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Damning conclusions...

seem to be drawn from the Grenfell tragedy, judging by the draft report by BRE Global for the Metropolitan Police, leaked to the Evening Standard last month. The conclusion it came to was that if the concrete building had not been re-clad, ‘there would have been little opportunity for a fire in a flat of Grenfell Tower to spread to any neighbouring flats.’ Five breaches of regulations were reported including the use of combustible cladding and insulation.

Dame Judith Hackitt’s full report is due out in May. But the interim one, whose most proactive

aspect regarding Approved Document B was ‘to revise the wording on assessments in lieu of testing, also known as desktop studies’ and ‘clarify the document so that it is easier to use,’ doesn’t go far enough and even the RIBA, institutionally diplomatic, has had to call them on it.

Chair of the RIBA’s Expert Advisory Group on Fire Safety, IPPRIBA Jane Duncan wants a ‘thorough re-writing of the building regulations and guidance on all aspects of fire safety.’ Desktop study bans and an easier life for consultants is simply not enough. ‘Sprinklers,

a second means of escape, and a ban on flammable cladding for high rise residential buildings are common sense recommendations,’ she continues - all of which will affect cost, the private developers’ bottom line; and in the end, the Government’s own housing targets.

Could changes to ADB usher in a return to a public house building programme, with homes that are decent, and above all, safe for everyone? As the first anniversary of the tragedy approaches, that would be a fitting memorial. ●

Jan-Carlos Kucharek, editor



More online...
Overall construction time was 10 days, including the time required to level the stony floor
[The EU’s first 3D printed house goes up super fast and is demountable: ribaj.com/3dhousemilan](#)

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Cover image: Mondrian Doha hotel by Marcel Wanders

Compendium

UPCOMING

Retail Design Expo 2-3 May, Olympia, London

Design in Mental Health 15-16 May, NEC

Birmingham

Clerkenwell Design Week 22-24 May, various venues, London

Vision London 21-22 June, Business design Centre, London



VMZinc

Little on this new National Conservation Centre in Stirling gives it away as a training facility for traditional building methods and materials. There may be a restored engine shed sandwiched in between, but these are very contemporary 'pieces of bread', mimicking the middle with eave-less minimalism. Peel away the VMZinc walls and roof, though, and you'll find a timber-framed structure stuffed with sheep wool insulation. The Anthra-zinc is installed in artisanal ways too – standing seam, flat lock, composite – some of which hark back to 19th century Paris. But how, when they restored the shed's slate roof, did they rub the grey onto the sky?

Plastic surgery

Even the Hayward Gallery on the South Bank might feel in need of a face peel after 50 years. And during the two-year restoration by architect FCB Studios, that's exactly what it got. Charged with the restoration of the internal architectural concrete elements of the famously brutalist building, specialist contractor Cemplas looked to Remmers' very arty sounding 'Arte Mudit'. It's a self-vulcanising cleaning paste that dries into a peelable natural latex that lifts all the ingrained residues away without either dust or the use of water. Because you're worth it!



Bending your ear

LG seems to be doing well for itself, as exemplified by its new HQ in Seoul (p26). This success could be attributed to its development, post-war, of a chemicals and electricals division, which in the silicon age has propelled it to the forefront of the tech industry. So it's no surprise to see its new range of flexible OLED panels. Luflex, only 0.4mm thick can be twisted and bent into a 30mm radius without any loss of functionality. Not only that, it's Crystal Sound OLED also serves as a speaker diaphragm so your bedroom luminaires will now be able to whisper sweet nothings to you before it turns itself down for the night. Try and mass-produce that!



Arts courses

Chester knows a bit about walls and the time it takes to build them, and both are reflected in its Storyhouse theatre. Bennetts Associates added to the redundant 1930s Odeon cinema to create a state of the art cultural complex – but insisted the extension respect its ancient context. The cinema's 'Jacobean' bricks were made in a defunct North Wales brick foundry, but Bennetts chose a bespoke clay brick developed with Cumbria-based Furness Brick, using nearly 124,000. The clay mix has been immortalised as its 'Theatre Blend'.



Give him a warm hand

Milan's Design Week tends to throw up the weird and the wonderful – both of which might be considered well represented with 85-year old German designer Ingo Maurer's 'Bellissima Luzy' luminaires, launched at the event last month. The bizarre range has been fashioned from plastic gloves with low-voltage frosted light bulbs at the fingertips. Their design also exemplifies the liquidity of design inspiration, with Maurer initially creating an installation of dyed blue sponges that involved the team hanging their paint splattered gloves up to dry against the studio wall every evening. After a while illumination struck. Staring at them hanging there 'it was more than whispering to be a lamp, it was blaring it out!' confides Maurer. His melange of Marigolds-meets-Yves-Klein-International-Blue will certainly raise eyebrows wherever it's installed, though where to put it might be taxing. Rubber fetishists will be pleased to know it's also available in black.



Time, gentlemen, pees

You know you've made it when your brand name becomes synonymous with the product itself. Such was the way with 'Hoover' and 'Sellotape', and more recently, a 'Google' when you're going to use a search engine. Of course, the pro-genitor of all of that was the Thomas Crapper syphonic flushing toilet – an innovation that sees the man's surname uttered to this day. Not content to sit on its laurels, however, the firm has relaunched its 'beer pull' cistern on the cast aluminium Viceroy range. Available in white, British Racing Green or 'Crapper' Red, the pull is a subtle reminder to Britain's regulars of a life less syphonic than cyclical.

The blue hole

No, not the world's deepest sinkhole, in the South China Sea, but a design approach from architect Holder Mathias. The firm has picked up on a yooof vibe and dropped the 'g' for its Livin' student housing development of 136 studios in the centre of Cardiff for developer Modra. In an area that was once part of the city's 'Gallows Field', there's a different kind of 'slaughtered' going on now, with the road being regenerated as a new student residential enclave. The six-storey scheme has a facade of finely profiled, blue metal sheet punctured with striking large portholes with deep aluminium reveals, signalling the atomised nature of the studios within.

It should prove popular with Chinese students – in Feng Shui round windows symbolise peace and tranquillity.



From little acorns...

Given the abandonment of Building Schools for the Future in 2010, it should be considered a victory that the OFSTED Outstanding Surrey Square Primary School near South London's Aylesbury Estate managed to fund its just-completed Early Years Centre and crèche. Earle Architects has done a good job of counter pointing the stiffness of its original Victorian building with a far warmer and more welcoming shingle-faced single storey block. Built using Kingspan's TEK system – panels fixed to a glulam frame – the whole lot was craned into position and assembled in just 15 days. Top marks!


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Update our cities with a form first approach



Building services engineer Max Fordham once suggested similarities between building design and iced tea: 'To make a cup of ice tea you first need energy to boil the water, then you add further energy to cool it'. Likewise, building design decisions often result in internal overheating which then necessitates cooling devices. And it doesn't end here: not only do coolers add heat to the external environment, resulting in a further cooling need; but the way that we occupy and design cities, often degrades our urban environments so that the 'open the window' option is less viable and resolution is sought at the building scale. This creates further energy needs, generating more heat and pollution.

These interdependent energy relationships are often worsened by the built form of our urban environments, which can trap heat and pollution. This makes urban climates generally warmer, less windy and more polluted than those outside the city. While the often-inherited footprint of many cities follows the historic built form (designed to maximise passive resources

both in and outside buildings) cities are emerging today without consideration to these built form effects. Furthermore, although these energy relationships are often acknowledged there is no evaluation of a city's morphology in the architectural context of sustainable development, and the potential for a holistic assessment at a neighbourhood scale is overlooked.

There is a growing and critical need to understand the spatial characteristics of both temperature and pollution dispersal within the urban context and how these differences vary depending on time of day or year and background conditions alongside the level and timing of the urban function. Recognising this, there is increasing uptake of a new generation of low-cost sensors and urban climate sensing networks which are being to appear. However, they still mean a costly outlay in terms of equipment and research.

To address this a new research project, Urban Lab City, sets out to investigate the impact of the City of London's morphology on its

local climate and air quality. Here a series of measurements is being undertaken and a network of remote sensors is being installed. Data will be collected at specific locations and selected on specific ventilation effects – identified in a previous measurement programme – which were driven by the built form. Results will be correlated with the City of London's continuous analyser at Walbrook Wharf which is linked to larger network of air quality monitors.

Gathering evidence on the role of the built form in modifying background climate conditions, it is hoped that the results will show the dynamic nature of building and urban form on the wider environment and reveal the long-term benefits of a 'form' first approach to sustainable urban development. Results will aid city planners, designers, architects and developers to make informed strategic design decisions around built form while limiting the impact of development on the Ice Tea City. ●

Julie Futch is an architect and independent researcher at Urban Generation

Books

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The Architecture Concept Book: An inspirational guide to creative ideas, strategies and practices

James Tait. Thames & Hudson. 280p £24.95 HB

It's usually the mark of a bad book that, on first impression, it seems to be stating the patently obvious; and you sure get that sense here. But James Tait's book outlining the 32 key architectural concepts that he thinks are critical to the creation of great buildings does reward further interrogation. Copiously illustrated, the author declares that 'we must always have a reason to build' and then spends nearly 300 pages breaking down the best ones – under the headings of Assess, Analyse, Assemble and Augment. But rather than a bunch of post-rationalised images justifying design intent, Tait takes us on a more complex and personal journey that reflects his own fascination with the intangible elements that create great architecture (or not).



Play the City: Games informing urban development

Ekim Tan. Jap Sam Books. 392p £24 PB

Tan's PhD work on city gaming informs the basis for this larger text challenging architects and urban designers to take on board a world 'that is reshaped by the likes of Minecraft, Pokemon Go and Foursquare'. The book expounds the various outcomes of what she calls 'city gaming' as developed by 'play the city' teams using case studies from Shenzhen, Cape Town, Amsterdam and Istanbul. Tan may have set up a consultancy helping local government and developers engage with stakeholders and that all sounds very exciting; but I can't help feeling that if this world is best developed as a real-time/virtual experience, then this brightly coloured tome, bulked out with large format text, old school pics and diagrams, is probably not the best way to describe it.



The Art of Architectural Daylighting

Mary Guzowski. Lawrence King Publishing. 230p £50 HB

What's great about this book is the fact that, rather than just talking about the more esoteric aspects of architectural lighting, the author puts her money where her mouth is. Taking 12 recent buildings declared as designed by 'Masters of Light', over six themed chapters, Guzowski not only discusses qualitative, aesthetic and experiential aspects, but then goes into scientific principles, via technical analysis diagrams and virtual modelling. Presented as a large format book, both images and diagrams are afforded plenty of room to communicate their message, so making a book that's packed with information. It's especially nice to see, in the technical analysis of Renzo Piano's new pavilion for the Kimbell Art Gallery, a lighting study done on Kahn's original oldie-but-goodie.

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Left Node integrates various services; mechanical, security, lighting and audio into one ceiling system. **Below** The Node system can also be hung from steel hangers.

Integrated services

What: Node, services integration

Where: In a ceiling near you

Frustrated by the difficulties of co-ordinating building services in an aesthetically-pleasing way, Foster + Partners has come up with its own integrated system for ceilings. Node is the result of a five year concept study to rethink services integration, developed in collaboration with mechanical services, electronics and controls manufacturer Price, and lighting specialist Artemide.

Foster's head of industrial design Mike Holland says architects often spend far too much time trying to control the visual noise of elements such as sensors and speakers. Even specifying the same shade of white can be a problem.

Foster's has created a visually quiet, calm and cohesive system with the flexibility to incorporate a sufficiently wide range of technical equipment including lighting, security, fire prevention and air distribution, in a variety of mounting options. Crucially, all devices can be specified and commissioned as a single system.

As well as the devices themselves, Node consists of a family of interfaces, tracks, channels and networks that share the same visual language. Central to the Node concept is a constant 90mm diameter for all circular devices, the smallest dimension that didn't compromise the quality of any element. Within these devices – down/spot light; emergency light, sprinkler, concealed sprinkler, speaker, security camera, multi-function sensor and a rose node with an open protocol to accommodate pendant lights by other manufacturers – are incorporated various reciprocal interfaces [see sidebar] in the Node system including flush, channel or suspended track options.

'These interfaces give a flexible system that still allows the creation of something that's

tailored to the building,' says Holland.

The third aspect of Node is its network. While the initial motivation was aesthetic, as the project developed it evolved to include a network of intelligent devices with integral controllers and standardised wiring, power and communication. This means devices are able to 'talk' to each other by sharing data such as temperature or light levels, and act accordingly. The network also allows changes to be made to the control of building services as required – for example if an office is sub-divided – without having to open up the ceiling and intervene physically to create new networks for different zones. All Node devices can be individually adjusted via a wall-based control interface.

According to Price's vice president for design and business development, Julian Rimmer, co-ordination of building services in the ceiling has long been a 'known problem' for architects and designers. He expects both the design team and client to appreciate the pre co-ordinated nature of Node, which will simplify the installation and lead to a more flexible, easily maintained and aesthetically-pleasing result. The simpler installation also offers potential energy consumption savings from a more rational, co-ordinated system. As a result, the design team expects Node to be cost-neutral.

'The devices themselves are simple and minimalist with no unnecessary use of materials which can drive up costs, and are designed for cost-efficient manufacture,' says Rimmer.

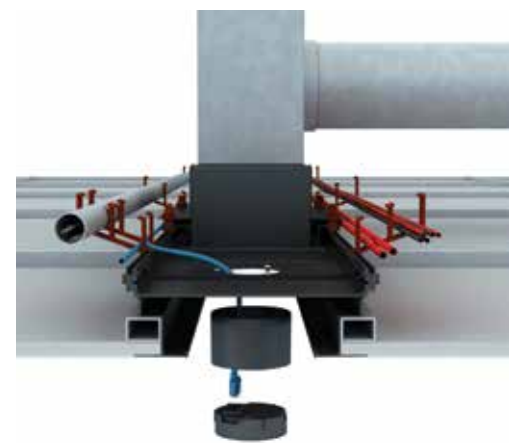
Node has been installed in Price's London offices and is available commercially from next year, with the lighting system offered separately by Artemide as the Hoy range. Foster and Price expect Node to evolve, with potential to incorporate additional devices such as illuminated signs and air quality samplers. ●

Pamela Buxton



NODE INTERFACES

Node's interfaces are designed to accommodate the 90mm diameter devices in a variety of ways. These are surface mounted (40mm depth); flush mounted (with or without trim) and channel mounted (flush or recessed). Track mounted devices suspended from the ceiling are also an option, envisaged with existing buildings in mind. A channel option incorporates cable management hooks and is suitable for use with a 6in speaker for multimedia, higher end sound and hidden HVAC diffusers. The 3in round node speaker can be used with any interface as long as there is enough depth in the ceiling. Node's recessed channel mountings can interface with any ceiling type including timber, plaster, metal and fabric. For the latter, Foster's designed an interface with Kvadrat's acoustic fabric panels. The standard system is available in aluminium channel and track components and profiles and with white and black plastic device casings, although there is scope for customisation.



Flexible flooring

Spanish floor tiles are a practical and elegant choice for high-traffic areas, offering a sleek and contemporary look for expansive spaces. Designs that have been created with a broad spectrum of projects in mind are widely available and ideal for applications from large-format indoor/outdoor flooring to high-impact feature installations

Digital drama

Advances in digital technology mean that tile manufacturers can faithfully replicate a wide variety of surfaces such as wood, marble and stone, offering all the aesthetics of a 'raw' material but with all the unique advantages of ceramic. The Spanish tile industry, already known for its rich heritage, continues to evolve both creatively and technically, as it becomes increasingly quick and cost-effective to undertake smaller production runs. If a project requires something unusual, Spanish manufacturers can respond with tiles and slabs that imitate distinctive effects, including innovative reinterpretations of traditional products such as terrazzo or marble. Several brands also have the capacity to create bespoke surfaces for unique architectural needs.



Above
Strand by Vives:
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x 150cm, 100cm x
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100cm formats that
replicates marble.
www.inalco.es





Flexibility of formats

Pioneering tile producers are continuing to explore the potential of extra-large porcelain slabs in thicknesses that meet a variety of purposes. Flooring with a 6mm profile can be matched to co-ordinating formats for countertops in 12mm thickness for an immersive effect. Thin porcelain sheets are also ideal for providing a grout-free finish that is easy to clean as well as contemporary in appearance. However, the popularity of the small-format Décor tile endures, particularly for creating pattern and geometric effects. Another valuable development is the extended offering of porcelain floor tiles that can be teamed with ceramic pieces in co-ordinating hues, allowing for seamless decorative schemes.



Above

Calacatta by Neolith: Porcelain slabs that come in 320cm x 160cm, 320cm x 150cm and 360cm x 120cm formats, two finishes and a variety of thicknesses. Bookmatched formats available. www.neolith.com

Below

FS Rialto by Peronda: Designed by Francisco Segarra, this porcelain 45.2cm x 45.2cm format with large stone flecks is an innovative take on traditional terrazzo. Can be mixed with a grey cement-effect tile. www.peronda.com

Inside-outside

As many architectural projects now blur the border between the exterior and interior space, a growing number of Spanish manufacturers are answering with an enhanced choice of porcelain products. Suited to interior or exterior application, porcelain tiles benefit from a near-zero absorption rate, making them frost-proof and ideal for the UK climate. As an alternative to concrete slabs on balconies and terraces, porcelain surfaces enable more personalised designs while solving more functional concerns.



Top

Ardesia by Saloni: Porcelain floor tiles in four formats designed to be combined with a co-ordinating range of decor tiles in three neutral colourways. www.saloni.com

Above

Montreal by Grespania: Technical full-body porcelain tile in three finishes and six colourways. Available in five formats including 80cm x 80cm, 60cm x 60cm, 30cm x 60cm, 30cm x 30cm and 15cm x 15cm. www.grespania.com



About Tile of Spain

Tile of Spain is the voice of the Spanish tile industry, encompassing more than 120 tile manufacturers. Renowned worldwide for an inspiring blend of aesthetic and technical innovation, Spanish tiles draw on a rich heritage of skill and creativity, while remaining at the cutting edge of design. Manufactured in Spain and widely available in the UK, these products embody the spirit of an industry that prides itself on proposing beautiful, meaningful and high-performance solutions to flooring, wall coverings, furnishing and external paving and cladding.

Further information:
www.tileofspain.com





Mondrian Doha hotel, Qatar

Elaborate patterns, sumptuous textures and rich colours vie for attention at Marcel Wanders' fit out

Words: Pamela Buxton

With bedroom carpets like sculpted sand dunes and great swirls of patterned soft and hard flooring, Marcel Wanders' Mondrian Doha hotel in Qatar is a delirious mix of pattern, colour and texture that is remarkable even by his maximalist standards.

The Dutch designer wanted to create a majestic environment with an element of fantasy and it's clear that he has succeeded. This is an unforgettable interior that will have guests frantically sharing on social media. The only problem is what images to upload - the dramatic spiral black staircase? The lobby adorned with golden eggs and a bell like chandelier? Or perhaps the top floor pool hall beneath a Tiffany-inspired, stained glass dome?

'We do want to make iconic interiors and iconic images that live on in the eyes of people,' says Wanders. 'We want it to be a place that speaks to them and surprises them and gives them an experience they'll remember.'

The interior concept leads on from Wanders' design of Mondrian South Beach hotel in Miami, which featured his customary use of outsize pattern and bold sculptural elements such as distinctive staircases and columns. In Doha, these are revisited and given a distinctly Middle Eastern flavour with references to sand dunes, starry skies, geometry and tiling

A craze of carpet completes the effect in what is the largest ballroom in the region.



Above: Laser-cut black and white tiles create a supersize pattern for the larger-than-life entrance lobby.

Left: The stained glass dome of the pool area is augmented by a bar in a riot of colours.



Client: SBE
Designer: Marcel Wanders
Architect: SWA



Above: Wanders occasionally strays into the realms of restraint, seen here in the treatment of the hotel's atrium area.

Left: Decadent bedroom suite interiors are augmented with a thick, textured carpet that contours up like sand dunes.

and Arab miniatures.

'If you're in the Middle East world there's a sense of story telling and a sense of wonder,' he says. 'The place has its own mood and you can capture that. Every night can be a new night with a new story.'

Wanders believes in telling stories through the treatment of surface and its interplay with pattern and depth, something he feels is sadly underused in the work of many designers. At Mondrian Doha, this includes the hugely varied treatment of flooring. This contributes much to the different moods created throughout the 270-bedroom hotel, which is operated by hospitality company sbe. Much of the flooring is bespoke, since, says Wanders, 'we like design more than we like shopping'.

In the lobby, the supersized, black and white floor pattern is a key element of an immensely memorable first space to greet the guests. The design picks up on the big pillars and black and white flooring of the Miami hotel but this time adds a golden bell – a symbolic invitation to guests to come to the hotel – and a sprinkling of golden eggs on the columns. This references the architectural form of the building, by Doha practice South West Architecture, which has been likened to the shape of a falcon, a national symbol of Qatar. Rather than fading into the background, Wanders wanted the black and white floor to be a prominent 'player' in the design composition, so created a large florid pattern using laser-cut black and white glass tiles. These contrast merrily with the colourful mosaic tiling of the lift lobby walls.

A similar approach is used in the 27th floor pool hall, where the chequer board black and white tiled floor adds another strong element to an already spectacular room dominated by the coloured glass dome and the pool itself.

Similarly, the design of the ballroom carpet holds its own against considerable competition from the multitude of chandeliers, drapes and voluptuously-contoured columns in what at 1,820m² is the biggest ballroom in the region. The hand-tufted carpet is patterned in a lush blend of four or five designs inspired by different parts of the world and was manufactured by a Turkish company. 'The [designs] start to entwine and to have a conversation. That's why it's so wild, active and powerful. It has its own

quality and richness,' says Wanders.

Further richly patterned floral circular rugs are used in the lounge areas to delineate areas of comfortable seating and as a tactile warm contrast to the glacial qualities of the white tiled floor and, in the lobby lounge, an array of white 'tree of life' sculptures.

The atmosphere is much darker and more intimate in the Black Orchid nightclub. Here, what at first sight appears to be a soft patterned carpet turns out to be a robust dance floor.

Perhaps the nicest touch is in the bedrooms, where guests can run their bare toes through hand-tufted, sand-coloured carpets that have been custom 'shaved' to create the 3D contours of sand dunes. These were made by a Dubai-based company in a two year collaboration that began with the designers sending drawings of desert sand lines along with specification of the size and contours of the dune-effect required.

Wanders hopes that guests will be 'surprised and excited' wherever they go in the hotel and have a truly memorable experience.

'True luxury is when you come back from the destination and you take the story with you – a story with content and meaning,' he says. ●



Top and left: Male and female Hammam areas have an Alice in Wonderland quality – especially regarding scale.

Above: The 'carpet' of the nightclub area is in fact a highly robust, hard surfaced dancefloor.



Designer: John Robertson Architects (JRA)
Photography: Seveer Media

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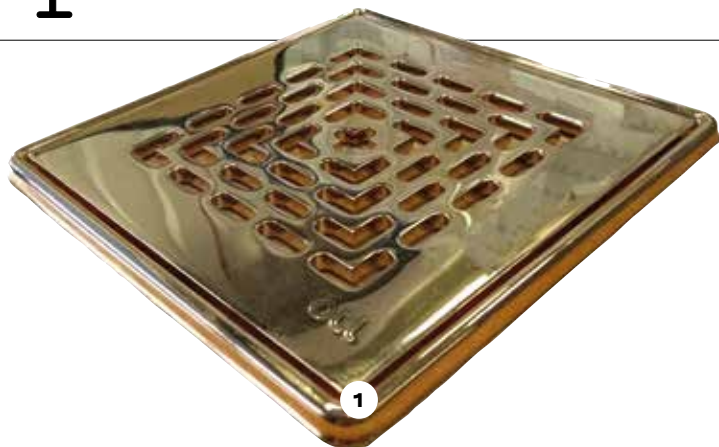
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Specified



1 Shower drain grating On the Level

This is clearly a very dashing gold-plated shower grate. But were it 'The Golden Waffle' it would be a new award given to the architect best able to cram the most, least relevant, most overused theoretical references into an award entry. Bonus points would be given by the committee for the use of three, randomly chosen words during each awards entry period. 2019's words would be top secret, but previous years' bonus points could have been given for the use of 'amanuensis' 'equilibrated' and 'cradle-to-cradle.'
onthelevel.co.uk

2 Human Connections flooring system Interface

This flooring system pictured in Google's foyer is a great way to put faux-botanic pressure on job candidates for extra-competitive positions. Just press the button, and moss will grow from the floor, giving the impression that the prospective employee has been waiting an extremely long time for their job interview! How will they cope with your questions after the hint that other, better attendees have been given more of their time? [Note from editor: this is not true.]
interface.com

3 Flooring adhesives Bostik

If mixology is the science you know best, you'll feel right at home in Lab, the Hoxton-style bar being run out of this Swansea University chemistry lab by grads Ludo Hunt and son-of-shipping-magnate Philip Suvlaki. Have a ball creating the drinks yourselves from the fun multicoloured taps (which is gin, which is vodka, which is liquid fluorine hydroxide?), gather friends on the flame-resistant stools and have a pipette or two. And if you drop off your perch, you'll find yourself face down on a floor perfectly levelled by Bostik's Screedmaster Deep. Cheers!
bostik.com

4 Flooring restoration services JW Restoration

This past weekend, the old gang had its traditional bank holiday night on the tiles. We made our usual trip up and down and around the manor and the evening followed the traditional pattern. Before long, of course, Charlie was in bits and pieces! Pedestrians looked puzzled. In the morning most of us felt totally broken, but some breakfast – and a hair of the dog – helped us to get our feet on solid ground and, largely thanks to good old JW's restoration services, piece everything back together again.
jwrestoration.co.uk

Councils take home building back in house

The council house is back – in a way – as local authority companies tackle the homes shortage head on

Words: Josephine Smit

Emptying the bins, housing the homeless and vulnerable, and filling potholes in the road: these are just a few of the things that we rely on local authorities to deal with to make our communities work. Local government provides us with something like 800 services and right now it feels like every one of them is under pressure. High demand – with homelessness, for example, reaching crisis levels in parts of the country last winter – has been accompanied by a squeeze on core funding from central government.

Little wonder then that councils are building homes again, particularly for those in greatest need, and alleviating their own financial stresses. Research last year for the National Planning Forum and the Royal Town Planning Institute, by Professor Janice Morphet

and Dr Ben Clifford from the Bartlett School of Planning at University College London, found that more than 90% of England's local authorities are providing housing. Some are partnering with developers, others are building directly, and an increasing number are forming housing companies to build, or even buy, homes.

Building via a housing company offers several advantages for local authorities over direct development, allowing them to overcome the constraints of the cap on borrowing of the Housing Revenue Account, the loss of stock through Right to Buy and central government-imposed social rent levels. Almost half of local authorities now have a housing company with more than 30 established last year, according to Morphet and Clifford's report 'Local authority direct provision of housing'.

Their names are not yet as familiar as those of housebuilding's giants, so you could be forgiven for not knowing that Big Sky Developments,

WV Living and Semptra Homes are the companies of South Norfolk, Wolverhampton and Basildon councils respectively. They have a different market focus to traditional council housebuilding. As private businesses, they can develop homes for a range of tenures, including market sale – and have no requirement to follow EU public procurement regulation. Many are focusing on building homes on their own, often relatively modest, infill sites, but some have a broader remit. Big Sky develops commercial space as well as housing, and Barking and Dagenham's regeneration focused Be First is taking over the ongoing revamp of Barking's Gascoigne Estate and leading the search for a partner to help create a film studio complex.

A bigger impact

Barnet Council's Opendoor Homes was set up with a mission to deliver as much affordable housing as possible. 'We have very high levels of homelessness, the largest population of all the London boroughs, and a lot of pressures and concerns, so Opendoor is our response,' says Derek Rust, deputy chief executive at The Barnet Group. 'While conventional registered providers have some of the solution here, we see an opportunity to make a bigger impact using the council's land.' Opendoor is a subsidiary of The Barnet Group, a local authority trading company that grew out of the council's arms length management organisation (ALMO). The registered provider was established in February last year, has 330 units in development and aims to deliver 1,000 homes by 2024.

Rust explains that the ALMO background is helpful to Opendoor. 'We've long experience with stock from the 1950s, 60s and 70s, so are well versed in long term management and maintenance challenges. Our group holds the homelessness portfolio, so helping the homeless is not abstract for us. We've a very direct link to the people who will live in the homes.' The company operates outside social housing

Below Bell Phillips' St Chad's housing – 128 new homes as part of Thurrock Council's Thurrock Regeneration.



KILIAN O'SULLIVAN

parameters, currently receiving no Greater London Authority grant and setting its own affordable rent level at below Local Housing Allowance rates. It therefore relies on rental income, which pays a Public Works Loan Board loan, and support from the parent local authority. As rents won't come in until first homes are completed this autumn, 'right now we have no assets, a lot of capital costs and no revenue', says Rust.

That risk profile might be equated with a bargain basement build, but Rust says the company takes a strict but balanced approach: 'Cost is important, but so is quality. We're not building iconic designs, but they are good quality.' Its current homes – designed by bptw and HTA – comply with the Lifetime Homes standard – 10% are wheelchair accessible, and 'as energy efficient as we can make them', adds Rust. He says that where there is debate about design, finer points like brick detailing may be sacrificed to cost constraints, but the overall design remains intact. 'There's a considerable internal debate between asset management and development here on what's good design.'

Croydon Council's Brick by Brick has settled that debate by bringing design in house. Its Common Ground Architecture provides services both to external clients and internally, leading on production of the housing company's brief and internal specifications, as well as monitoring design and construction. In operation since 2016, Brick by Brick has more than 30 sites with planning, designed by Common Ground and other architects. With a focus on efficiency and a stretching build target of 2,000 homes over four years, the company started with a collaborative approach, explains Chloe Phelps, head of design at Brick by Brick and Common Ground. 'In the early days we had programme-wide workshops with architecture practices and engineers, which helped instil an ethos of knowledge sharing and working together to find economies of scale within these schemes.'

While schemes target a range of tenures

'Cost is important, but so is quality. We're not building iconic designs, but they are good quality'



Left Developments like HTA's Ravensdale Gardens housing in Croydon are thrifty but comply with Lifetime Homes guidance.

Below Station Road, South Norwood, is by Common Ground Architecture – an in house design team within Croydon Council's 'Brick by Brick' initiative.



Complex situations

HTA is working with Opendoor, Brick by Brick and others and Dove sees more wanting to follow their lead, but skills can present a barrier, she says. 'Many don't have staff experienced in development, so are having to gather expertise. You've got to have people who can understand housing in complex situations.'

For its first scheme Thurrock Council's Thurrock Regeneration built in Tilbury, a location that has been largely neglected by private housebuilders. It is an area of high unemployment, low academic attainment and low life expectancy, so the redevelopment of a former school site with the 128-home St Chad's was intended to do more than meet housing need. 'The brief was to create exemplar housing that the client could point developers at to show them what they could be doing,' says Tim Bell, director with Bell Phillips Architects.

The architect's solution combines terraced and courtyard houses to give fairly high density levels, alongside a linear park. Homes are constructed using standard materials – brick and block with PVCU windows – but are given a refined elegance through details like the windows' deep rebate and grey colouring.

At heart, Thurrock Regeneration's design aspirations were similar to those of any council or housing association, says Bell, with one notable exception. 'Where a site like this would have had flats and houses, this has houses only. The client wanted to keep its tenure options open.'

The council housing company route is not for the faint hearted, but it continues to attract interest, with East Devon District, Elmbridge and Liverpool councils planning to set up companies. Think tank the Smith Institute has estimated that such companies could be building up to 15,000 homes a year by 2022.

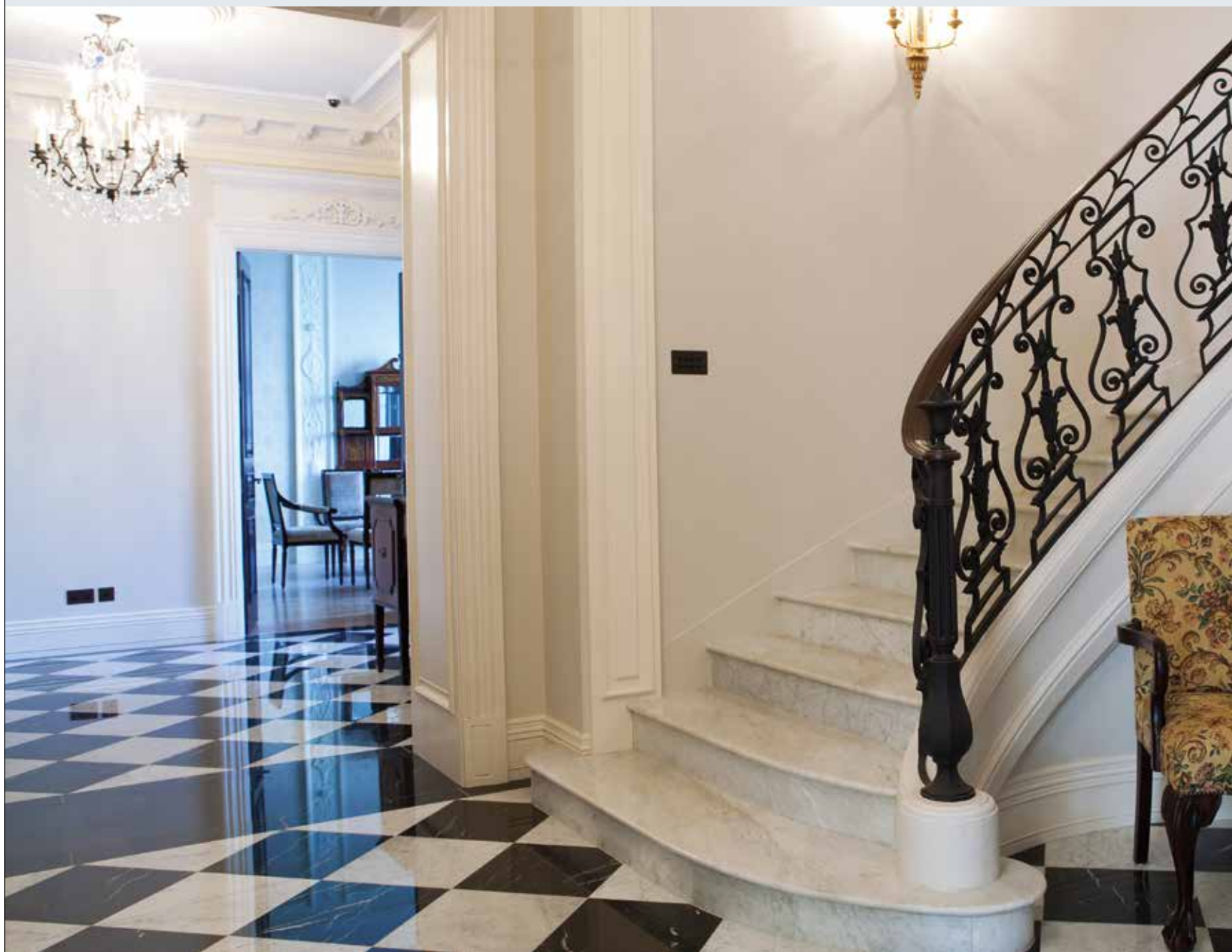
Brick by Brick's managing director, Colm Lacey is clear about its impetus. 'We can harness the full value of the development process for the borough,' he says. 'Brick by Brick delivers multiple forms of revenue back into the council – land value, funding value, development profit, fees for council services, etc – to be reinvested in council services.' The homes being delivered are, as HTA's Dove says, 'sensible, manageable, well thought through'. This house-building route holds promise if it can deliver funding for council services and good homes. ●

and have their own external aesthetic, there is a common thread of products and components running through the programme, which, says Phelps, 'ensures we know what end product we'll get, and gives us the quantities to reduce costs.' It looks to designers to produce highly efficient layouts that stack, with good floor to wall ratios. Phelps adds, 'This keeps cost planning as tight as possible, and allows us to avoid cutting costs on the envelope or internal finishes.'

'They've an eye for design and are very keen on us demonstrating design quality,' Alex Ely, principal of Mae Architects, says of the client. Mae has several Brick by Brick projects in the pipeline, including the 34-home Kingsdown Avenue, with its terraced apartment blocks and detached houses, and Tollers Lane where it is weaving 40 homes into three infill sites.

Although relatively small in scale, such schemes can affect their broader neighbourhoods. 'We like doing these kind of projects,' says Ely. 'They ask questions about how you stitch together bits of cities and overcome problems of modernist city planning. They're about what a small building can do in terms of placemaking.'

They can also deliver homes fairly rapidly, argues Caroline Dove, partner with HTA. 'If you want to build an extra 100 homes, it can be quicker than a full estate regeneration, although you still have to work with the neighbourhood.' Standardisation and offsite manufacture can add value, she continues. 'We have a few sites of just three or four units in Croydon, so we are using a similar housetype for efficiency.'



Adhesives fit for Belgravia

With another addition – Revolution – to its Biogel range, Kerakoll's adhesives are being put to use in classical buildings



Kerakoll UK launched the Biogel adhesive range in 2017, since when the range's simplicity of choice and ease of use have won over a large chunk of the tiling community. From a specifier's point of view Biogel adhesives' main plus point is the simplicity of choice as any adhesive can be used for all tiling materials and all substrates, no matter how deformable. And fixers and contractors also love the products because they are smooth and easy to apply, hold their shape, do not dry out in the bucket and wet the whole tile.

The company has just added Biogel Revolution to the existing two adhesives; Biogel No Limits (C2 TE S1 standard set powder form) and Biogel Extreme (R2 hybrid gel). This completes the range with an adhesive that can be grouted after approximately three hours under normal conditions, but does not thicken so is still workable for up to one hour; saving valuable time on site but keeping the job easy for the fixer.

Biogel has been specified for many projects since its launch, just one of which is this elegant townhouse in London's Belgravia, where Kerakoll UK provided expertise, adhesive and grout. The choice of Carrara marble for the staircase, paired with Nero Marquina in the checkerboard flooring, meant the white version of Biogel No Limits was specified. The white adhesive prevents staining showing through on the delicate marble.

Fugalite Bio, which was used as the grout, has very low VOC emissions and reduced solvent content. It has also been tested to be hypoallergenic and hence safe for the applicator as well as the future occupants of the building.

Kerakoll UK Ltd is more than happy to advise on products at specification stage, as well as offering technical support both on and off site. Please contact us for more information or to learn more about Biogel, Fugalite Bio or any other Kerakoll products. ●

Left Kerakoll's Biogel No Limits adhesive and Fugalite Bio new generation water-based resin grout were used for the marble tiles in this elegant town house.



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LG Science Park, Seoul

Generous, mature parkland at Seoul's huge new science park not only offers employees pleasure and serenity, it's integral to making the place work

Words: Jan-Carlos Kucharek Photographs: Alberto Dominguez

Sitting midway between Seoul's buzzing 'Gangnam-style' central entertainment and shopping area and the city's old Gimpo Airport 10 miles to its west, it's a wonder that the Magok area of the urban Gangseo-gu district remained rice growing paddy-land for as long as it did. Bordering to the Han river on its northern edge, the 360ha former wetland site is now being fully absorbed into the urban fabric of this economic hot-house and city of 11 million. With the land drained, an urban park forms the centrepiece of this massive new mixed-use development. At its southern edge, occupying four city blocks, LG's new Science Park acts as a gateway to one of the largest corporate labs in the world, it opens officially this month.

And everything about this development speaks big. Occupying a site of nearly 180,000m², the \$47billion net worth, family owned 'Chaebol' has relocated from its city centre twin towered building to a bespoke new 1.1 million m², 18-building mid-rise campus designed by HOK's London office following an

invited design competition in 2012. The LEED Platinum-projected complex concentrates all LG's eight affiliates (LG Electronics, LG Display, LG Innotek, LG Chem, LG Hausys, LG Uplus, LG CNS, LG Household & Health Care) on one site, and brings together the firm's corporate and research and development functions. By the time it fully completes in 2020, the campus will accommodate more than 25,000 employees.

And at the heart of the HQ, connecting all the buildings, the company's own, publicly accessible, 27,000m² linear park runs east west along the 750m by 270m site. A key part of the sustainability and SUDs strategy, it sits over a gargantuan underground refectory that serves daily meals to 10,000 employees over two sittings. Connecting north and south sides of the complex, the three-level basement complex also houses a service floor with gyms and a bank, as well as parking for over 4,000 cars. A transverse park running north to south crosses the linear park and links the south Magok area to the new urban park. Together the routes aim



Left The Magok district of western Seoul, formerly paddy fields, this 360ha site sits south of the river between the old airport and Seoul's centre.

Right Making up four city blocks of the Magok district, LG Science Park's 18 buildings are connected by a 27,000m² linear park.







Above The LG complex still under construction, looking north to the new wetland park and the Han river beyond.

Left One of the two bridges connecting the complex over the linear park, running east west across the city blocks.



to meet planning demands both to ensure permeability across the site and to allocate 20% of the overall site to landscaping.

The major move was in the design of the roof forming the structural support of the linear park, explains HOK senior vice president Chris Yoon. As it spans 62m, the whole strategy involved opening 10m wide voids along the length of the park to carve out great landscaped sunken areas which draw light into the basement level refectory. Escalators from the lobbies of all offices, Integrated Support Centre (ISC) and Shared Lab Centre (SLC) feed down to this void area and from here into the refectory zone.

'The structural deck forms both the restaurant roof and the base for the landscaping,' explains Yoon. 'It's designed as a concrete-framed structure with 1m deep beams in both directions and a two-way spanning slab between them. And good use is made of the interstitial voids within the grid of structure. They act alternately as deep soil-filled tree pits or as attenuation for the surface run-off generated by the 18 buildings on the complex – of particular importance during Korea's rainy season in June. Tanks are broad and shallow. Storm run-off from the hard landscaping areas flows directly into these, which can then be discharged over time into the municipal sewer. Other basement tanks deal with the roof run-off. But the complex is a thirsty thing, says Yoon. 'It uses about seven million litres of water a day, about half

The soil pits also allow the landscape to look so developed – the 80-year old chairman of LG insisted on being able to enjoy the landscape design in his lifetime

of which goes in to the cooling tower demand. Rainwater is used for cleaning, grey water irrigation and toilets and black water is treated on-site and used for the cooling tower makeup,' he explains. In total around 1,300 tonnes of water is stored in the attenuation between the hard landscaping surface and the restaurant roof slab.

The soil pits not only act as additional attenuation but allow the landscape to look so developed – a strategy driven by the 80-year old chairman of LG, who insisted on being able to enjoy the landscape design in his lifetime, and was prepared to pay a premium to ensure it. This accounts for the 40ft mature Korean pines set in deep tree pits that form part of what Yoon calls the 'meandering way.' In fact, traditional Korean gardens very much inspired the design, with stone water channels running through as 'natural' rivulets. 'The linear park is planted with zelkova, prunus and ginkgo trees,' says Yoon. 'Shrubs are mostly rhododendron with other flowering species in larger groupings. In the sunken gardens adjacent to the restaurants, moss species and ornamental trees are introduced.' The apotheosis of this approach is best evidenced in the beautiful, manicured moss garden, replete with bonsai trees, facing out from the chairman's private dining area – a literal reading of putting your money where your mouth is.

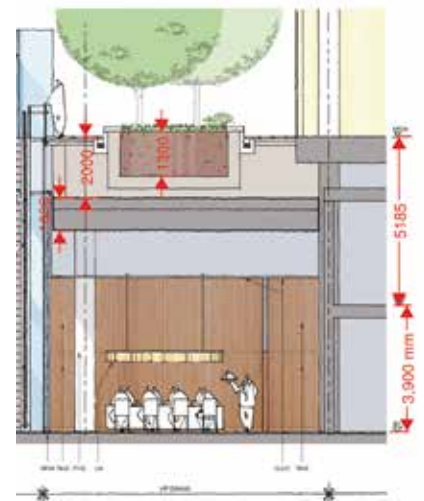
HOK admits it's been a difficult balancing act to marry the complex's servicing demands

Ground level site plan



- 1 LG Electronics
- 2 Integrated Support Centre / Shared lab Centre
- 3 LG Display
- 4 LG Hausys
- 5 LG Chem
- 6 LG Life Sciences
- 7 LG Innotek
- 8 Central Garden Promenade
- 9 Greenway
- 10 Sunken garden
- 11 Drop off zone
- 12 Dining area
- 13 Light well
- 14 Loading bay below
- 15 Plant room

Right Section through the private dining space and the linear park.



East west long section through the site



It was a difficult balancing act to marry the complex's servicing demands with sustainability

with sustainability, but it has made attempts to do so. A number of innovations were employed to achieve this. Variable Refrigerant Flow units (VRF) allow heat to be intelligently moved around from office perimeter to centre, and the complex includes a central ice-making plant that works with off-peak electricity at night and uses the ice to cool the building at peak times; although the latter is more about the bottom line than climate change. As a result, the Shared Lab Centre with its 'clean rooms' and high air handling demand results in just a 21% reduction in energy use intensity compared with the more impressive 50% for the office spaces of the Integrated Support Centre.

Although the roofs of the complex are covered in LG's own photovoltaic panels, on-site renewables account for only 3.5% of the complex's overall energy demand. This low yield may have accounted for the fact that it was decided to add a landscaped roof garden to each of the two bridge buildings connecting the north and south blocks. This certainly benefits workers looking down on them from the offices or labs.

The density of the stone clad concrete blocks, their low-key and indeed repetitive nature may feel anomalous to ideas of more iconic architecture that we're used to; but that, some might argue, is no bad thing. Yoon mentions that the block to the east of the main LG campus even copied the science park design to ensure both construction efficiencies and homogeneity; and culturally here, as in other parts of Asia, emulation constitutes a compliment. Yoon is unphased; just as he seems to have been by a year of interrupted sleep patterns, having to deal with the working hours spanning eight time zones and a project that is less a building than a whole new piece of city-making. Still; what doesn't kill you makes you stronger. ●

Right Korean pines, mature and up to 40ft tall, sit in deep planters to form a 'meandering way' through the urban site.



Left More traditional garden approaches are used in basement level areas, especially alongside the chairman's private dining area.

Below The massive dining area beneath the linear park seats 5,600 people in one sitting and has numerous outdoor seating areas running alongside the linear park at lower level.



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LONDON SHOW HOME AND MANUFACTURING CENTRE W3 6UU

AECOM associate David Holmes looks at external works and drainage costs

The term 'external works' describes any works carried out to the external environment of a building project. These can provide functional and aesthetic features. ●

	Range £/m2
Living wall; Design and installation of planted modules with automatic irrigation systems	
Fabric based systems; indicative area rates as shown	
Wall up to 20m ² / 50m ²	682 - 775 / 539 - 613
Wall up to 100m ² / 150m ²	506 - 575 / 495 - 563
Surfaced areas	
Parking; macadam base and wearing course, per bay	900 - 1100
Parking; Block paviments 80mm thick	78 - 90
Pedestrian areas; 100mm thick concrete	60 - 70
Modular grass concrete paving 100mm thick	65 - 75
Resin bonded 1mm - 3mm golden pea aggregate pathways	77- 90
Drainage	
Access chambers	
Excavate inspection chamber; concrete base; half section pipework and benching	
Precast concrete inspection chamber 600 × 400 × 900mm deep	nr 510 - 620
Polypropylene inspection chamber: mini access chamber 600mm deep	nr 330 - 375
Polypropylene inspection chamber: 475 mm dia × 900 mm deep; ductile iron cover with screw down lid	nr 572 - 650
Drainage pipe	
Excavate and lay 100 mm diameter upvc pipes over 1.0m deep	49 - 62
Excavate and lay 150 mm diameter clay pipes over 1.5m deep	86 - 110
Excavate and lay 300 mm diameter concrete pipes over 2.5m deep	160 - 205
Excavate and lay 150 mm diameter cast iron pipes over 1.5m deep	180 - 225
Street furniture	
Road signs; reflected traffic signs 0.25m ² area on steel post/illuminated	nr 130 - 280
Lighting to estates' pedestrian areas; 4m-6m columns with up to 70W lamps	nr 250 - 300
400W High pressure sodium lighting to main roads; 12m-15m spacing	nr 660 - 800
Benches; hardwood and precast concrete	1200 -1600
Litter bins bolted to ground: concrete / hardwood	nr 200-240/200 - 245
cast iron / large aluminium	nr 410 - 490/nr 610 - 640
Street planters: Supply and locate precast concrete planters; fill with topsoil; 50 mm shingle and drainage mat; plant with 5 litre and 3 litre shrubs for instant effect; 700 mm dia. × 470 mm high; white exposed aggregate finish each	900 - 1100

Specified



1
Garden decking
Accoya

If Giotto had had decking like this project in Bournemouth, it is a fair bet he would have beaten Brunelleschi to a theory about perspective. Converging and diverging patio lines come courtesy of the screwless Magnet System decking made from sustainable Accoya wood. The material is ideal for outdoor applications, because the magnetic clips on the decking, which has been finished in light grey, can be fixed and removed in seconds, vanishing one included, there is not a single point about this garden feature not to like.

accoya.com

2
Drainjoint paving
Hardscape

‘Ere! No, over ‘ere! Yes, me, the symbol of Victory on this war memorial. It’s not just me I am trying to draw your attention to, but our brave lads ‘oo died in them trenches one ‘undred years ago. Look at the list of them! But you’re not, are you? You’re ogling that neon washing, the backstreets of Blackburn and a rusty fountain on top of the Drainjoint paving. Well, it’s all very well. A slice of life, yes. But never forget the fallen wot left from them streets and never came back.

hardscape.co.uk

3
CityTree
GreenBlue

Doesn’t this man know his, surely, pomaded hair is setting back the fight against urban heat islands? Selfish devil, checking his phone there, on a new air filter system, made of irrigated moss, no less, and intended to reduce pollution in cities. As he should well know, being a cyclist, there are few more places this is needed than London. I just hope his oiled noddle doesn’t prevent the reduction of particulate matter by anything close to the slated 30% or else upset funder Westminster City Council and installer Crown Estates.

greenblue.com

4
Permeable draining
Interpave

When the aliens first arrived, no one noticed. Not such a remarkable fact as they took the guise of pigeons and you would only know they were from outer space due to their turquoise eyes (hard to see from a distance, I’ll grant you). In fact, life went on pretty much as normal until Khalid Begum found his leg liquidising on his way back from the Co-op and dribbling though Interpave’s permeable setts. He made to escape, but found his mobility vastly reduced, as another man in front of him suffered the same fate. ‘Hop away! Hop away!’ he shouted.

paving.org.uk



5



6



7



8

5
Nero LED lights
Megaman

And I looked down and I saw myself lying on the operating table, which is weird, because I only came in for a root canal. And there was light and I was floating down the corridor lit by Nero LED lights. And at the end, I saw granddad, which is also strange, because he is meant to be on a caravan holiday in the Algarve. He said: 'Turn back, you still have things to do, son' and I replied: 'If you're going on about the shelving, I'm waiting for a drill bit from eBay.'

megaman.cc

3
Aran, Metro, Mitre or Storm fencing
Jacksons Fencing

One for all and all for one! Oh... Jacksons claim to be 'the fencing people' but all I see here are wooden slats. I don't understand it at all. No doubt someone will jump out from behind that picket with a sword soon enough. I certainly hope so, because I have been practising fencing with one hand behind my back, up on the tables and even swinging from the light fittings ready for this meeting. Looks like I will just have to engage with this post until trouble arrives. En garde!

jacksons-fencing.co.uk

7
Architectural stonework
Haddonstone

There was an uncomfortable silence when Pete unveiled his fully mechanised and jet-powered representation of the final journey of the soul over the River Styx to the family who had gathered on the lawn. Auntie Scilla tried to smooth things by drawing attention to his imaginative symbolic portrayal of Charon as a lamp, pointing out that it offered a notably optimistic take on what could otherwise be a rather gloomy prospect from the conservatory, even if made using Haddonstone's beautiful architectural stonework.

haddonstone.com

8
Fascia and soffit rangers
Marley Alutec

The little courtyard at Magnolia House, the (awful words) palliative care centre at Birmingham Children's Hospital, has been fitted with Marley Alutec products. To be honest, it's unlikely the kids will come out here much, or that the parents or other adults who sit on these benches to collect themselves or smoke the fag they have found themselves smoking again will notice the exact finish or boltless guttering. But their restless eye will at least fall on nothing displeasing or disharmonious. Sometimes that is the best that architecture can provide.

marleyalutec.co.uk

Value-added glazing for homes

Three schemes demonstrate why VELFAC is the ideal fit for major residential projects

Despite economic challenges, big value residential development – across the UK, not just in the capital – shows no sign of slowing down. This has seen continued growth for VELFAC across the sector, says sales director Andy Cook, with the company's distinctive aluminium/ timber windows and doors now installed in many of the UK's largest projects, from affordable housing developments to luxury apartment blocks.

Market leading, cost-competitive

'The VELFAC system is a market leader in the composite sector,' says Cook, 'and while it has always been specified for innovative design and impressive performance, we have now built a reputation for cost-effective pricing, especially compared to thermally-broken aluminium alternatives. Prospective residents love VELFAC,' he adds. 'Low maintenance external aluminium combined with natural, welcoming interior pine is a winning combination for many home buyers. Add NHBC-compliant products, low energy performance, good acoustic control and expert support, and VELFAC is a compelling, cost-comparable glazing proposition for housebuilders nationwide.'

360° consultancy: controlling risk with expertise

A commitment to full service support is also winning VELFAC business, says Cook. 'As a well established company, with impressive industry knowledge, we can provide advice and support at every stage of the project, from initial design through to post-installation.' Our in-house support team works with our dedicated specification consultants to offer targeted services designed to save money and minimise project risk. 'For example, we can provide free, early-stage cost consultancy to ensure cost certainty,' says Cook, 'together with in-house estimating services, design expertise, and the capability to provide thermal and acoustic advice.'



Performance data ready to use

Detailed performance information, with supporting test data ready to use, is another key benefit of the VELFAC system, along with a range of lifetime performance guarantees and a 12 year product warranty. VELFAC is also investing in innovative installation strategies, and continues to manage and promote a national network of Approved Installers.

As Cook says: 'Our investment in customer service is of real benefit to housebuilders and architects, and adds further value to a product which continues to set the standard for "true composite" window design.'

Above Colindale Gardens in London will eventually offer 2,900 homes and will feature over 11,000m² of VELFAC composite glazing.

Colindale Garden

A major development from Redrow Homes will feature over 11,000m² of VELFAC composite glazing. Colindale Gardens, in north west London, will eventually offer 2,900 homes, together with leisure and retail spaces. VELFAC has supplied aluminium / timber windows and sliding doors for the development, meeting acoustic and solar performance requirements and ensuring all ground floor glazing is SBD-accredited. The first properties featuring VELFAC glazing are scheduled for completion in late 2019, and the project has already been named Multi-storey Development of the Year at The Brick Awards 2017.

Chobham Manor Phase Two

The VELFAC composite system has been specified by PRP Architects and Taylor Wimpey for the second phase of homes at Chobham Manor, which is the first of five new neighbourhoods being built on the Queen Elizabeth Olympic Park site in Stratford by Chobham Manor LLP, a joint venture between Taylor Wimpey and London & Quadrant, in partnership with the London Legacy Development Corporation. VELFAC is manufacturing 2,375m² of aluminium / timber windows and patio doors for the development and has provided a full, comprehensive design package to ensure swift and efficient manufacture and installation. Glazing will meet a range of performance challenges including multiple interface details, acoustic and solar control, low U-values and SBD/PAS 24-level security. The second phase at Chobham Manor will consist of 207 homes and is due for completion in spring 2019, with two further phases to follow



Above The VELFAC composite glazing in Southall Waterside will meet a range of acoustic and solar performance demands in over 600 new homes.

Southall Waterside Phase One

VELFAC composite glazing will be installed in the first four blocks of the Southall Waterside development in Ealing, London, by Berkeley Homes. Over 7,500m² of aluminium / timber glazing and patio doors are being supplied to the first phase of the canal-side project, comprising over 600 new homes. Southall Waterside will eventually deliver some 3,750 new homes in total. As well as glazing, VELFAC is also supplying design services to support complex detailing, including aluminium window surrounds. The glazing supplied will meet a range of acoustic and solar performance demands, with SBD-accredited units also being specified for ground floor (and some first floor) apartments.

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Royal Hotel, Copenhagen

Furniture seemed the obvious starting point for Space Copenhagen's refurbishment of Arne Jacobsen's paean to international modernism

Words: Michael Willoughby Photographs by Joachim Wichmann



Above Restored to perfection, the lobby of the Royal Hotel now looks as good as it did in 1960.

Top right Space Copenhagen's velvet Loafer chairs complement Jacobsen's original furniture in the bar.

Right Arne Jacobsen's signature lamp crowns the main lobby.



What homage should the reverent architectural practice make to one of the world's most visited design sites, the Ur-design hotel?

Tasked with the refurbishment of Arne Jacobsen's 1960 Royal Hotel, Copenhagen, first home of the Swan, Drop and Egg chairs which still inhabit it, Space Copenhagen chose to say it with furniture.

With its semi-circular backrest, the firm's Loafer chair echoes the lobby of this totem of international modernism, affording 'protection' from the enormous space, according to co-designers, Peter Bundgaard Rützou and Signe Bindslev Henriksen.

Copenhagen-born Jacobsen created everything here, from building to cutlery via hardware. Fulfilling the 1956 commission from the airline Scandinavian Airlines System was his



REPUBLIC OF FRITZ HANSEN

Left Bedroom suites once again reflect Jacobsen's sense of restrained luxury.

Left A former guest makes up in her Drop chair.

singular achievement. But while the hotel remained a destination for design pilgrims, the original masterwork gradually became eroded to meet guest requirements. Nor were worn elements replaced with those of similar quality.

By the 21st century, only the exterior and room 606 were as built. A sensitive refurbishment was long overdue. The challenge, say Space's founders, was to 'bring the hotel to life for a new generation' – avoiding a museum.

To reinvigorate the lobby of the hotel (today known as Radisson Collection Royal Hotel, Copenhagen) the practice brought up the marble floors and wood and marble wall paneling to historical perfection. The spiral staircase was also refitted and given back its lost leather-wrapped handrails through referral to archival photos. The firm stripped out the

bar and retail space and added a curved version of its Stay sofa to its Loafer and Jacobsen's Egg chairs. This gave guests space to socialise and work among the warm red, plum, petrol blue and brass which complements the wood and marble.

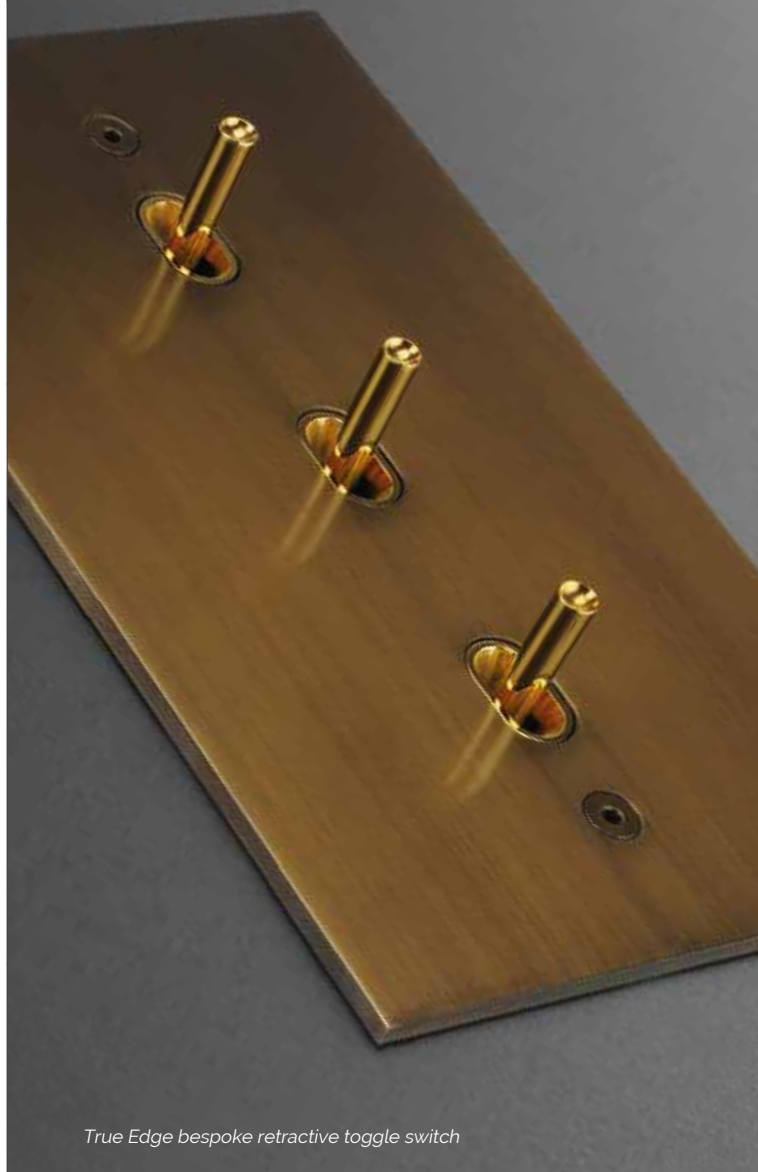
Collaborating with furniture specialist Fritz Hansen, the team covered Jacobsen's beloved bespoke chairs in new fabric. They unearthed some lesser-known pieces from a basement – his Mayor Sofa and Giraffe dining table – and installed them in the Café Royal restaurant. These sit side-by-side with dining-style Drop chairs and new Stellar Works' Ren chairs. The team even bought one of Jacobsen's Pot chairs – also once native of the restaurant – and put it back into production.

Guests in the 259 bedrooms also benefit from

reupholstered Egg, Swan and Drop chairs as well as Space's Accent tables for Mater, the Fly sofa and its Copenhagen pendant. Amore mirrors were created in situ to reflect the skyline; while at the windows, a wide, white marble windowsill was reintroduced to draw attention to the view and the horizontality of Jacobsen's design. Wood panelled walls and Kvadrat's Fiord textile bedding add warmth to the black and grey tonality.

To complete the tribute, the hotel's nine meeting rooms have been stuffed with – and named after – Jacobsen's sedentary design classics with archive lithographics hanging on the walls. 'Our aim is to create a space for people to celebrate memories of the past, and create memories for the future, too,' say Rützou and Henriksen. ●

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1 Custom metal ceilings Armstrong

PC Gone-Mad: 'Where were you the afternoon of the 12th?'. Lawyer: 'My client refuses to answer any questions under these conditions.' PC World: 'Unfortunately, sir, government cuts mean that we have been forced to conduct the interview in The Yard's staff cafe.' Lawyer: 'That is simply not acceptable.' What if he is overheard? PC Gone-Mad: 'Unlikely. This metal ceiling performs up to sound absorption Class A, sir. Give it a try!' Suspect: '*yodelayheehoo!*. Lawyer: 'That yodel is inadmissible.' armstrongceilings.com

2 Sensa Quartzites Cosentino

I had put up with her saying 'OK, Google' to the kitchen worktop then having endless discussions with Spotify about the exact Chris de Burgh song she wanted it to play. I remained sanguine when she stood on my cat while exploring 'Antarctica' with her iPhone strapped to her head. But the drone in the kitchen was the last straw, and once I've drained the wine from my Sensa by Cosentino worktop, I and my voodoo doll are outta here. sensabycosentino.com

3 Heradesign and Thermanex ceilings Knauf

Why do I see this peaceful infant school scene and just hear noise in my head? Looks like four classrooms and pegs for at least 50 young souls – incessant din. Floral rucksacks, teeny tiny paintbrushes, a playground, miniature lockers at floor level, a neon coat: never-ceasing, raised, echoic, treble screech. Still, Knauf's Heradesign and Thermanex acoustic ceilings will take some of the edge off the racket resulting from bringing together the nursery, primary and community parts of a local school. I am keeping the Solpadeine handy, mind. knaufamf.com

4 Skyfold vertical partitions Style

'Safe Space' is a new game for universities. Rules: One after the other, two teams of students line up against Style's Skyfold vertical-rising acoustic partition wall and, letter by letter, each participant reveals the mixed-up name of a historical figure about to deliver an imaginary lecture. The opposing team has to shout 'no platform!' as soon as they suspect the deceased persona held abhorrent views – directly or by association. But, beware! If your dead celeb is progressive, you lose a point. Tenured academics adjudicate from the balcony. style-partitions.co.uk

Sign Up

Richard Doone, director at Doone Silver Kerr, gives us three of his specification favourites



TERRAZZO

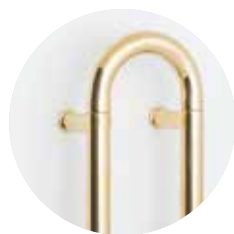
Terrazzo has had a huge resurgence in popularity and we love it for its inherent customisation potential. We've come back to it, in part due to our great relationship with London terrazzo specialist, Diespeker, having completed complex and bespoke pieces together. As well as flooring and counters we have designed some more unconventional pieces including a four tier terrazzo water fountain built around a column in a central London restaurant. The finish is a rich Lapiz Lazuli background and a mix of brass and blue glass chippings – not quite the traditional terrazzo of old!

diespeker.co.uk



EVERYDAY MATERIALS

When facing a tight budget we often use everyday materials in an unfamiliar way. For the RIBA's temporary bookshop we used just ROCKWOOL products, lining the space with deeply buttoned quilt insulation to help 'uplift' the material. The café at Topshop's flagship store is frequently reconfigured and refurbished to align with changes to the shop floor and fashion trends. We used everyday construction materials, often concealed, to provide a platform for change, which included materials such as Wedi-board tile backer and a wall system of exposed plasterboard and metal 'C' studs – a detail we return to time and again.



POLISHED BRASS

Brass also seems to be very on trend but for us it conjures memories of playing brass instruments at school and the smell of Brasso! With that in mind we've had fun designing a bespoke range of brass ironmongery with industrial designer Felix de Pass. Ironmonger Trapex helped the piece to fabrication. The range is based on the pure limitations of the material, cast, solid rod and tubular, which directly informed the size and functionality of the piece and the ability to customise handles to align with a project. Our handle featured recently at the Aram Gallery and we want to specify it on our projects.

trapex.com

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...Sign Off

Jan-Carlos Kucharek enjoys three of this issue's out-takes



SEEING IS BELIEVING

From the indivisibility of the Holy Trinity, the Roman Catholic Church does nothing by halves. Fast forward from the Creation to 2018, and the Holy See is appearing for the first time at the Venice Architecture Biennale, with not one but 10 chapel pavilions around the city. Each is designed by a different architect; even the Lord is doing one – Lord Foster that is. Starting as a tensile form based on three crosses (see what he did there?) the idea transubstantiated into a tensegrity structure of cables as masts, the wafer-thin membrane turning into a wooden lattice. Norman doesn't state whether he believes in the next world, but God must be in the detail.



BUILDING BRIDGES...

Noted Victorian architect Sir Thomas Graham Jackson, designer of several Oxford buildings including Hertford College's 'Bridge of Sighs', might be happy he's connecting people in more human but no less structural ways – even after his death. His grade II* St John the Evangelist church in Northampton recently saw the reunion of two former colleagues; one a Forterra Tiles sales manager and the other the TM Roofing contractor fitting them who, says the PR, 'hadn't seen each other for 30 years'. Quite what they gassed on about on the roof of St John's isn't divulged – perhaps why the Oxford bridge is named as it is, since it's a dead ringer for the Rialto.



PARKIN

Looks like it's all kicking off in Coventry, although this time it's more about 'carpet' than 'bombing'. Vinyl tile and commercial carpet manufacturer Amtico certainly had its eyes to the skies when it named its new distribution centre 'Pilot Park'. The 6,800m² facility 'will distribute 15,000 pallets to 47 different countries'; pallets which, if laid end to end 'would reach to Amtico's Solihull facility'. And there's more. Its state of the art gaff has solar panelling, cyclonic water irrigation and charger points for employees' electric cars, no less. There's also an industrial onsite bio-digester – handy once the firm's top brass have scoffed that giant cake.

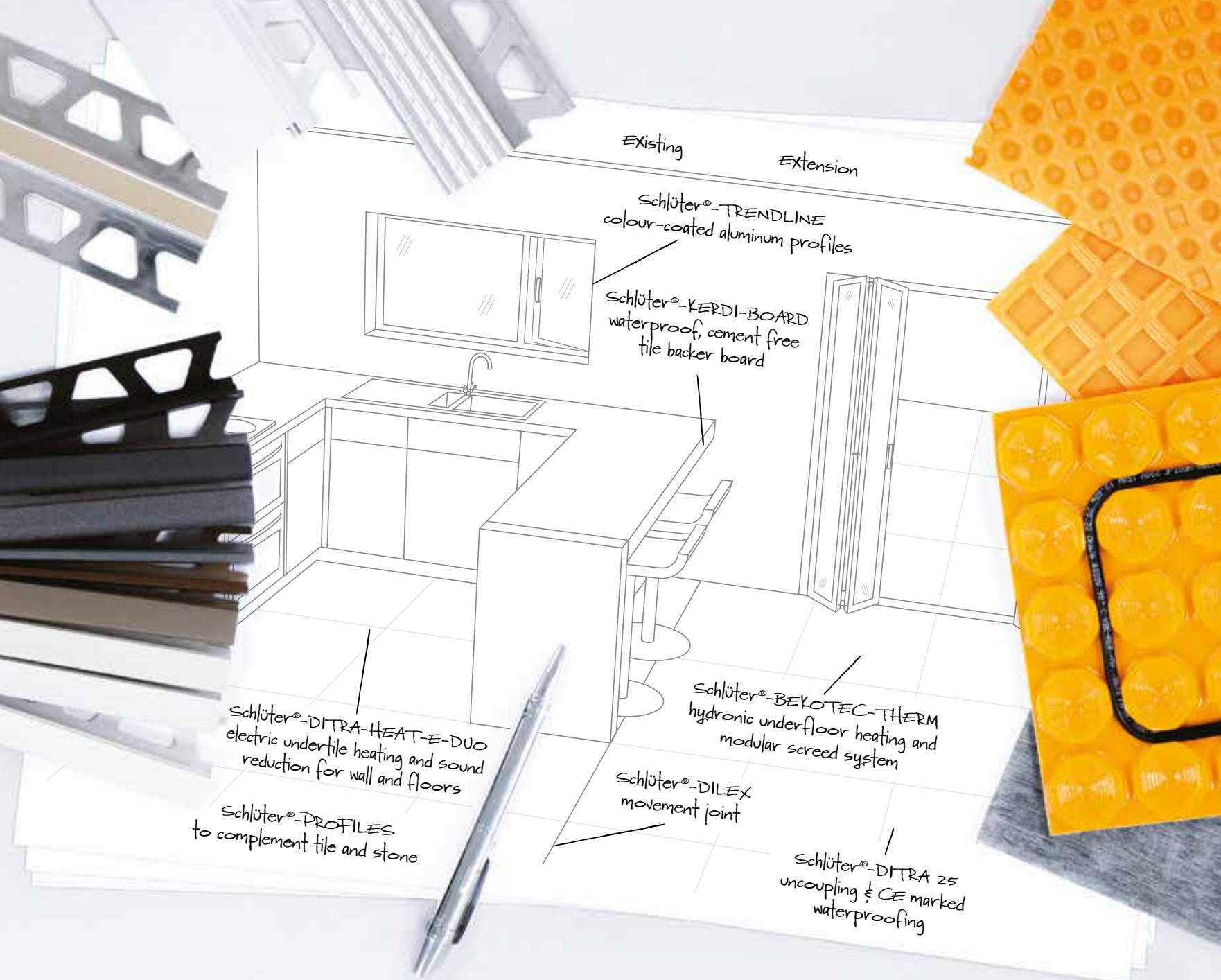
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