



JANUARY 2012

Alternative Claddings

News from the Editor

January 2012

IBSTOCK DESIGN MAGAZINE

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Front Cover: University West of England, Bristol

designed by www.ashcroftcreative.com

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RIBA & University News

In October 2011 Ibstock was an Associate sponsor of the Stirling Awards and it has been busy in the Regional awards with sponsored Award evenings on:-



- East Midlands Awards 22nd September
- North Network Awards 4th November - this was a new award for the North combining the White Rose (25th year of sponsoring), Hadrian Awards and for the first time North West Awards.
- Downland Prize 15th November.
- Town & Country 22nd November.
- Study tours have also taken place: Birmingham City University went to New York, Northumbria University went to Paris, Lincoln University went to Rome and Oxford Brookes went to a selection of countries, Denmark, Sweden, Germany and Belgium.

To be added to the mailing list for Design, please email marketing@ibstock.co.uk

why not follow us on:

Ecobuild 2012

To see the latest ideas in sustainable brickwork visit our stand N1110 at Ecobuild 20th to 22nd March at Excel, London. To register for your free tickets go to www.ibstock.com/ecobuild

New Product

Nutley Brown Multi Stock 0740

The Nutley Brown Multi Stock from West Hoathly is a traditional clamp-fired stock exhibiting a unique range of colour. Shades of brown are highlighted with distinctive spotting, characteristic of other popular West Hoathly products and not present on many of the stock bricks manufactured in more modern factories. This brick extends the available colours not only at West Hoathly but also of the wider Ibstock stock brick range.

You can order a Product Information Card or sample at www.ibstock.com or call the **Sample & Literature Hotline on 0844 800 4578.**



Exclusives Brochure

Ibstock Exclusives brings you some of the most exciting bricks you will find anywhere. The range consists of carefully selected bricks with unique colours and textures to help make any building extra special.

The range consists of *Woodland Shades*, which feature a combination of colours from nature, while the *Modern Hues* are precisely formed bricks with strong and dynamic mineral colour tones and finally *Running Waters* which are bricks with bold shading and a soft sheen creating a unique vibrancy.



For your copy of the **Exclusives brochure** please call the Literature hotline on **0844 800 4578** or go to www.ibstock.com

Introducing the Sustainable Product Guide

How often are we reminded about the consequences of our actions on the environment around us? Once a day? Twice a day? How many of us have bought a "bag for life?"

Environmental issues are as much of a concern for the construction industry. Ibstock has been promoting the benefits of using brick over other building materials for many years. However, in light of the additional pressures that contractors and architects are facing when it comes to selecting environmental friendly materials, the Company thought it could make life much easier for them.

A new Sustainable Product Guide has been launched which highlights key features of brick, but also focuses on a selection of products that have even greater environmentally friendly benefits than other building materials. This brochure looks at these products in detail, highlighting key features and benefits and providing technical information.

It is a vital piece of literature for those that are keen to use products that are as environmentally friendly and as sustainable as possible.

For your copy call the Literature Hotline on **0844 800 4578.**



FAQ - ARCH CONSTRUCTION

Our series continues with **Andrea Cooley** who has been part of the **Ibstock Design Advisor** team for 10 years.

"I am often asked about the different methods that can be used to construct arches. The arch was originally designed to transfer loads above openings in walls to the abutments on each side. Brickwork is strong in compression but weak in tension and since arches are designed to resist compressive forces, brick is an excellent material for arch construction. In modern construction, most arches are built into the outer leaf of cavity walls and are 'self-supporting'. However, there is still a requirement for arches to be 'structural', supporting roof, floor and wall loads.

Arch sets can be provided by Ibstock in a number of different ways. Loose arch sets were the traditional method of arch supply and construction. They are still preferred by

some heritage bodies and contractors - they are supplied as individual voussoirs and can be designed to suit any span. Loose arches can be self-supporting, but tend to be used in conjunction with steel lintels in most situations. Brick slip voussoirs prefabricated onto a lightweight backing allow quick and simple arch construction. The backing can either be a medium density concrete block in units of less than 20kg, or using the Hyperlite backing material for an even lighter module. Both methods utilise brick slip voussoirs bonded to the face and site pointed before being lifted into position on a proprietary steel lintel.

There has been an increase in demand for arches that are faced on soffit; therefore a proprietary steel lintel cannot be used as the flange would be visible. Ibstock can supply structural arches in these cases, in one piece, removing the need for steel lintels. Brick slip voussoirs are bonded to concrete backing units



or alternatively a concrete backing is cast on the rear face of the brick slips, forming a mechanical key between the two materials. If less weight is required for a structural arch, a stainless steel backing can be used instead of concrete - options for support to the outer leaf only, or combined support to both inner and outer skins are available".

University West of England, Bristol

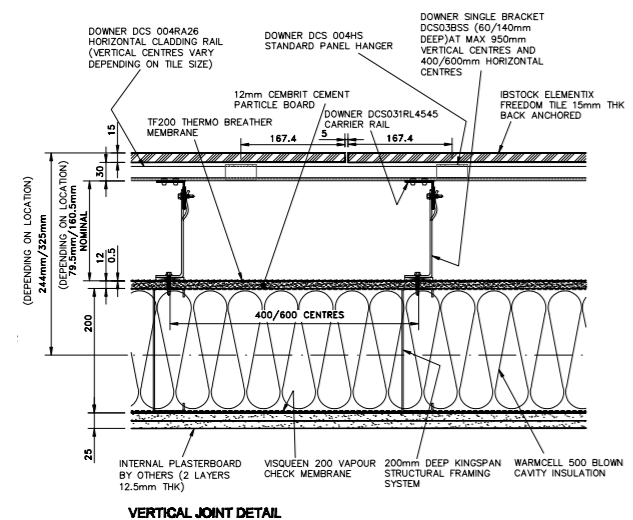
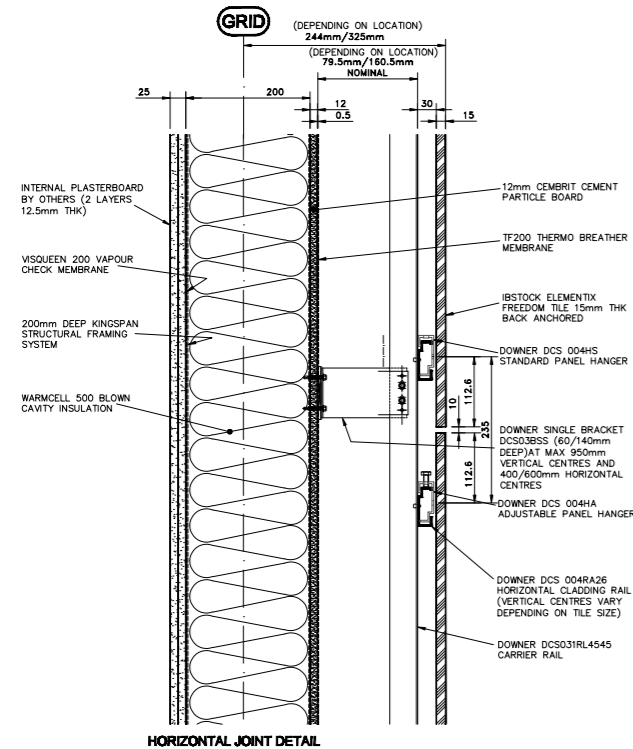
Stride Treglown has designed a new academic facility for the Faculty of Environment and Technology at the University of West of England. The BREEAM 'Excellent' rated design consists of 2,700 sq. m of teaching and office accommodation, informal learning spaces, a café, conference rooms and social spaces.



Elementix® gallery

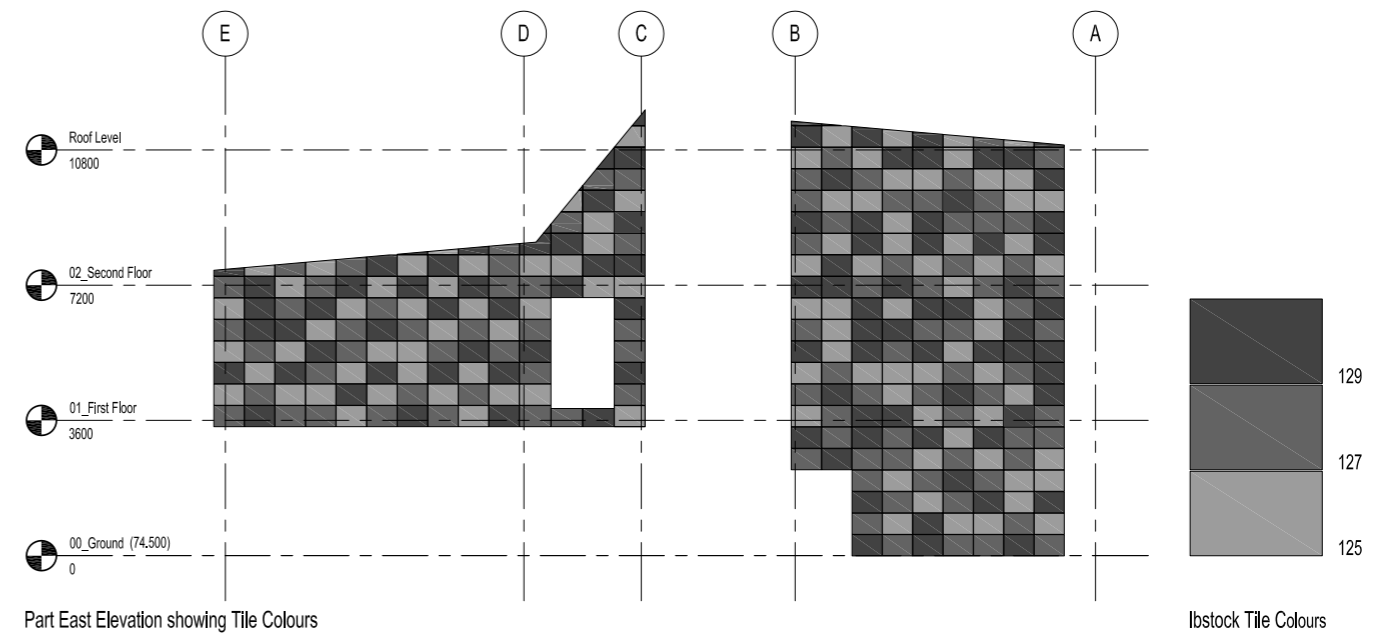
Architect: Stride Treglown Ltd
Contractor: Willmott Dixon
Rainscreen Cladding: Elementix® eco-freedom

The design employs a number of innovative technologies and materials to deliver a new environmentally sustainable building which can be used as a teaching tool and an example for the architecture and design students who will use it. The scheme is also a prototype for a new form of development principle at UWE, providing flexible teaching and social space which informed thinking for the development of the campus master plan, also being carried out by Stride Treglown.



The environmental strategy was one of the key driving forces behind the development. High levels of natural daylight are provided via large areas of solar-controlled glazing, external solar shading louvres on the south elevation further reduce solar gain. Highly sustainable materials have been specified including a new prefabricated straw bale cladding panel (ModCell) with a high thermal and acoustic performance. Furthermore a new rain screen cladding tile - developed especially for the building - was used. The tile achieves a 94.7% recycled material content using slate and clay dust from the Ibstock Chesterton factory in Staffordshire. To complement the Elementix® Natural Blue, two additional colours were created to produce a mottled effect across the façade.

At the briefing stage the University set a target for WRAP (Waste & Resources Action Programme) noting that at least 10% of the total value of materials used should derive from recycled and reused content in the products and materials selected. A bio-fuel boiler (using recycled chip fat from the University campus) and rainwater harvesting have been incorporated too.

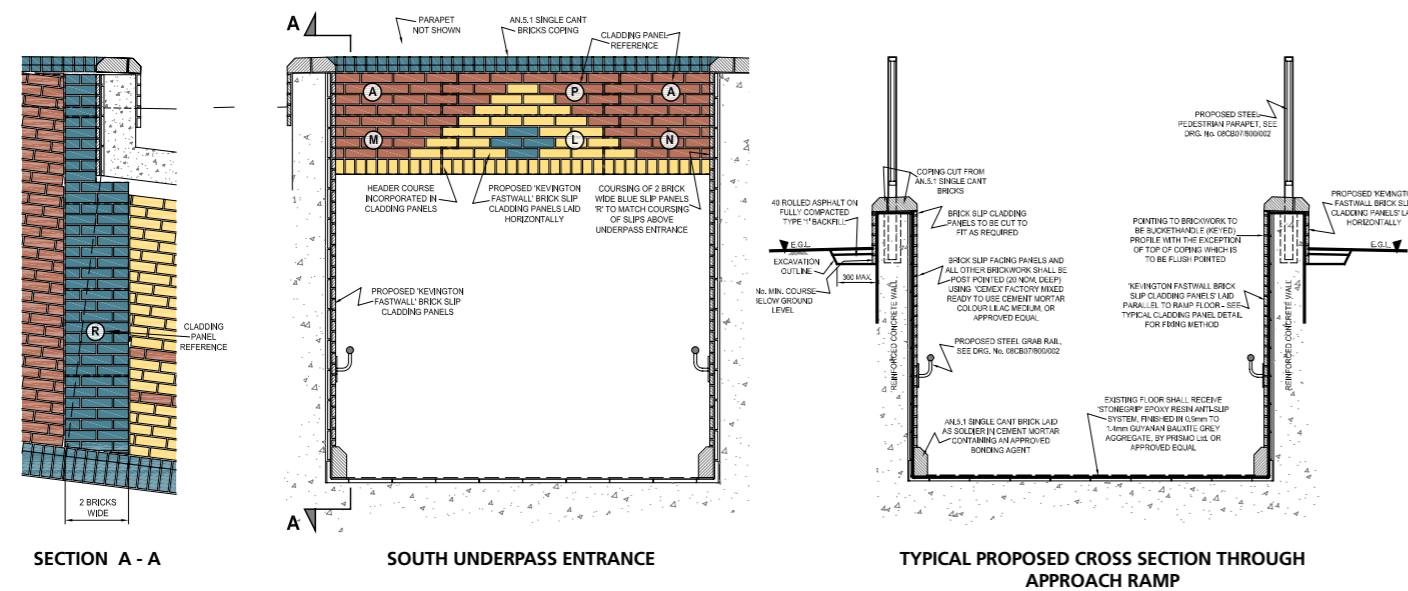
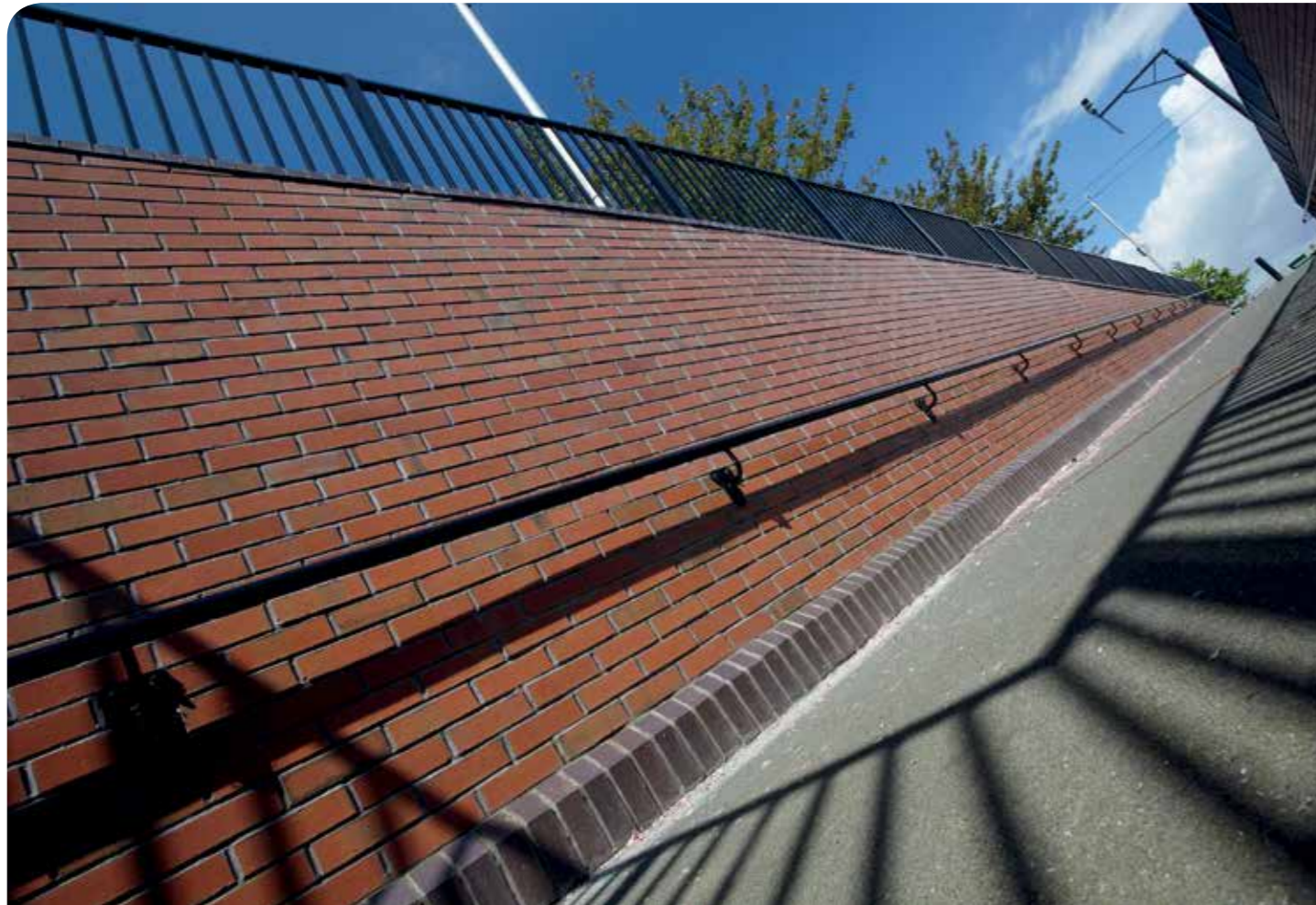


King Street, Ayr

Architect: South Ayrshire Council
Contractor: Chemcem Scotland
Brick Type: Fastwall - Albany Cream, Chesterton Multi Red Smooth, Staffordshire Blue Brindle Smooth



Fastwall gallery



The purpose of the scheme was to provide the public, and in particular the elderly, parents/ carers with young children, school children and those with disabilities, with a safer and more user friendly route for crossing the busy A719 dual carriageway in the centre of Ayr.

The refurbishment scheme for the underpass included new patterned brickwork wall cladding, new metal parapets and handrails, replacement lighting, anti-slip treatment to walking surfaces, drainage improvements, polished stainless steel mirrors to improve visibility at dog-legs and the installation of covert and external CCTV cameras.

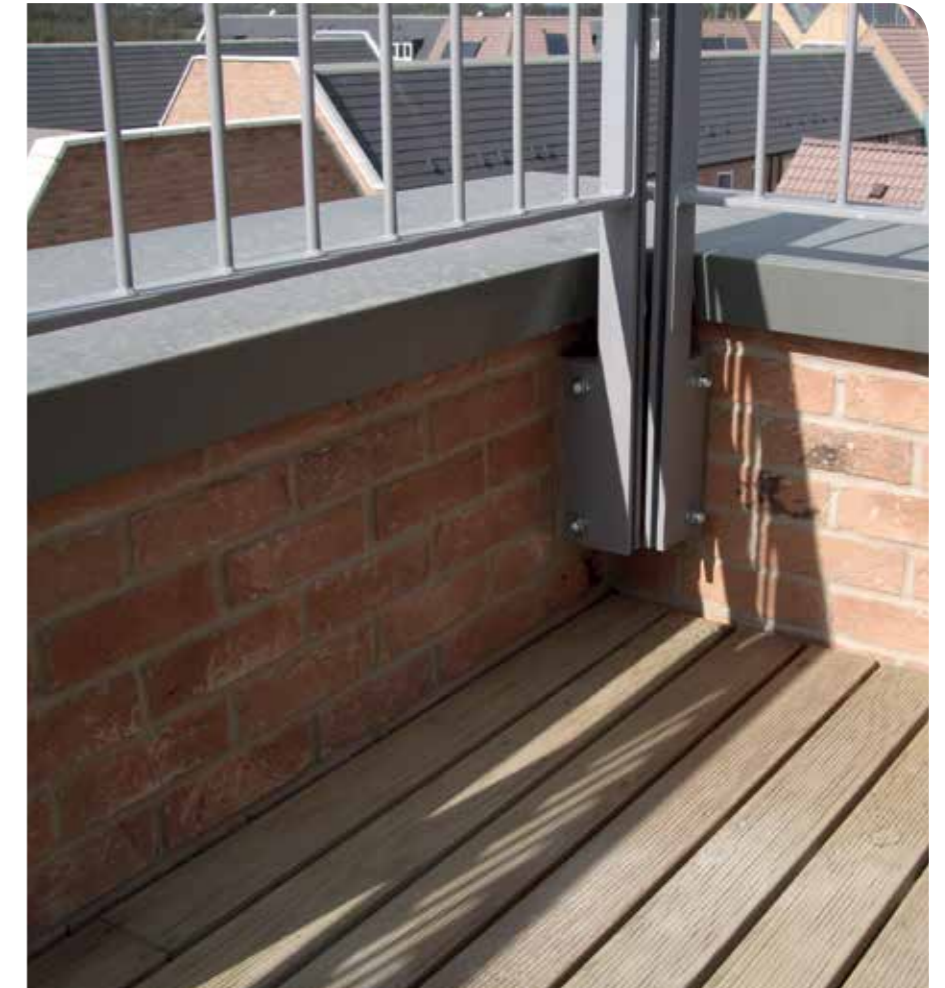
The scheme utilised the Fastwall system which is an innovative weather resistant way to clad, infill, or build a wall with real brick slips at incredible speed and efficiency. The system uses a series of interlocking panels which are fixed back to the substrate and pointed on site. Fastwall can be supplied in virtually any brick type to replicate traditional brickwork perfectly. It was used to create the patterned wall cladding in the underpass.

“... a safer and more user friendly route for crossing the busy A719 dual carriageway in the centre of Ayr.”



Paper Mill Lock, St Neots

Architect/Contractor: Taylor Wimpey, East Anglia
Brick Type: Fastwall - Ivanhoe Athena Blend and Leicester Multi Yellow



The location was a former industrial site extending to approximately 9 hectares in total, situated on land to the west of Mill Lane, Little Paxton. The northern portion of the site is largely undeveloped and will provide a multi-use community hall and sports pitch.

Planning permission for the erection of 426 mixed residential units along with public house and community hall with ancillary parking was granted back in 2003.

The range of dwellings across the site vary from 1 & 2 bedroom apartments and coach houses to 3 & 4 bedroom town houses. A selection of differing storey heights has been incorporated into the development, with three storey town houses and two to four storey apartment blocks. Of the 426 dwellings, 163 will be houses and the remaining 263 will be apartments with 302 providing open market dwellings whilst 124 have been allocated as affordable housing, which will consist of rented and shared ownership tenures.

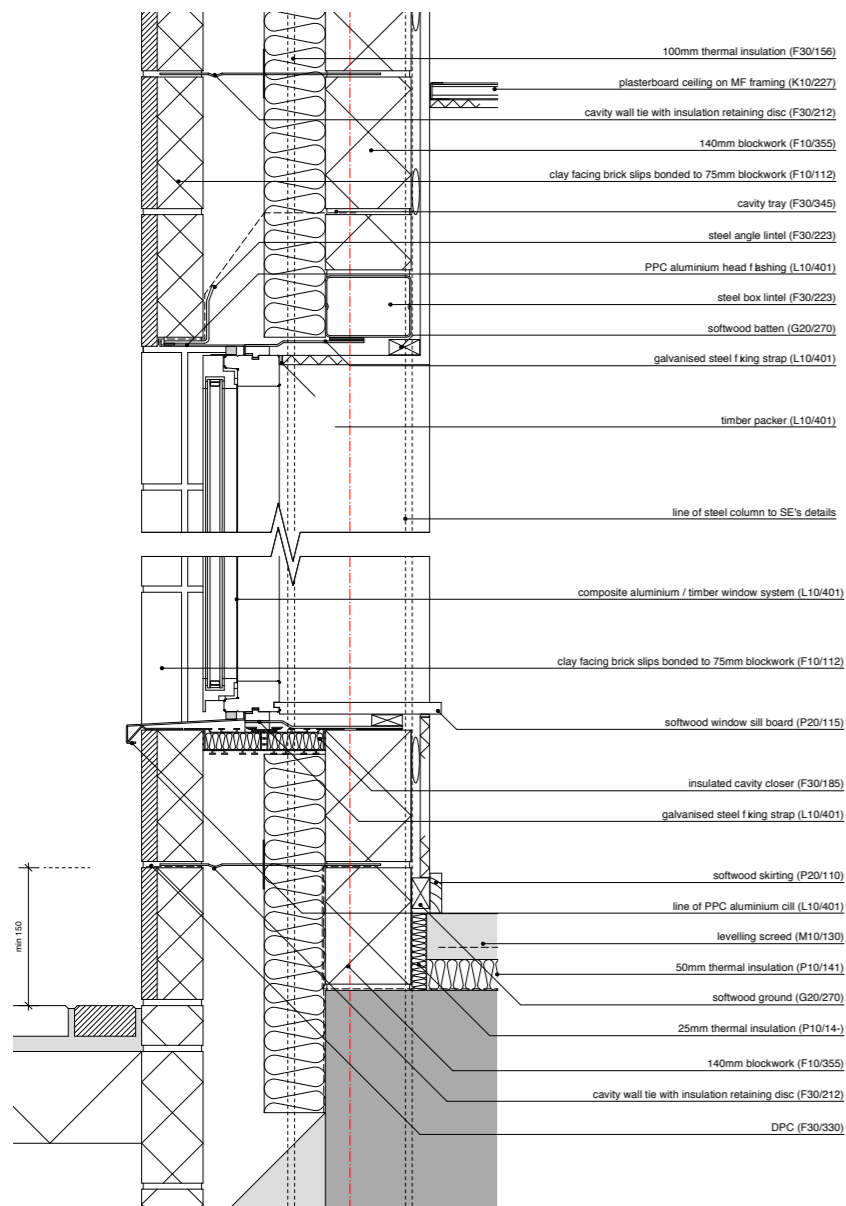
The Fastwall system of brick slips was used to construct the balconies on the new dwellings as it provided a lightweight yet durable solution in a facing brick to match the existing brickwork.

Poole Grammar School

Architect: Terence O'Rourke
Contractor: Rok Build
Brick Type: Brunswick Farmhouse Mixture

Terence O'Rourke was appointed by the Borough of Poole to improve the school's current facilities and assist in the authority's move from a three tier to two tier system.

With the existing buildings surrounded in close proximity by the school playing fields, limited space was available for expansion and so a small site at the front of the school was selected for the new Performing Arts block. The prominent position of the new building presented the opportunity to provide a new face to the school's existing 1960's buildings.



“ To avoid monotony on the elevations the same brick has been laid in different ways to provide a subtle difference in aesthetics and texture. ”

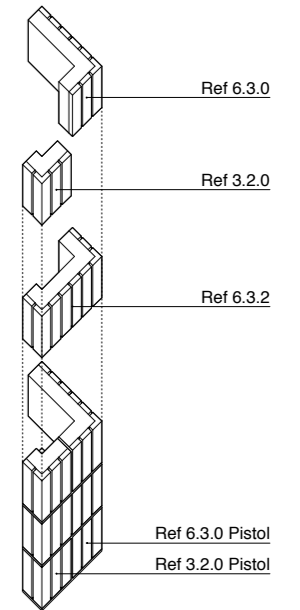


The design provides a new three-storey performing arts wing comprising a music department, a performing arts hall and a learning resource centre. This wing sits alongside, and is linked, to the new main entrance and reception area that has been integrated into the existing school.

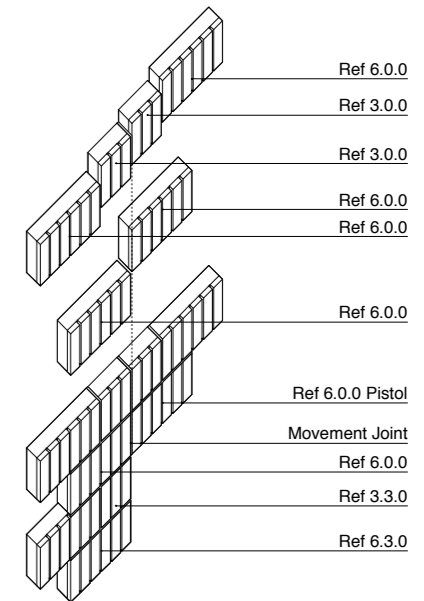
During the planning process the Local Authority was insistent that these areas should be clad in a red brick to allow the building to sit comfortably next to its 1960's counterparts. To avoid monotony on the elevations the same brick has been laid in different ways to provide a subtle difference in aesthetics and texture. A stacked soldier coursing has been used at high level where it can be viewed from a distance, but where the building meets the ground on the principle elevation the design uses a familiar stretcher course, as used everywhere else around the school.

The window bands create shadow gaps between the brick areas, further accentuating the different areas of the building. Where openings penetrate a clean face of brickwork, the proportions of the windows have then been adjusted to suit the brick coursing with vertical windows within the soldier course and horizontal windows in the stretcher coursed brick.

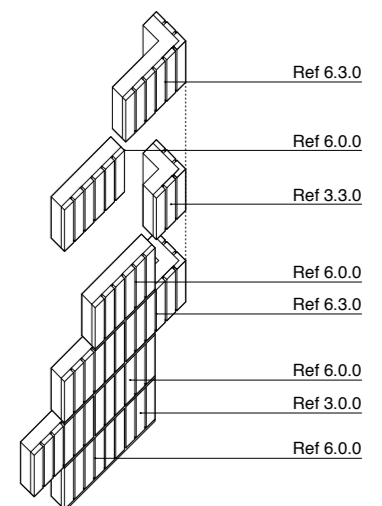
With a limited budget, the cost of traditionally stacked soldier course was prohibitive and so the solution was Ibstock Brickwork Components where a brick slip is adhered to a backing block. With 6 brick slips per block and a series of specials for the corners, these areas of brickwork could be constructed quickly without the use of bed joint reinforcement at every course. The ability to lay 6 bricks at once had a dramatic effect on the speed and efficiency of construction. This allowed the additional costs of the blocks to be offset against the cost savings in programme, whilst retaining a quality that would have been hard to match with traditional methods as the components are factory made.



Column Detail 01



Face Detail 02



Corner Detail 03

La Alhóndiga, Bilbao

Architect: Phillippe Stark, Paris
Contractor: Alameda Urquijo Urkixo
Brick Type: Handformed bricks - Buggenham, Holland. Prefabricated elements - Albert, Germany

The refurbishment of La Alhóndiga in Bilbao has transformed a former warehouse into a 68,000m² cultural and leisure centre.

The facade of the historic building, which was formerly used to store local wine and spirits, was preserved. Strips of floor 4 metres and 11 metres wide, adjacent to the facade, were also retained. The interior has been demolished to create space for the new facilities to be housed within the shell of the original building. The new centre includes a swimming pool with a terrace, library, cinemas, exhibition hall, retail, leisure space and an underground parking garage.

The main challenge for the designers was to unite the existing façade and floor strips with three new inner buildings and two basements.



Delivery of panels



Installation on site

The revitalisation of the historic building is an urban regeneration initiative led by French architect and star designer Philippe Starck, who designed the private chambers of the then president François Mitterrand in the Élysée Palace in 1982. One of the most important contributors alongside Starck and his team is the brick manufacturer and supplier CRH Clay Solutions.

For this project, Starck has applied construction criteria based on efficiency and sustainability; he has chosen materials such as concrete, exposed brick and glass and has introduced solar panels to the roof.

He has thus managed to humanise the building while always maintaining its architectural singularity, and has transformed it into a new landmark for Bilbao's daily life.

The last phase of the project began in December 2005: it is the construction of three buildings - versatile 7 storeys (2 levels half buried, a ground floor and 4 upper floors) as well as a vast atrium open on the ground floor. The internal walls and new top floor have all been constructed using pre-fabricated panels.

“The interior has been demolished to create space for the new facilities to be housed within the shell of the original building.”



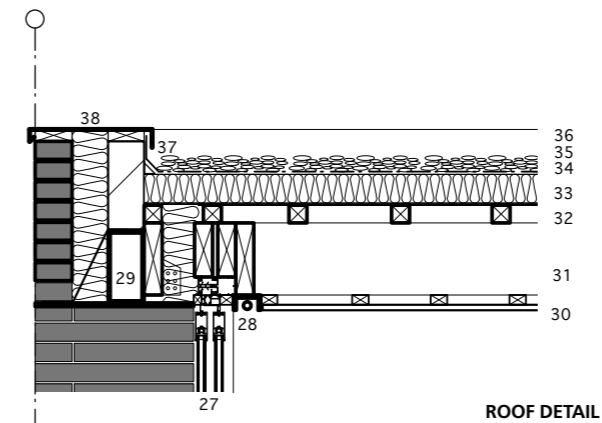
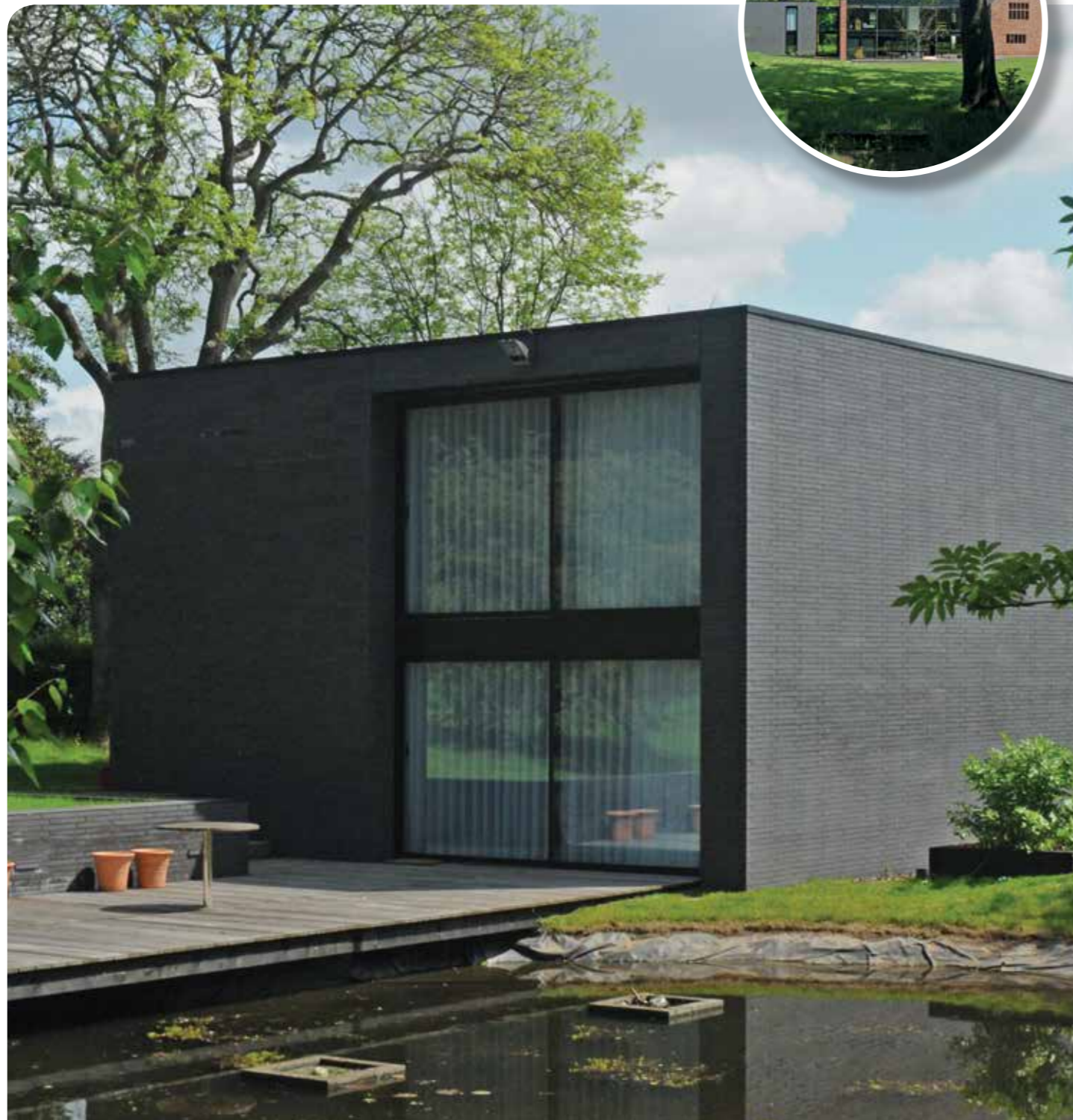
Oak Farm Extension, Allerton, Liverpool

Architect: shedkm Architects
Contractor: P & V Wild
Brick Type: Fireborn® Freedom Natural Blue Linear Range (440 x 50mm – Quarter Bond)

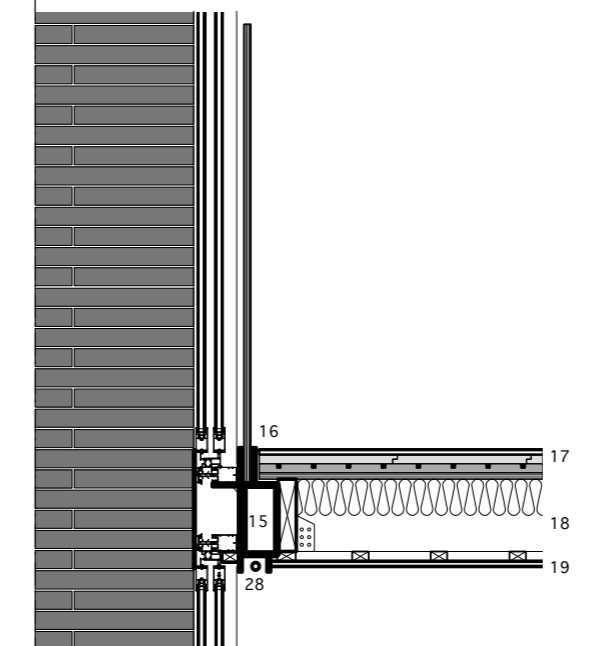


Linear gallery

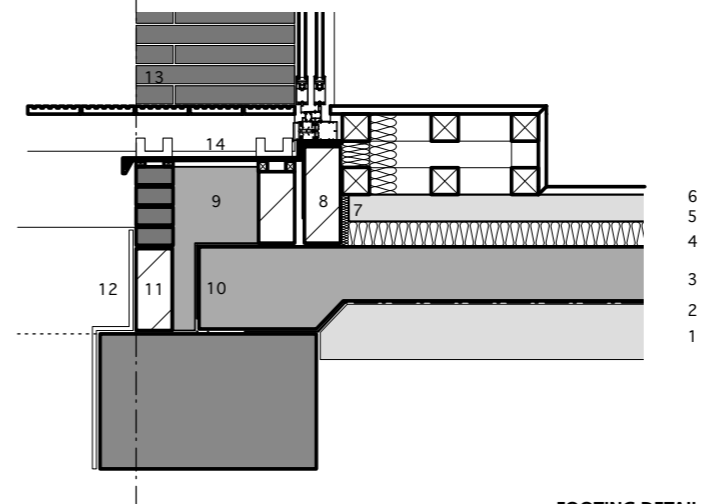
Oak Farm (the house that shedkm had designed for Jon & Nicole Falkingham) needed extending. The original farm house had its modern addition, but more space was required - a study, a small apartment and a guest bedroom.



ROOF DETAIL



LINEAR DETAIL



FOOTING DETAIL

There were many discussions with the Liverpool Planning Authority and a dark brick was agreed as a neutral backdrop to the local sandstone used elsewhere. Internally the building has a smaller scale than its big sister, but retains the same aesthetic - white walls, some bright yellow (the library) and high quality natural woodwork.

On the approach road, the building stands clear overlooking a small lake, but the glass link is soon revealed with a storey height door serving as the main way in to the main house.

This is a modest but surefooted design - precise and clear.

“The original farm house had its modern addition, but more space was required...”



- | | |
|--|--|
| 1. concrete binding | 21. 200 x 50 s/w timber joists at 400 centres |
| 2. RIW sheetseal 226 laid on concrete binding | 22. mineral wool insulation for acoustic separation |
| 3. concrete slab to engineer's details | 23. 18mm ply deck |
| 4. 70mm zone for celotex insulation to achieve u-value of 0.20- 0.22 | 24. 25mm zone for underfloor heating system |
| 5. 75mm slab, underfloor heating system laid within | 25. 25mm dry screed board over underfloor heating |
| 6. 22mm finishes zone - for junker's solid oak floor | 26. 15mm engineered oak floor glued to screed board |
| 7. celotex perimeter insulation | 27. glazing bar fixed 200 x 50 joist running perpendicular to main roof joists |
| 8. 100mm blockwork wall to fix glazing to cavity fill | 28. recess for curtain pole |
| 9. RIW flexiseal waterproof membrane | 29. 200 x 100 rhs lintel with 10mm steel plate welded underneath - see engineers details |
| 10. 100mm blockwork below ground level | 30. 15mm plasterboard, skim & paint, counter batons for plasterboard ceiling |
| 11. RIW double drain tanking membrane | 31. 200 x 50 s/w timber joists at 400 centres - see engineer's details |
| 12. lbstock brick 440 x 102.5 x 50 linear brick, 6mm recessed joints | 32. timber furrings to achieve 1/60 falls in roof |
| 13. coping formed over dwarf wall under deck | 33. celotex TD3000 flat roof insulation deck to achieve 0.20 U-value |
| 14. 200 x 100 rhs with welded tabs | 34. mastic asphalt roof membrane |
| 15. 10mm painted steel glazing clamp for 19mm toughened glass balustrade | 35. ballast finish to roof |
| 16. 22mm floor finish zone over u/f heating system & ply working deck | 36. parapet |
| 17. acoustic insulation, timber floor joists | 37. fillet upstands |
| 18. 15mm plasterboard, skim and paint | 38. formed aluminium coping |
| 19. counter batons for plasterboard ceiling | |

Products in focus - Fireborn®

In the first of an occasional series of articles, Andrew Batterham Ibstock's Design and Innovation Manager muses on the different design options created by using different sizes of clay blocks and bricks...



Fireborn® gallery

For most of us, whether involved in construction or not when we talk about a brick we have a clear picture in our minds about its size, shape and even weight. In Britain up to the 1960's as there still is today in Europe, there are a wide variety of sizes but all roughly based around the natural span of a man's hand - something that could be easily and repeatedly lifted. The origin of the face size itself is often thought to be derived from the rather mystical concept of the 'Golden Ratio'.

Anyway whatever the truth about the origins of today's bricks, in Britain 215mm x 65mm by 102mm makes up almost 99% of all bricks sold and is so familiar to us all. It is this familiarity that means that brick is sometimes taken for granted and gives it almost a domestic quality in the minds of some designers. Brick can give a scale reducing effect to large buildings.



Apartments, Watford, Hertfordshire | Fireborn® Natural Red

However back in 2003 Ibstock introduced Fireborn®, a large format clay facade block and a first for UK brick manufacturing to produce blocks of such size and make them in volume - bringing a new creative and cost effective option to specifiers especially where the size and scale of the building demands a strong statement to be made. This is not just an effect from the larger size of the units but also from the emphasis given to them by the reticulation of the mortar joints and their reduced number. This is surprisingly significant as in 'standard' brickwork mortar accounts for 17% of the visual area. With Fireborn® this can be significantly reduced to as little as 10% and a corresponding increase in the visual impact of the clay!

Fireborn® range | standard colours and texture

Featuring natural fired clay colour tones.



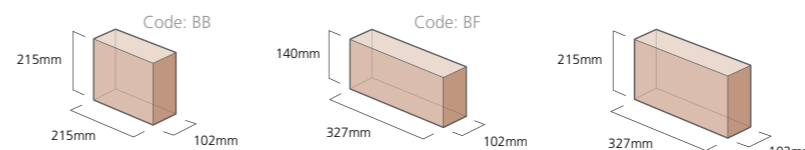
A range of vibrant glazed colours is also available.



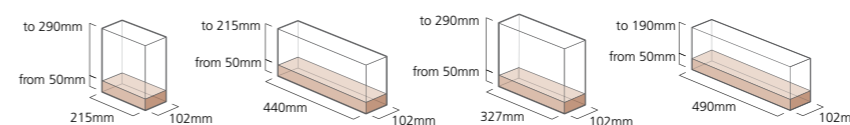
National Trust Headquarters, Swindon | Fireborn® Natural Blue and Staffordshire Slate Blue Smooth

size

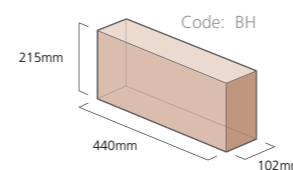
Fireborn® | standard blocks



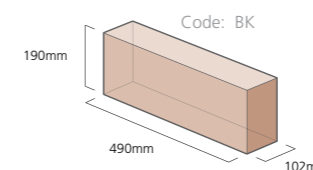
Fireborn® | freedom



Fireborn® | max



Fireborn® | max II



Special shaped bricks are available to simplify construction.



Office Development, Leatherhead, Surrey
Fireborn® Natural Cream



Private House, Liverpool
Fireborn® Freedom Natural Blue



Supreme Winner, Best Public Building & Specialist Brickwork Sub-Contractor (Gilbert Ash NI Ltd)
Lyric Theatre, Belfast | **Product:** Heritage Red Blend



Best Housing Development 6-25 Units
Bermondsey Island, Tower Bridge Road, London SE3
Product: Tilebrick™ Smooth Blue



Best Housing Development 1-5 Units
31-32 Dolben Street, London, SE1 | **Product:** Copper Glazed Bricks



Best Refurbishment & Renovation
Newton & Arkwright Buildings, Nottingham Trent University
Product: Smooth Cream Tap Brick



Project 1: Bluebell Camphill Phase 2, Nuneaton
Product: Arden Red, Arden Weathered Red, Marlborough Stock



Project 2: Montreal House, Canada Water, Southwark, London SE16
Product: Rotherhithe Blend (Atlas Smooth Red, Staffordshire Smooth, Staffordshire Slate Blue Smooth)



Project 3: Clover Mead, Phase 1, Telford
Product: Priory Weathered Red

Volume Housebuilder | Winner: Barratts



Best Craftsmanship
Ordnance Survey HQ, Southampton
Product: Priory Red



Best Housing Development 26+ Units
Union Phase Black B, Devas Street, London E3 | **Products:** a) Bow Blend: Milburn Ashen Grey Brown, Smooth Buff b) Bromley Blend: Milburn Ashen Grey Brown, Smooth Buff, Cheddar Brown



Project 1: Lyric Theatre, Belfast
Product: Heritage Red Blend



Project 2: Pilot Apartments, Belfast
Product: Deva Red



Project 3: Victoria Square Development, Belfast
Product: Birtley Olde English

Specialist Brickwork Contractor | Winner: Gilbert Ash NI Ltd

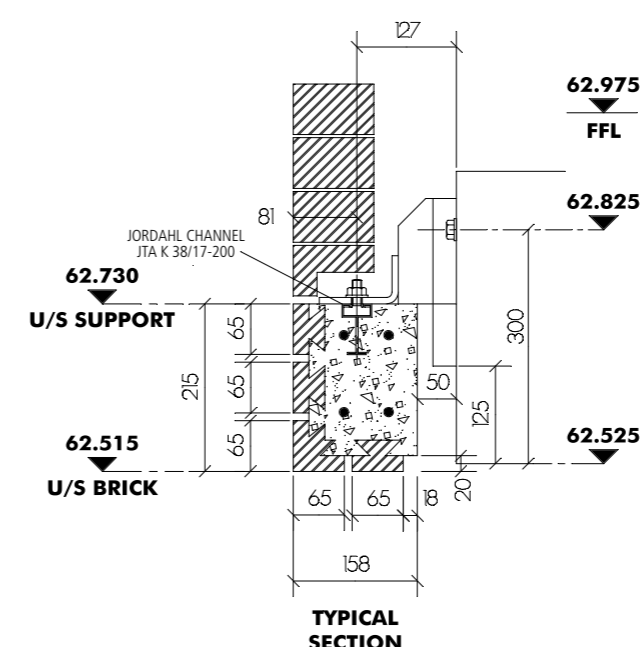
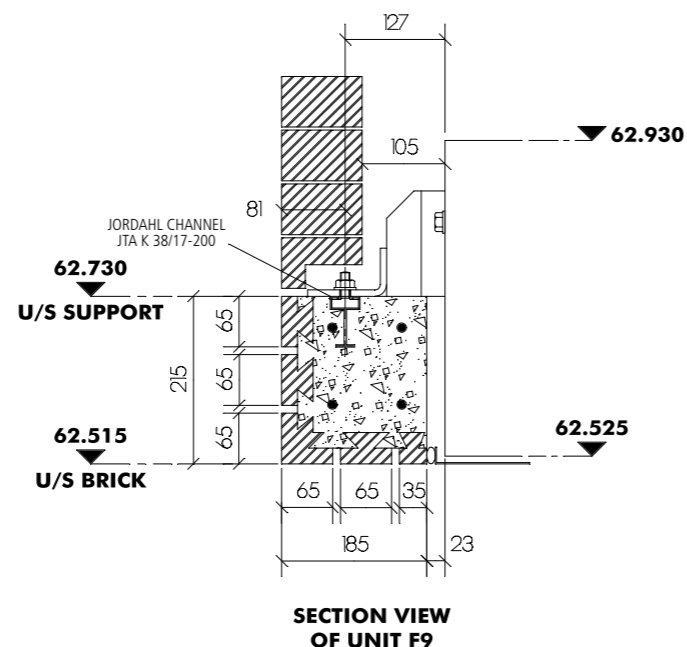
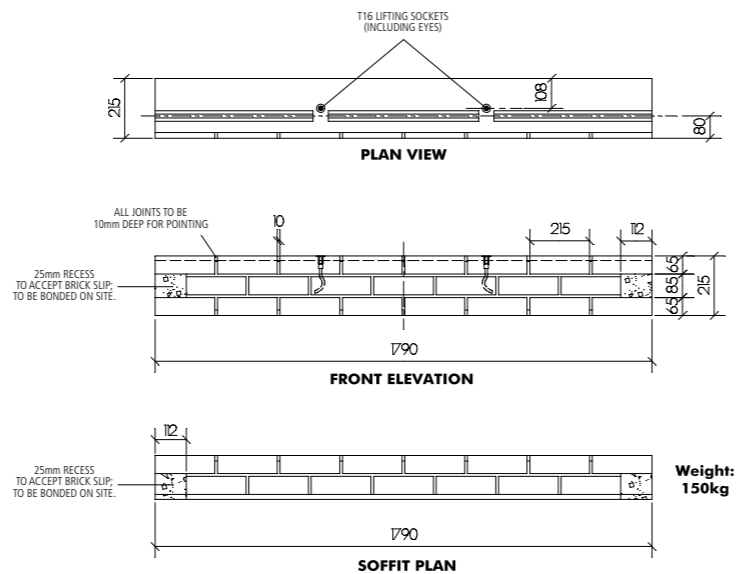
Back to Basics

Underslung Soffit Brickwork

In today's modern brickwork designs architects often want to omit the unsightly shelf angles in preference for the continuity of a long length of brick faced soffits, sometimes even providing a brick faced soffit to a considerable depth well beyond the thickness of the half brick thick wall above.

The challenge...

Until 5 years ago the primary method would have been to use loops of steel bars secured to short lengths of shelf angles, build up a timber formwork to the soffit level, place the soffit bricks on the formwork and push reinforcing bars through holes in the bricks having previously buttered the vertical face of the bricks with mortar to joint them together. The horizontal bars can be fitted through the perforations in the brick providing it is for a line of soldiers or brick on edge headers as the base course and provided extruded bricks are used with three perforations in them. But if you wish to have your soffit base course as stretchers, Flemish bond or your preference is for stock, handmade, waterstruck bricks or extruded with 10 perforation holes or more how do you get the horizontal reinforcing bars through? Drilling holes in the bricks can be costly if not impossible for some brick types not to mention that drilling multi perforation bricks can just break apart during the operation. The easier way is to have the holes drilled before the bricks are fired adding cost and time to the process.



Bear Lane, London

So how has Ibstock Kevington improved upon this process?

Ibstock Kevington manufactures lengths of brickwork about 890mm (four bricks) long. Longer or shorter lengths are made to suit project requirements. The backs have been cut off leaving a positive key for concrete which is reinforced and has a dovetailed stainless channel set along the top, as shown in the typical detail drawing adjacent along with two lifting eye sockets. Casting the concrete on the back of the keyed bricks ensures a positive bond to create a homogeneous unit. The concrete is stopped back from the face of the brickwork to allow for site mortar pointing ensuring a match with the surrounding brickwork.

The individual units are lifted into place on the underside of the shelf angles which have slotted holes to receive the T-bolts set into the dovetail channel. The slots allow the precast units to be finely adjusted to align along the face of the building. Once the bolts have been tightened laying the pistol bricks on top of the shelf angle can commence immediately thereafter.

Speed and ease of construction is far in advance of the previous methods and is the contractors' choice for simplicity. The bricks used for the units are all taken from the same batch as those sent to the site ensuring uniformity of appearance. The Ibstock Kevington Manchester factory has BBA Certification for its precasting.

For more information contact one of the Ibstock Design Advisors on **0844 800 4576**.

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



...just one reason why more award
winning projects feature Ibstock bricks.

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.

If you want to be number 1, learn more about Ibstock bricks at
www.ibstock.com/brickawards

IBSTOCK[®]
building sustainability

