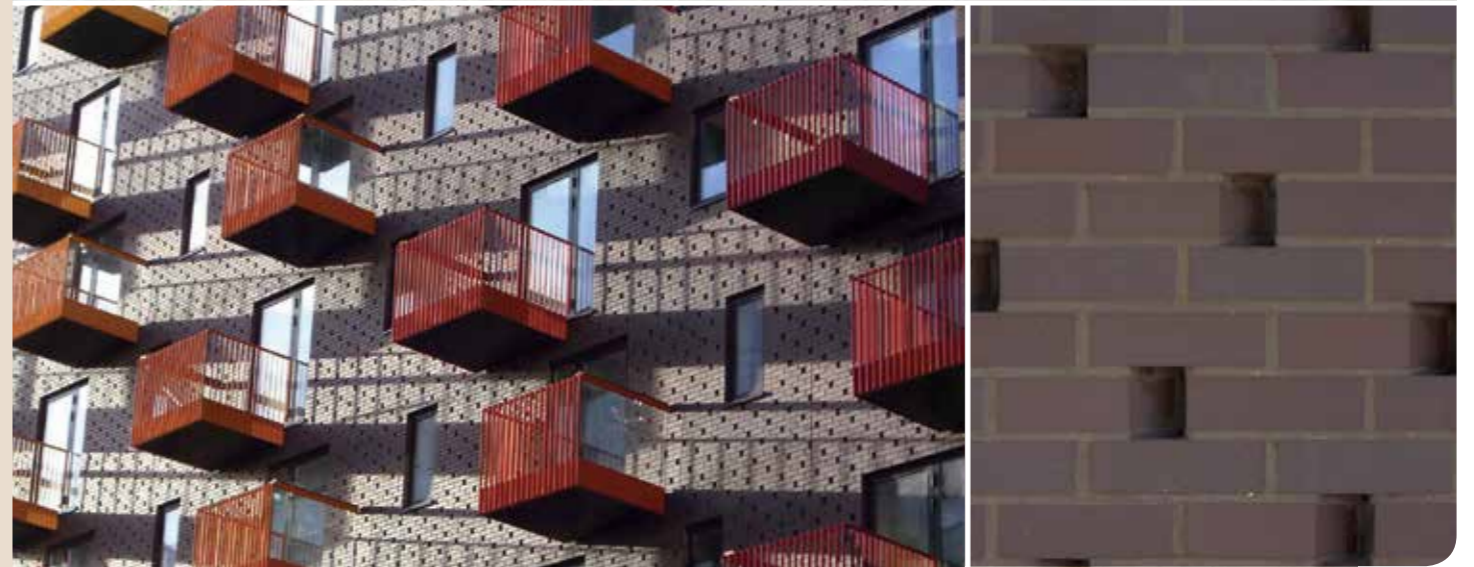
The Bath House forms part of the Barking town centre regeneration by Allford Hall Monaghan Morris. The overriding design principle for the scheme is to create a vibrant, diverse, high quality environment that introduces new and reinforces existing links to the wider context of Barking Town Centre.

The Bath House defines the north side of a new public square, designed in collaboration with muf architecture/art. Its mass and form are similar to the Phase 1 residential building opposite.

The building comprises eight storeys containing 96 residential units set on a ground floor plinth. The upper storeys push out to form a covered walkway in front of the ground floor retail units. Linear soffit mounted lighting is incorporated at the soffit edge to emphasise the linear dynamic and accentuate the Town Hall/Ripple Road axis. To the rear, the ground floor pushes out to maintain the street edge. This urban importance is recognised by a façade treatment of glazed tiles with interspersed colours.

Brick was chosen for the Bath House to link it to the existing brick context of the Magistrates' Court and Town Hall, and also to form a counter to the large module smooth panels used opposite on Phase I. Each long elevation is clad in a smooth brick. Texture and pattern are provided through the introduction of a single cant every fourth brick in each course. The brick selected, Ibstock Cheddar Brown, also provides a crisp, modern look to the building. This choice was also influenced by the design and colours of the projecting balconies. These cross the building to present different aspects to the Arboretum and are coloured to reflect summer to autumn foliage, taking inspiration from the Arboretum. The brick complements and enhances these colours.

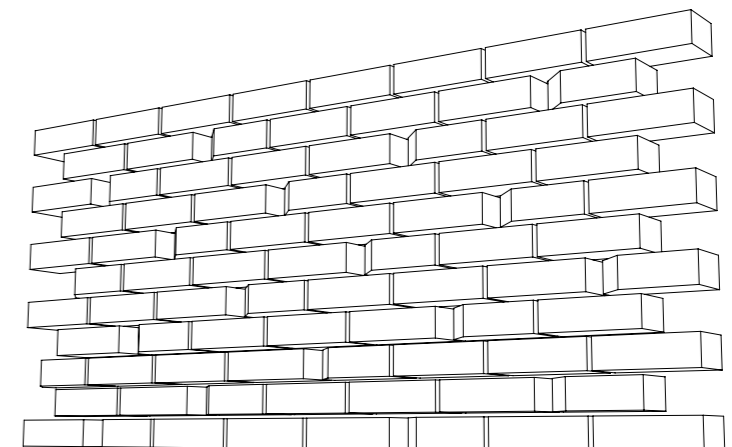
Balconies are fabricated using polyester powder coated steel flats to two sides with a glazed panel on the third side. This light, open design allows more daylight into the apartments provides glimpses through to the brickwork and enlivens the façade with a play of shadow and light.



Photography: Allford Hall Monaghan Morris

At each end, the brickwork returns to form a frame around recessed balconies, with a special brick made to accommodate the angles at the building ends. The ends use the same palette of colours as the balconies, the large canvas of colour being broken by full width balconies.

“The building comprises eight storeys containing 96 residential units set on a ground floor plinth.”



# Flats, Mansefield Place, Rothesay, Isle of Bute

**Brick Type:** Colonsay Red - Rustic and Smooth and Grampian Red

**Architect:** Collective Architecture



Mansefield Place is a new build housing development in Rothesay, Isle of Bute. The development was commissioned by Fyne Homes, a registered social landlord who own and maintain social housing across the wider Argyll and Bute area in Scotland. Fyne Homes are well known for their commitment to ecological issues and have invested heavily in the regeneration of small communities throughout Scotland.

“Improving energy efficiency was a key aim of the development and various systems were investigated, such as air heat recovery and ground source heat pump.”



The site was originally occupied by a sandstone tenement. This was in poor condition and was condemned by an engineer for demolition. This left behind an unusual L-shaped site that was well positioned for a new housing development.

Improving energy efficiency was a key aim of the development and various systems were investigated, such as air heat recovery and ground source heat pumps. In the end, a combined approach was progressed: solar panels to provide energy to individual hot water cylinders and increased insulation to minimise heat loss. Target U-values were chosen to match those of super-insulated houses. A post occupancy evaluation is underway to assess the effectiveness of this.

The main external material is facing brick, working closely with Ibstock a variety of brick types with the same colour

but different textures were blended on site to achieve the desired effect.

The local people played an important part in the development of the proposals. A three day workshop was held with neighbours and local businesses invited and their input has fed into the design process.

Likewise the local economy also played an important role. Employment opportunities and apprenticeships became available as the small contractor expanded to meet the needs of the contract. Local subcontractors were employed. This included a blacksmith based in a workshop opposite. Construction traffic was also minimised in a number of areas: earth and demolition material were retained as much as possible, materials were sourced locally and timber frames fabricated on site to minimise bulky deliveries.

# Two Houses, Morehampton Road, Dublin

**Brick Type:** Birtley Old English Buff

**Architect:** TAKA Architects

Together, House 1 + House 2 are an essay in brickwork, with various brickwork bonds constituting an architectural language which communicates a legibility of construction and an atmosphere of domesticity.

Brick was chosen as the primary material of these houses due to its ubiquitous and proud use as a house-building material in this part of Dublin City.

The project consists of the refurbishment and extension of an existing Victorian house (House 1) and a new mews house (House 2) to the rear, both to be occupied by 3 generations of the same family, with a shared garden inbetween. The mews house façades takes its key from the Flemish-bond brickwork walls of the Victorian house, seeking a kind of 'constructional context' with its older brother. The unique bonds are the result of 'separating' the Flemish bond into two layers, and conceptually situating the home in the space between these two layers.

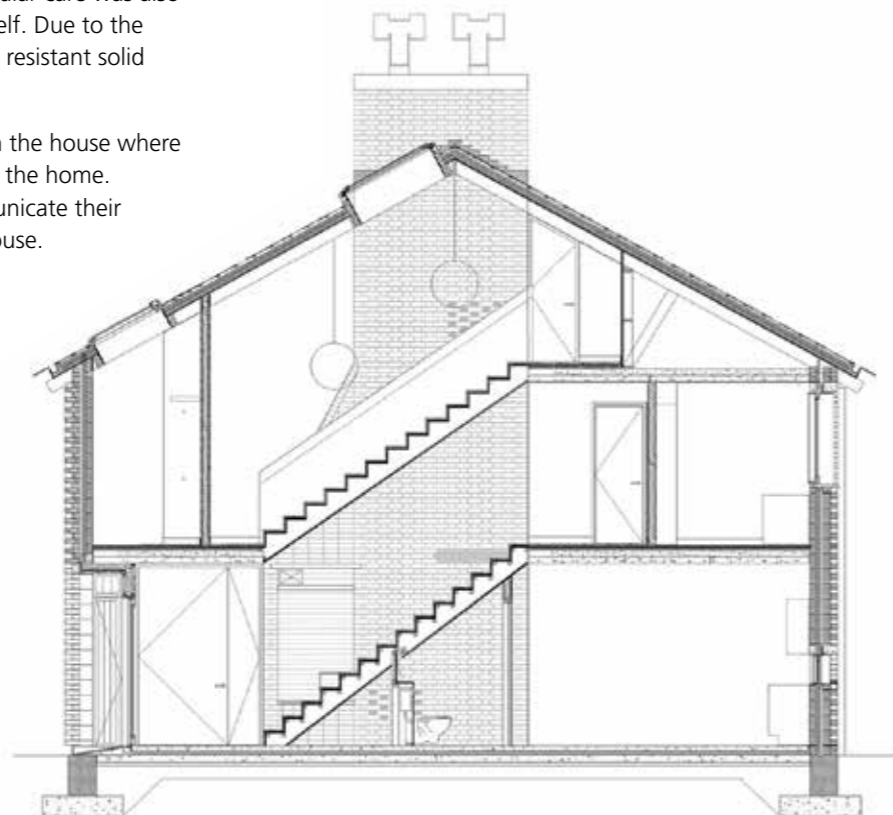
The extrovert front façade receives the 'projecting brick' layer, which oscillates in appearance from Op-art to organic mass depending on natural light conditions. To the rear, the façade becomes a mesh of brickwork where those projecting bricks on the front leave their resultant holes in the rear wall, allowing ventilation to the rooms behind to be taken directly through this brick skin. For both of these façades, particular care was also required in the specification of the brick itself. Due to the bonds having several exposed faces, a frost resistant solid brick was selected.

The warm character of brick is taken within the house where a massive brick chimney forms the focus of the home. Again, a variety of brickwork bonds communicate their function and add textural interest to the house. Flemish bond is used where the brick is structural, stack bond where the brick is infill, and fire bricks are bonded directly into the stack where fireplaces are to be lined. Throughout, a rough squeeze joint gives the brickwork a fabric-like visual softness when lit by skylights from above.

In the Victorian house a new dining space has been added to the house where the wider family congregate for Sunday dinner. Here the backdrop of this special new place is a wall of brickwork, the same type as that of the mews.

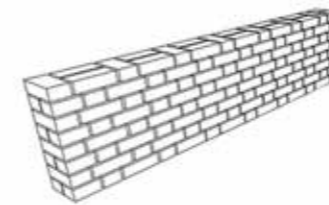
Within this wall of brickwork are set 100 custom-made glazed bricks, named 'Ruskin' bricks (after John Ruskin's inspirational theories on construction in architecture). These custom bricks were developed in conjunction with Ibstock's Design Advisory Service. The bricklayer was given 100 identical bricks to lay in any combination he saw fit. The result is a random graphic pattern that is not simply hung on the wall but part of the very construction that supports the building.

Throughout both homes, the seemingly endless versatility of brickwork as an architectural tool is explored in order to open up new relationships within the material itself while at the same time imbuing these two new homes with a powerful, domestic character.

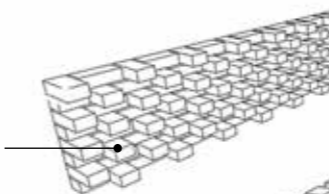


Photographer: Alice Clancy

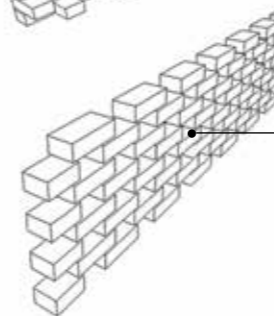
*Traditional Flemish Bond*



*Separated Flemish Bond*



*Projecting Flemish Bond*



*Mesh (or Honeycomb) Bond*



# Strata, Century Wharf, Dumballs Road, Cardiff

**Brick Type:** Sandal Gold, Warwick Textured Multi Buff, Avon Burnt Gold, Tuscany Brown, Glazed Yellow / Blue / Green / Burgundy

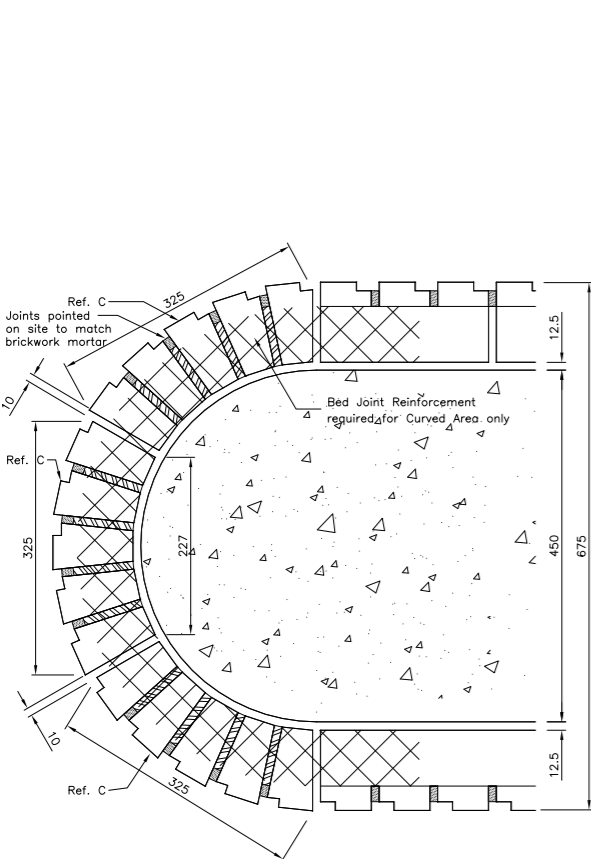
**Architect:** White Young Green

Strata forms part of the Century Wharf residential development in Cardiff Bay and is the final phase of an overall development of 942 residential units and a leisure facility. The development comprises of 243 apartments with 60 two-bedroom apartments, 137 one-bedroom apartments and 46 studio apartments.

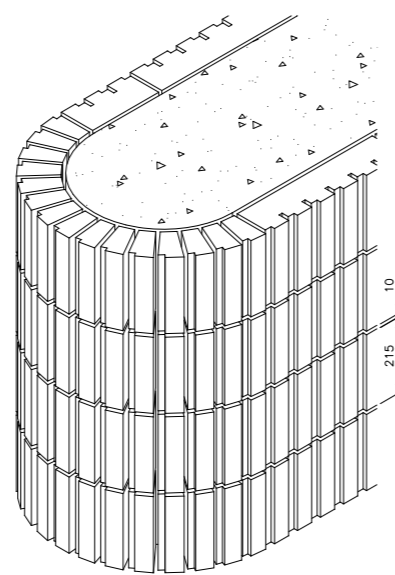
Century Wharf has a bold design concept in which traditional urban forms, the architectural character and details of the buildings combine to create a unique image and identity for this flagship development for Charles Church Wales. It has dramatic curved frontages to the River Taff and to Dumballs Road, and creates an impressive gateway into Cardiff Bay at Clarence Road Bridge. The apartment blocks are a contemporary expression of historical river front architecture with dramatic, overhanging pitched roofs, cantilevered glass-fronted balconies, and brick and reconstructed stone facades with brightly coloured render panels as highlights. The buildings are grouped around landscaped courtyards, which provide an efficient ratio of building footprint to open

space while creating external spaces that provide shelter from the prevailing wind.

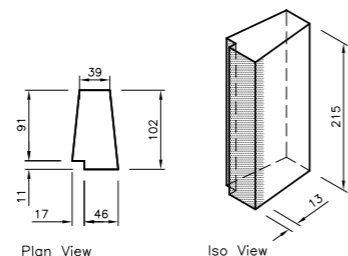
The materials used are generally consistent with the previous phases of the Century Wharf development, specifically responding to each elevation's particular context whilst recognising the programme for the building is different in many ways from previous phases of Century Wharf. Generally, the 'external' elevations facing south and east are faced in buff-coloured brickwork to accord with the buildings of Court H and F adjacent. As with the earlier phases, dark brown brickwork is used as a contrast for plinth areas.



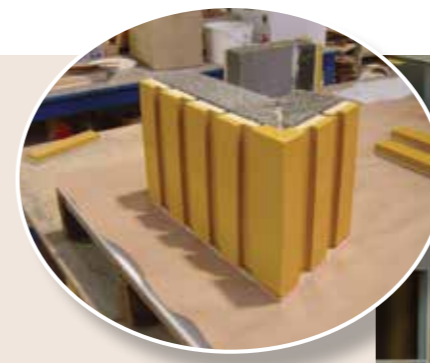
Column Plan - Bonded Bricks



Isometric View



Brick Details

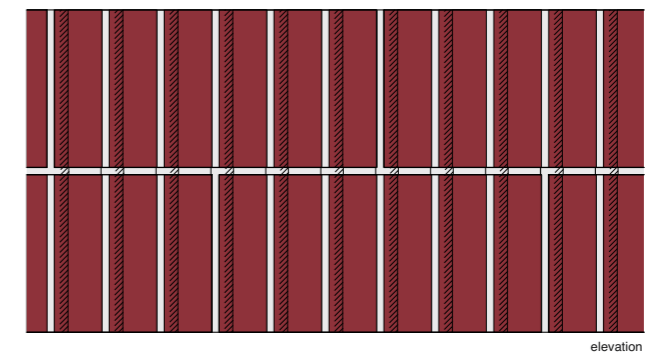


“ The entrances off the courtyard to the vertical circulation cores are individually marked by vertically-ribbed, glazed brick slips in different primary colours. ”



The entrances off the courtyard to the vertical circulation cores are individually marked by vertically-ribbed, glazed brick slips in different primary colours. These columns have been formed by utilising pre-assembled Istock Brickwork Components. L-shaped glazed brick slips specially designed for this project have been fixed to 7.3 N/mm aggregate blocks. These pre-assembled blocks offer benefits in speed of construction - as they are the equivalent of six bricks - and accuracy due to factory production.

## Cavity Wall Glazed brickwork



225 mm long Ancon STI stainless steel wall ties by Ancon Building Products Limited, with Insulation Retaining Clips, at 450 mm centres vertically and 900 mm maximum centres horizontally, not staggered unless specified otherwise. Provide additional ties within 225 mm of reveals of unbonded openings in every course. (F30/214)

**Internal Finish:**  
15mm thick Lafarge dBcheck plasterboard by Lafarge Plasterboard Limited. Taped seamless finish (K10/185)

15mm thick Lafarge Moisturecheck plasterboard in bathroom, en-suite, toilets and kitchens. Taped seamless finish (K10/186)  
13mm thick plaster to communal staircases. (M20/200)

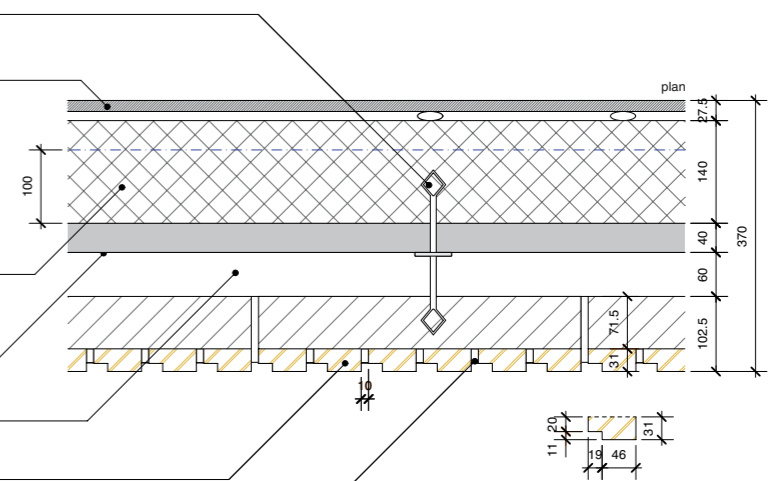
**Inner leaf:**  
140 mm thick Thermalite Turbo insulating concrete blockwork by Marley Building Materials Limited (F10/352)

Partial fill thermal insulation:  
40mm thick Wallmate CW-X by Dow Chemical Company Limited (F30/152)

60mm cavity  
**Outer leaf:**  
440 x 215 glazed intelligent Brickwork Component units; 'colour' yellow, burgundy, green or blue by Istock Brick. Tooled flush joints, mortar colour: white. (F10/115W)

Refer to general arrangement drawings for locations of 'colour' types.

False joints pointed to match brickwork mortar (F10/665)



# Hallam Fields, Birstall, Leicestershire

**Brick Type:** Staffordshire Slate Blue Smooth, Mercia Orange, Artbury, Mellow Regent, Priory Red, Leicester Weathered Multi, Bradgate Claret, Ivanhoe Burnt Red, Ravenhead Red Smooth, Grosvenor Autumn Flame, Arden Red, Leicester Orange

**Architect:** Jelson Homes



Hallam Fields is a sustainable mixed-use development of 900 dwellings, situated to the north of Leicester at Birstall and incorporating residential, employment and community use.

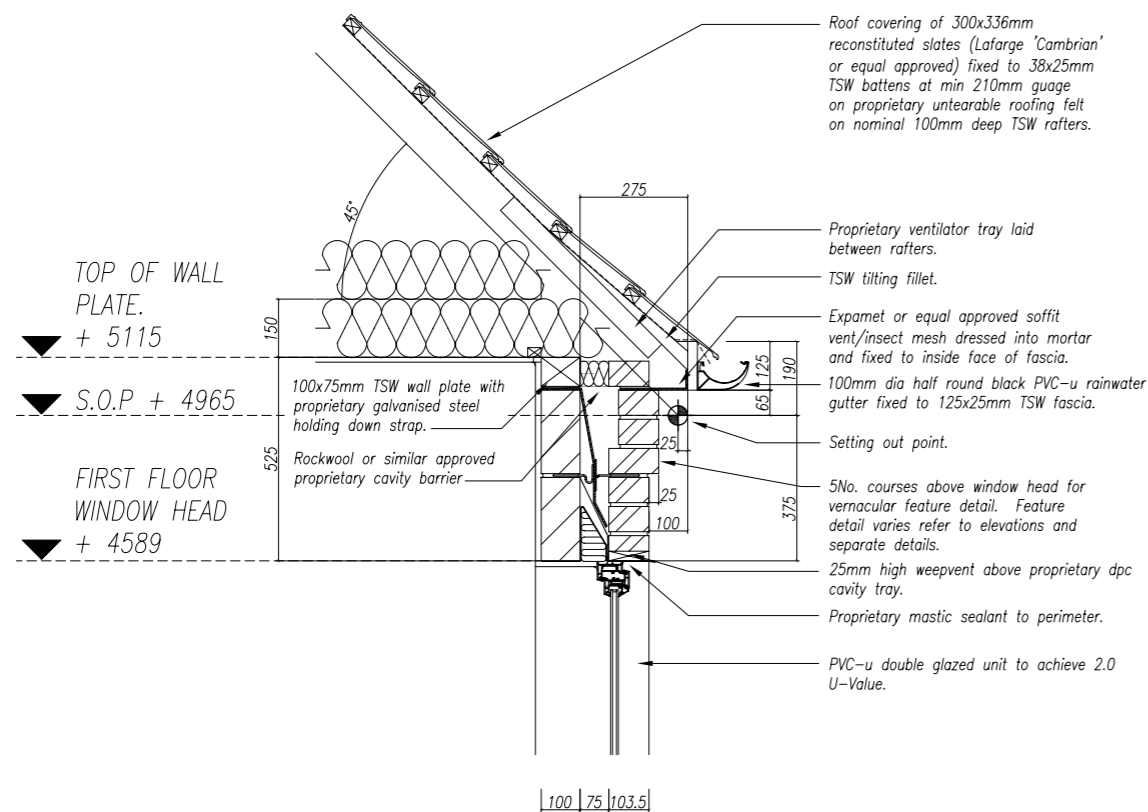
Prior to development, a design study was undertaken from historic high quality settlements, typical of the north Leicestershire area, in order to provide a development with true local identity.

A number of red bricks have been used throughout the development to complement the palette of local materials in the area which have been laid in both stretcher and Flemish bond. A variety of details have also been incorporated which include plinths and band courses above windows and at eaves.

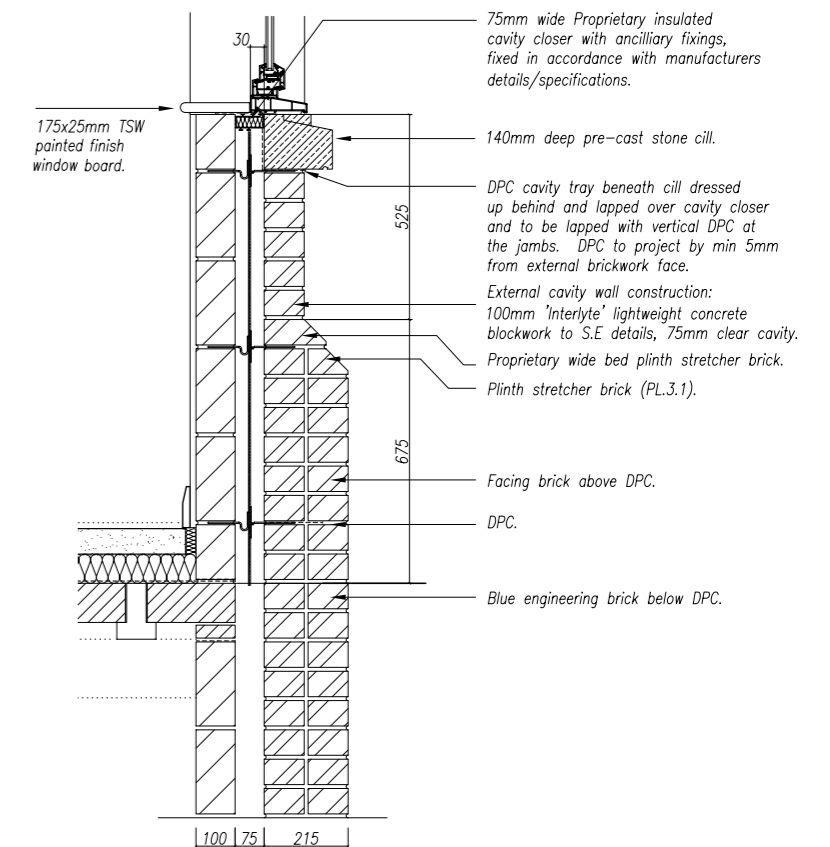
This has provided the architects with an opportunity to place subtle emphasis on particular properties. Those in prominent locations or at the end of significant sight-lines are detailed to include a high level of external features and are described as 'landmark' buildings.

The second tier of detailing is applied to buildings in fairly prominent locations, such as those forming the edges of the squares and other prominent routes.

“ A variety of details have also been incorporated to enhance table verges and as band courses above windows and at eaves. ”



Eaves detail at window head with feature courses



Standard external wall/brickwork plinth cill.



UNILEVER HEADQUARTERS, LEATHERHEAD  
FIREBORN MAX NATURAL CREAM



BTC CENTRE, STEVENAGE | ATLAS SMOOTH BLUE



CHRISTS COLLEGE, GUILDFORD | COTBUS LINEAR



APARTMENTS, PARTICK | CHESTERTON RED SMOOTH



CANE END HOUSE ORANGERY, READING  
SWANAGE BESPOKE BLEND





RETIREMENT HOME, HALEBARN, ALTRINCHAM | GROSVENOR AUTUMN FLAME



APARTMENTS, ROTHESAY | COLONSAY RED  
RUSTIC/RED WIRECUT/RED SMOOTH/ GRAMPIAN RED



BALLYBOUGH COMMUNITY CENTRE, DUBLIN | STAFFORDSHIRE SLATE BLUE SMOOTH



WATER HALL PRIMARY SCHOOL, MILTON KEYNES  
BIRTLEY OLDE ENGLISH BUFF



LIBRARY, FOLESHILL | VARIOUS GLAZED BRICKS



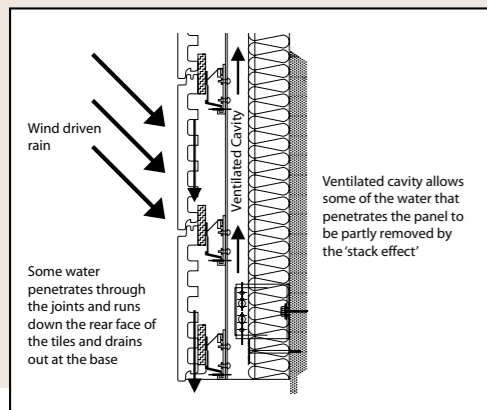
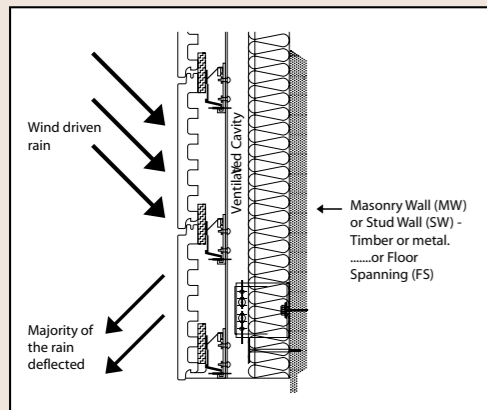
OASIS ACADEMY, GRIMSBY | CHEDDAR GOLDEN

# Back to Basics

## Using Rainscreen Claddings

Rainscreen systems have been used for centuries in Europe and were first introduced to the UK in the 1950s. They became popular in the UK in the 1980s for the re-cladding of tower blocks but this problem-free system is now more widely used in new build. Therefore, they can be successfully used in both new and old projects. In old buildings new life is given by changing the appearance and increasing thermal efficiency. In new build, the system's proven principles allow a low risk, effective solution.

Rainscreen cladding is not a traditional cavity construction like brick and block. The principle of rainscreen cladding is that the majority of the rain is stopped at the outer face and the small amount of rain that penetrates is taken away by the updraft in the cavity or drains out at the bottom of the cladding.



## Rainscreen Technology

Any external wall must satisfy a number of criteria: it must be durable, weatherproof, fire resistant and must not transmit heat and sound. Rainscreen claddings must therefore also meet these criteria. With rainscreens, the outer leaf resists rain penetration, keeping the inner leaf relatively dry by the separation of an airspace.

The cladding is supported by a frame, normally aluminium, within the cavity and located back to the structure with brackets and primary fixings.

Rainscreen systems rely on ingress of air at the bottom of the cladding - a ventilated cavity not less than 38mm (to allow the stack effect to work) and egress of air (normally baffled to avoid rain ingress) at the top of the cladding.

The majority of the water is kept out by the cladding material. The updraft in the cavity (stack effect) takes away the small amount of water which passes through the cladding.

Any water which penetrates through the cladding and is not taken away can drain down the back of the cladding and out through the bottom.

Condensation is controlled by allowing the fabric to breathe and condensation to pass into the ventilated cavity and be taken away by the updraft within the cavity.

Using the building's thermal mass, if air permeable insulation is placed in the cavity whilst the condensation is evacuated, the heat is retained with the continuous insulation not allowing any cold bridging and keeping the temperature constant within the building. This will reduce cooling and heating requirements. Because the building is kept static, there are also beneficial results for maintenance and longevity.

The UK experience of rainscreen cladding is very positive. The systems have been commonly used for over 40 years. The principles are well understood and there is a great deal of expertise available from professionals and contractors.

lbstock has developed three rainscreen cladding systems under the Elementix brand name. There are very few situations where these systems cannot be used - they are suitable for steel and concrete frame buildings, masonry and steel, or timber stud wall construction. They can be used for both new build and refurbishing the exterior of an existing building.



## Sustainability

Elementix® rainscreen cladding tiles are manufactured from naturally inert materials and are non toxic.

The term 'adaptable' building is used to describe a structure that has the ability to be modified or extended at a minimum cost to suit the changing needs of the people using the structure. Thoughtful design can provide the flexibility for these needs to be met without requiring expensive and energy intensive renovations. The ease of assembly and disassembly of rainscreen panels and components means a structure can be re-shaped or extended incorporating the re-use of the rainscreen system.

The lbstock rainscreen cladding systems also offer further sustainability benefits as the Express® and Freedom® versions are manufactured in the UK. lbstock is the only manufacturer to offer a UK manufactured system which, of course, cuts down the delivery mileage required. Elementix Freedom® is also manufactured from 95% recycled material, adding further to its sustainability credentials.

For further information, please contact lbstock's nationwide network of Design Advisors on 0844 800 4576.

The widest range of  
colours, textures and sizes...



...just one reason why more award  
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Add the best design advice, great service, outstanding technical support and the most sustainable product range and it's easy to see why the judges of this year's Brick Awards were impressed.

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