

finesse

MAGAZINE 2020/21

**NEWS
HERITAGE PROPERTIES
MATERIALS SPECIAL
HEALTH, SAFETY & TECHNOLOGY
SUSTAINABLE STONE BY PAOLA BLASI
MASON TO DESIGNER INTERVIEW
AND MUCH MORE**



Szerelmey

Specialists in stonework and restoration **since 1855**



WELCOME

2

020 has become the year that many people want to forget. Starting with the Australian forest fires, followed by horrendous flooding in the UK in February, the divisive Brexit and then Covid-19 - the pandemic that changed everyone's lives. As we go to press, normal as we knew it pre-March has not returned, but the move towards it is heartening. What we take away from

the unprecedented challenges thrown at our business and the industry, is just how quick we all were to adapt. Establishing IT systems for remote working for the entire company in just one weekend and continuing our office-based business activities without pause was a feat in itself. But the rapid re-organisation of our active sites with the main contractors, stringent new RAMS and working methods to enable sites to re-open safely so fast, was exceptional. The efforts of everyone involved in this, particularly the operatives, has enabled the industry to keep going. Covid-19 has changed the way we work, think, live and play, but we hope that these enforced changes will become positives. Hopefully sites will be cleaner and safer, we will work more efficiently and in different ways and we will reduce pollution through less unnecessary travel and changing the way we travel. In this bumper issue we have a new section on sustainability with an article by Paola Blasi, Arup, an expanded H&S section, we look at British and Irish stone, different materials, some of our recent projects and catch up with some of our team members.

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Q & A

DARREN MOORE



Darren, you have been in the industry for a long time and seen the market fluctuate. How quickly do you think the economy and the construction industry in particular will recover from the current situation?

The economy was in reasonable shape before the pandemic so we should hope it would recover relatively quickly. The Construction sector is filled with flexible, entrepreneurial companies and business leaders who

are used to navigating the peaks and troughs our industry presents. The better companies will find a way, adapt, and come out stronger than ever.

It seems likely that there will be a change in focus for developments moving forwards given the way people work is changing. How do you envisage that change and how do you think it will affect what we do?

The commercial office market is likely to change dramatically in the coming years; it was already slowly changing but the circumstances have caused many to appreciate there are alternative ways of working. However, despite the excellence of video conferencing you still cannot beat face to face meetings, so there will always be a requirement for meeting venues. It seems inevitable that large corporate offices will downsize, but this will provide affordable space for smaller businesses and start-ups and open up further mixed use of existing and new buildings in our cities.

How do you think technology is driving the industry?

If I can come at the question from a different angle ... in my college days one of the subjects was 'Construction Technology'. It is this knowledge,

combined with experienced sequencing of works, or unfortunately the lack of it, that I believe is most important to our sector. Today there seems to be an increasing number of managers and 'conceptors' and a decreasing number of builders and detailers resulting in construction contracts increasingly 'pushing' risk down the line to the trade contracts and wasted costs of redoing works. If all consultant and construction parties could exhibit good 'Construction Technology', perhaps the specialists could concentrate on their specialty and technological improvements can then create efficiencies across the board.

Looking back over the year what do you think Szerelmey has done really well at, and how are we going to keep improving?

The simple answer is the same thing we do every year, and that is to listen. Listening to our clients and providing solutions to their requirements. Listening to our own supply chain and building strong, long lasting two way relationships. Listening to our employees and providing a safe, secure, motivated and stable workplace, even through a pandemic!

Cover Image: Windsor Castle



PROJECT ROUNDUP

The last year has been busy and we have some great projects for 2020/21. We have recently finished an extensive private residence in Yorkshire. Our works entailed all four facades of the main house which is 55m x 55m in plan, blockwork and brickwork with sandstone Portico pediments, dressings and fine carvings. We constructed the service building, service entrances, leisure complex, Bat Barn, vaulted wine cellar and the terracing, boundary, colonnades and garden walls. Our Restoration team completed works to seven retained facades on New Bond Street/Hanover Sq, each facade being complex, listed and in a wide range of materials. We completed the property at the corner of London Wall and Moorgate, where we restored, stretched and cleaned three retained facades. We are on site at St Bartholomew's Hospital, building a new Portland stone facade to match existing historic ones, and are delivering external paving and cladding at St Paul's Cathedral School. Our internals team is working on an extensive package at Marble Arch Place with top spec stone and we have a large team on Chelsea Barracks Phase IV, external stonework to three buildings. Regent House, a limestone and faience cladding project is well under way as is a large restoration project in Knightsbridge. We are also working in Hampshire adding two new wings to a substantial private residence and have almost finished work on One Bishopsgate Plaza near Liverpool Street Station where the diverse works included restoration, repair and cleaning, building a new facade to match an existing historic one, a bespoke cupola and the recreation of a historic faience

facade. Work starts soon on Jesus College, Oxford where we are installing new Clipsham limestone cladding, and Ilona Rose House in Soho where we are installing unusual, bespoke faience tiles to an external passageway with a curved ceiling. We have a new faience project for Homerton College, Cambridge, where we will be installing blue/green mottled glazed faience to the external elevations of the new dining hall. We will be starting work on the Grade II listed Camden Town Hall soon, with extensive external and internal restoration packages. Additionally we have recently secured a PCSA for 50 Finsbury Circus for recladding in Jura limestone and have secured external and internal packages at City Gate House.

SZERELMEY BABY



We are delighted to announce the arrival of Manuela Alberola!! One of our Project Managers, Elisabet, delivered Manuela during lockdown in April, which must have been particularly challenging. Both mum and baby are doing fine and we are keen to sign Manuela up for our young apprenticeship programme just as soon as we can!

AWARD WINNERS



Quality is at the heart of our business and it is fantastic when this is recognized by our clients. Congratulations to Gareth Lancaster for winning the June 2020 Quality Award at Woolwich Creative District and congratulations to Driton (Tony) Maliqi and Ricky Bell who each won a Quality Leadership Award for their work at 55-91 Knightsbridge. Also, congratulations to Simon Dottaviantonio who won a Quality Award at Woolwich Creative District, and a further congratulations to Patryk Maciorowski who was awarded Operative of the Month for his work down at Battersea Power Station. Our same Battersea team went on to win the Site Safety Award, which is fantastic, and most recently one of our interiors teams won the Health and Safety Award at Marble Arch Place and were presented with a huge trophy!

THE GREEN LIST

We are always looking at ways to improve the way we work, especially our office environment, and how to be more sustainable and environmentally friendly. During lockdown when office staff were working remotely, we asked our team what sort of "green" things they do at home. The response was really interesting, see below for some of the things we have been doing:

- Use a company called Green Energy, the only UK supplier providing electricity from 100% renewable sources and offsetting the house gas you use with 100% green gas
- Beeswax instead of clingfilm
- Milk in glass bottles
- Buy loose/unwrapped veg/fruit
- Organic and or chemical free soaps etc

To read the rest of the list please visit <https://www.szerelmey.com/going-greener/>

NEW DIRECTOR SZERELMEY RESTORATION



We are delighted to announce Lewis Matanle has been appointed to the Board of Directors for Szerelmey Restoration. Lewis has led the successful delivery of many of our fantastic projects and been key to our strength and growth. Exciting and changing times lie ahead with the Restoration market continuing to grow and expand. Lewis will be a tremendous addition to the Restoration Board and we look forward to his invaluable experience and knowledge helping to shape the future of the business.

SITE POSTERS

LOOK OUT FOR OTHERS

- Reach Out to Others
- Stay Connected
- Get & Drink Healthy
- Make Time For Yourself
- Be Active
- Sleep Well

MENTAL HEALTH & WELLBEING

Feeling stressed?	Construction Industry Helpline	Mind
Don't suffer in silence	Provides emergency financial aid, loan, fee and grant support as well as mental health advice	Provides advice and support to anyone experiencing mental health problems
	0345 625 1956	0300 123 3393

We produce four Health and Safety posters for our sites each year, each one in four different languages. Each poster relates to a key H&S topic, which we generally produce articles around too. This year, we have added an extra poster to our collection in relation to Covid-19. Mental Health in the industry is a key focus point for us all and we are very aware that the lockdown and social distancing situation has been extremely stressful for many people. Helplines are free, help is available and we have 12 Mental Health First Aiders on hand for any of our staff to talk to.

IT'S ABOUT SCALE

Szerelmey has undertaken all manner of different styles of stone cladding from ornate carving following historic precedent to simple and contemporary. Recently we worked on an impressive stone frieze for a London project in conjunction with LSI Stone Portugal. Undertaking carved stonework is not unusual for us, but what is unusual is the scale of this particular project. The frieze carved in Cabeça Veada limestone supplied and finished by LSI Stone, consists of a poem that was specially written for this project and takes account of the surrounding area. It runs 160 meters around the perimeter of an entire building at second floor level and is comprised of 56 very large pieces of approximately 3388 x 1180 x 150mm stone restrained through the vertical joints between pieces. A number of samples were created first to establish the height, depth and type of lettering to ensure it could be easily read from ground level, which led to a height of approximately 18cm being established for the letters. Considerable design work was required to take account of the spacing for the letters so none fell over a joint between the stones. The letters were CNC machine carved in Portugal before each one was painstakingly finished by hand to achieve a perfect finish.

SZERELMEY FACE MASKS



Inspired by the LSI face masks, and the increasing requirement to wear them, we decided to design some of our own branded ones!

SHOUT OUT TO THE FINESSE TEAM

Editorial Team

Tamsin Pickeral
Gauri Yennawar
Sabrina Forte

Design

UK Construction Marketing

Photography

Tom St Aubyn

CLASSICAL SPIRIT... ...CONTEMPORARY SETTING



Perfectly positioned alongside a cricket pitch and near an ornamental lake, the Sultan Nazrin Shah Centre at Worcester College, Oxford, is one of our most ambitious projects to date.

The architects' vision was to maximise the use of natural materials, so we supplied beautiful Clipsham limestone, chosen for its variations in tone and existing local use.

After adding the Clipsham Quarry Company to our family of quarries, we are now the exclusive global supplier of award-winning Clipsham limestone – and this wonderful building needed 500 tonnes of it.

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Italy

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ornamental stone expertise to include supply of blocks and slabs to marble shops and also elaborated decorative stone works.



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BEAUNOTTE
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VIX
LANVIGNE

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Limestones from FRANCE



Finest
Rosa Aurora marble
from PORTUGAL

WIDE RANGE
OF VIGARIA

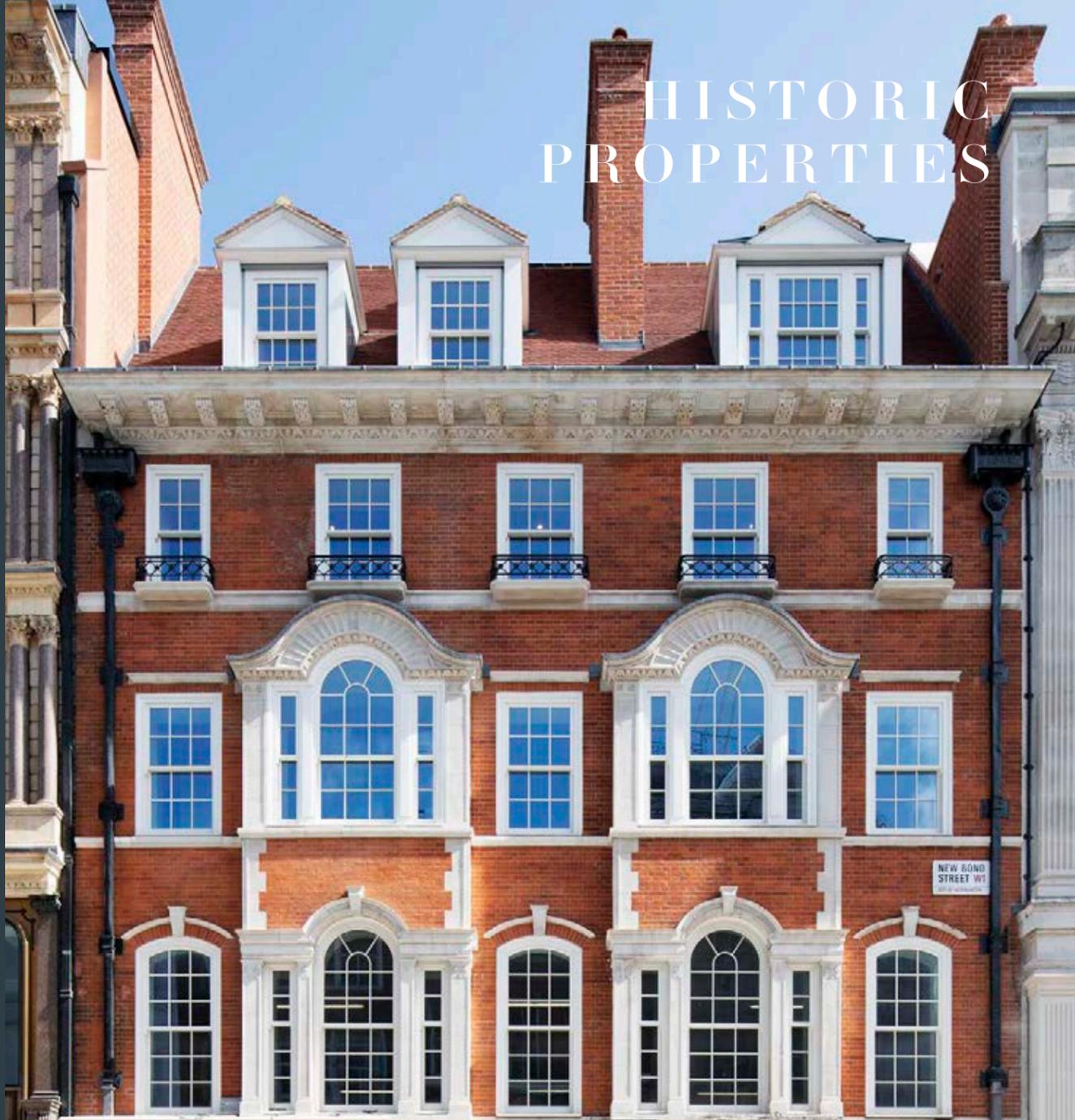


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HISTORIC PROPERTIES



HANOVER RETAINED FACADES

CLIENT - GHS LTD PARTNERSHIP
MAIN CONTRACTOR - MACE
PROJECT ARCHITECT - LIFSCHUTZ DAVIDSON SANDILANDS AND CAROE & PARTNERS

Szerelmeij Restoration has recently completed a major package of restoration works for Great Portland Estates plc on behalf of The GHS Limited Partnership (a 50/50 joint venture with the Hong Kong Monetary Authority). The works included the restoration of seven historic retained facades along New Bond Street and Brook Street as well as an iconic Grade II* listed property on Hanover



Square; the first home of the Royal Society of Medicine. Given the scale of the project and the number of different styles of facades, the scope of works was extremely varied. The works involved carefully cleaning each facade using a combination of nebulous, steam and gentle abrasion cleaning techniques as well as isolated areas of poultice application to remove areas of engrained staining. Following completion of the cleaning an extensive survey was carried out on each facade and a repair schedule drawn up.

Areas of the stonework, particularly the more ornamental areas along New Bond Street and Brook Street were badly eroded or damaged and needed replacing. Some damage was as a result of corroding support steels that were buried within the stonework. In these instances, the stones were carefully removed, individually itemised and stored. The steel work was then cleaned and treated with a protective coating. Following the approval of carefully selected stone ranges for each property, the defective areas of stone were carefully surveyed, and detailed drawings produced to enable the production of new carved stone units to match the originals. The stonework, including the original and replacement units were then reinstated incorporating the introduction of bespoke, in house designed stainless steel bracketry and restraints.

Further extensive masonry works were carried out at the 70 and 71 New Bond Street facades involving the reconfiguration of the fabric including the support frame. This work unified the floor plates of

the two buildings allowing the architecture to read as a collection rather than individual units. This involved extensive temporary works to allow for complex steel work adaptations. New Portland stone and Carrara marble units were introduced to facilitate the realignment between the ground and first floors.

In addition to the new stone replacement, the project involved an extensive restoration package. This included repairs to many varying materials including brickwork, limestones, sandstones, terracotta and stucco. Areas of highly decorative terracotta were skillfully repaired using traditional lime mortars which were finished with the application of a breathable Keim mineral wash that was carefully applied to match the surrounding stonework. The brickwork facades were restored, incorporating in situ brick repairs and new bespoke imperial bricks, laid and repointed using lime mortars to match the original mortars. The styles of brickwork varied extensively between each property ranging from traditional imperial brickwork with flush or weather struck joints, to gauged brickwork with 1mm lime putty jointing. The entire facade of 20 Hanover Square was raked out and reinstated in tuck pointing to match the original. All of the painted stucco masonry was stripped of many years of paint coverings, the masonry extensively repaired and redecorated using a matching breathable paint, bringing the entire facade back to its former glory.

Other elements of work included replacing the existing copper to the dome of the turret on 69 New Bond Street and replacing many of the lead

coverings to projecting stone features and roof coverings. Replacement of and isolated repairs to many of the cast iron and lead downpipes using bespoke replacements were carried out where necessary.

Szerelmeij was also appointed to undertake extensive paving works to the internal floorings within 20 Hanover Square. The original rivened York stone flooring was re-laid in keeping with the original layout. This involved sourcing isolated replacement stones to match the original where needed. The ground floor reception area involved the introduction of underfloor heating and relaying a blend of new and original limestone paving with diamond slate inserts. The end results were stunning, fitting of an iconic historic listed property.





LONDON WALL / MOORGATE

CLIENT - THOR LTD
MAIN CONTRACTOR - KNIGHT HARWOOD
ARCHITECT - PAUL DAVIS AND PARTNERS

This retained facade project consisted of a large corner development on London Wall and Moorgate comprising the Art Deco Halifax House and two adjacent buildings, one to either side. The existing facades on both streets were carefully cleaned, surveyed and investigative works carried out to establish the method with which the original stonework had been fixed. 62-64 Moorgate, once the facade had been recorded, was carefully dismantled with

each stone photographed, labelled and palletted in the order in which they needed to be reinstated. The backs of all the stones were cut down to reduce them to 75mm thick ashlar to allow for modern cavity requirements to facilitate insulation and fire barriers. Stones that were too damaged for reuse were replaced with like for like new stone. The facade was reinstated with blockwork backing structure. Two of the floors were stretched by 250mm and the new stone course in Perryfield Whitbed matched to the existing. The

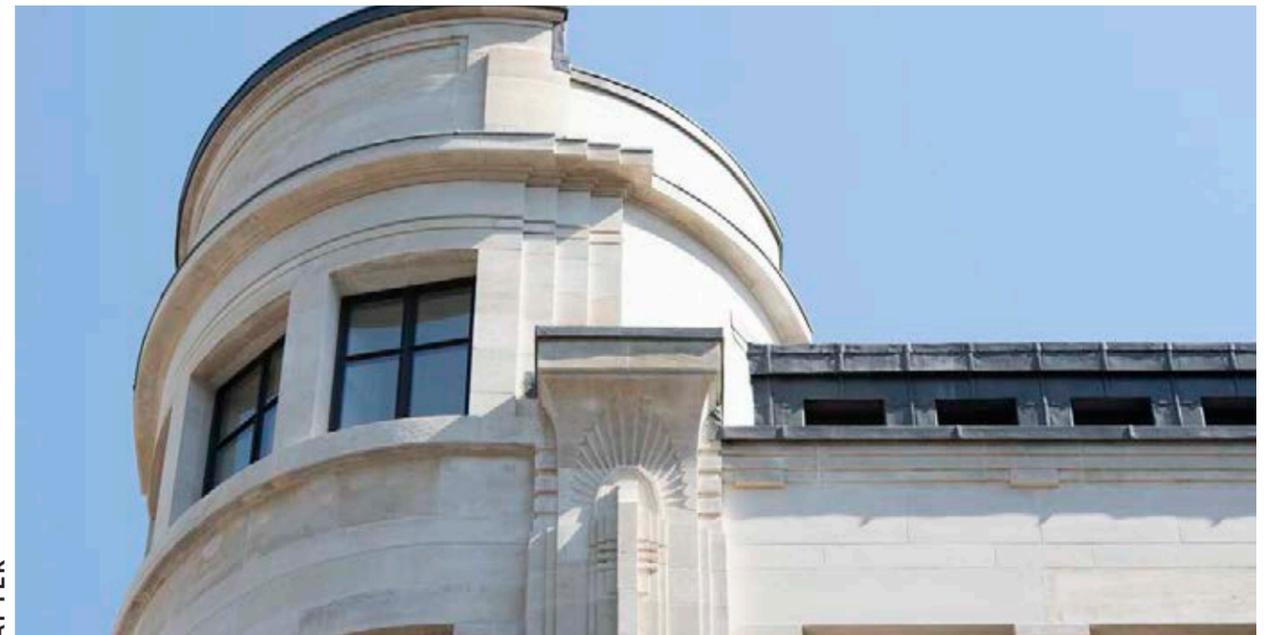


reinstated facade is five storeys with a turret at the top. On 56-60 Moorgate the facade was retained in situ from ground to third floor with the retained facade cleaned and in situ repairs made. The fourth floor of the facade was removed, the stone cut down to 75mm and reinstated stretching the facade by 250mm, and an entire new fifth floor was installed. The new stonework was delivered in Perryfield Whitbed to match existing. The London

Wall facade, 41-42, was all new Portland stone using Basebed for the columns, Whitbed for the window surrounds and Roach for the facias. On all the facades the slabs were 250mm concrete and the tops of the windows approximately 500mm below the concrete slabs. This required the design of very large bracketry to support the stone suspended from the slabs.



BEFORE



AFTER

ONE CROWN PLACE

CLIENT - AMTD LONDON DEVELOPMENT COMPANY LTD
MAIN CONTRACTOR - MACE
ARCHITECT - KPF

Szerelme Restoration has recently completed extensive cleaning, repair and restoration works to the historic retained facade that forms part of a new mixed-use development consisting of two towers above a podium. The retained Georgian facade is brick with York stone dressings and decorative brick details. The works were carried out in two phases. Phase One involved dismantling the brick parapet, which was later rebuilt to match existing using matching bricks. The brickwork and stonework was cleaned, surveyed and scheduled. The floor slabs were secured to the retained facade using bespoke designed stainless steel bracketry and following this, the retention system was removed. Phase Two of the works involved the rebuilding of the brick parapet, extensive repairs and repointing of the brickwork and stonework and the introduction of new double-glazed mock sash timber windows.



BEFORE



AFTER

"THE RESTORATION OF THE RETAINED FACADE WAS A CHALLENGING ELEMENT OF WORK WHICH THE TEAM COMPLETED TO AN EXCELLENT STANDARD. THE QUALITY OF WORKMANSHIP HAS BEEN COMMENDED NOT ONLY BY THE MACE TEAM, BUT ALSO BY THE CONSULTANTS AND CLIENT TEAM. I'D LIKE TO PERSONALLY THANK ALL THOSE INVOLVED FOR THEIR HARD WORK THROUGHOUT THE PROJECT."

TOM WEBSTER
 PROJECT MANAGER
 MACE

WOOLWICH

CLIENT - ROYAL BOROUGH OF GREENWICH COUNCIL
MAIN CONTRACTOR - MACE
ARCHITECT - CONSARC CONSERVATION

Szerelme Restoration is currently carrying out repair and alteration works to three Grade II listed buildings, 19, 40 and 41 within the original Royal Arsenal Complex in Woolwich. Works include the formation and alteration of several openings within the existing brickwork structure including the supply and fix of new matching handset and precast brickwork arches, image 1. Defective copings are being replaced with matching stone. Many areas of the original masonry including cills, plinths, moulded string courses and cornices are being repaired or replaced with matching Portland or York stone indents. Defective bricks are being carefully cut out and replaced on all three buildings using new matching or salvaged bricks. Isolated sections of the brick plinth course are being repaired using bespoke profiled Staffordshire blue imperial bricks. Defective areas of historic brick pointing are being replaced to match the original styles of each building. Typical styles include weather struck, flush



and penny struck joints which in many areas are being tinted where necessary to blend in with the historic fabric. To the internal brick face of building 41 we are also carrying out extensive works involving the introduction of Helifix rods to stabilise several historic fractures as well as the installation of isolated bricks to match the original.



BEFORE



AFTER

Removal of vegetation, install of new copings, formation of new openings, brickwork and pointing



BEFORE



AFTER

Formation of new openings, installation of stone thresholds



HISTORIC PROPERTIES

BATTERSEA POWER STATION

CLIENT - BPSDC
MAIN CONTRACTOR - MACE
ARCHITECT - WILKINSON EYRE AND PURCELL

Szerelmey Restoration is currently on site delivering one of the company's largest scale projects to date. The internal restoration package at Battersea Power Station is a critical part of the redevelopment of this huge and, until relatively recently, derelict site. The full works will see life breathed back into the shell of the power station and the surrounding area, delivering a vibrant new destination for London with a community of homes, shops, cafes, offices, leisure and cultural venues with over 19 acres of public space. The £9bn project is one of the largest developments in London and will regenerate an entire area.

Key to the design of the interior space at the power station is the bringing together of the historic elements of the listed building with a contemporary feel. Szerelmey Restoration is delivering the important restoration and repair works to the interior spaces. These works have included extensive brick replacements and repointing, forming of new openings including the manufacture and installation of new steelwork and widespread faience repair and replacement through both Turbine Halls.

The team will use over 400,000 bricks to restore large sections of Battersea Power Station's internal features. Both colours and textures have been carefully selected to enable our team of highly skilled bricklayers to pick and mix from these batches in order to seamlessly blend our modern works in to this historical and iconic building. Our scope of works has grown significantly since we started on-site, from internal to external as will be evident once we start installing the new soldier course lintel slips to the east elevation of Switch House East. These were conceptualized and designed by our in-house design team to not only match the original but to apply modern construction techniques to their installation providing a buildable solution that complies with current regulations and matches the original construction visually.

We have created 15 new openings between Turbine Hall A and the Boiler House and adapted 13 steel beam supported openings between the Boiler House and the newer Turbine Hall B. Both have required the design and installation of various shaped and sized new steelworks. We worked closely with Buro Happold, the appointed structural engineers, to ensure the design and delivery of



these important new openings can withstand the enormous stresses and loadings required at BPS. Once all the structural works have been completed our team of bricklayers, masons and restorers will provide the finishing touches to client's and architect's approval.

The interiors of the Turbine Halls are largely covered in faience tiles. We worked closely with the client, Architects and our US faience supplier Boston Valley Terracotta to design, manufacture and install over 15,000 individually scheduled bespoke new faience tiles to replace existing ones that were too badly damaged to repair. Other areas were restored using in situ mortar repairs, colour matched and hand glazed to match the original finishes. In addition, 90% of all the original faience tiles were carefully pinned back to the substate with either 2 or 4 stainless steel dry-fix pins to reduce the risk of any historic tiles working loose.



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Bishopsgate: www.lasamarmo.it/bishopsgate

References: www.lasamarmo.it/references

Virtual Tour: www.lasamarmo.it/360view



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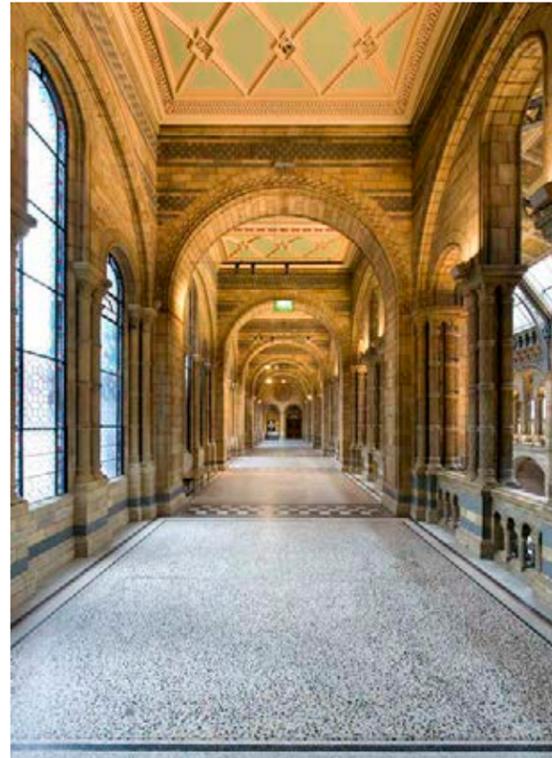
HISTORIC TERRACOTTA

The term “terracotta” is literally translated as fired earth/clay and “faience” is the term given to glazed terracotta. The use of terracotta in architecture stretches back to at least Ancient Greece when it was used to form decorative features. Use of the material was widespread across Renaissance Italy particularly in ecclesiastical architecture and in Germany, Austria and other parts of Europe. It was not until the end of the 19th century that it became popular in England and America. This surge in popularity was driven by a number of factors, not least increasing demand for mass-produced ornamental architectural details which the manufacturing process of terracotta is perfectly suited to. Large numbers of architectural pieces can be produced from a single mould and moulds produced relatively quickly and easily. As Victorian tastes for ornament and decoration took hold architects began to realise how terracotta production could match demand and budget. Interestingly the process of producing handmade terracotta (slip casting and hand pressing) has changed little over the centuries. Architects began to see the possibilities that terracotta afforded them. A material that could be formed into virtually any shape or form and yet hard enough for use externally on buildings. Faience similarly took hold. The glazed surface afforded architects extensive colour opportunities and perhaps even more importantly proved to be easy to keep clean, particularly relevant due to the air pollution.

At first terracotta was used in hollow pot form. These were filled with aggregates to give density and strength or they were formed as solid blocks and treated the same as traditional stone masonry or brick construction. A number of the older London Underground stations were built using hollow pots. However, with the development and widespread use of metal framed buildings

during this period, terracotta came to be used as a facing or cladding material. This was driven by the realisation that metal framed buildings were potentially dangerous unless insulated and protected by masonry. This became apparent following the fire that devastated Chicago in 1871 where metal framed buildings buckled in the heat and then shattered when cooled suddenly by fire hoses.

During this period terracotta was a relatively inexpensive material, making it even more attractive. It was especially popular in the US, where architects would design buildings from ground to first using expensive stone and then all floors above in terracotta glazed to have the appearance of stone. The glazing was so good that most people would never notice the difference. It was also widely used in the UK and the more you look at buildings in London and Manchester particularly,



the more terracotta you start to see!

Terracotta (unglazed) develops a “fireskin” when fired. This is a thin protective layer that gives the material its weatherproofing and durability. The fireskin is quite fragile and can be easily damaged, which can happen as a result of poor or incorrect cleaning. Once damaged the material below the surface will start to decay. Attempts to consolidate a damaged fireskin prove only a temporary measure with replacement normally inevitable. In some cases consolidants or water repellents can actually cause more damage by causing the surface of the terracotta to flake away through differential movement, or through causing more concentrated salt crystallization around damaged areas.

Over time terracotta will become dirty, particularly in densely populated urban environments. Faience, with its glazed finish is much less prone to soiling and even partially “self cleans” during heavy rain. Cleaning terracotta can dramatically improve its appearance and can also show up areas of damage, cracks and chips, that might have been concealed under dirt. Terracotta, as a completely natural material, shows



some colour variation which lends to its beauty and this is greatly enhanced following sympathetic cleaning. It is not without risk though as the material is or can be fragile and can react differently to cleaning methods. No cleaning should be carried out without careful sample cleaning tests first and all approaches should be to use the most gentle methods possible. Simple nebulous water washing with a fine spray, a low pressure air/water abrasion with micro-particle abrasives and sometimes a very dilute chemical solution might be necessary. With any cleaning method there is risk involved and much of the success of the process comes down to the skill of the craftsman carrying out the work.

Repairs to terracotta and to faience can be relatively easy to carry out. Where possible small crack and chip repairs are done in situ and without removing the block. They can be expertly colour matched to the existing and will invariably be hardly noticeable. In areas of more extensive damage it might be necessary to remove the whole unit/block. In modern construction this is fairly straight forward. In historic buildings this can be more complicated depending on how the pieces were fixed or bedded. Portland cement for example was used extensively in the early 20th century, but this is a very hard mortar so it is difficult to remove and can cause damage to surrounding pieces. In addition, it was used without movement joints which led to cracking caused through differential movement between the building frame and the terracotta, this in turn leading to freeze/thaw issues with moisture exposure. Once the damaged unit is removed, a new mould is created, a new piece manufactured

and installed by a specialist subcontractor, like Szerelmey.

Today there has been a resurgence in the use of faience especially and terracotta for use as external cladding and internal decorative or feature walls. Architects and clients alike still appreciate the huge versatility of the material, which with increasing incorporation of new technologies with existing craftsmanship, are becoming ever more exciting.



DARWEN TERRACOTTA & FAIENCE HANDCRAFTED IN BRITAIN

Restoration and New Build Specialists



Left-Right:
A House For Essex, Academy House, Oxford Street, One Eagle Place, Natural History Museum,
Air W1 Quadrant 3 Development, Lambeth North Station, Leicester Square Hotel, Regent Street W4, Leeds Playhouse.



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In recent years, we have switched our extraction operations from quarrying to mining. This process allows us to significantly reduce our environmental impact – we've made Portland stone an economical yet sustainable choice that compares favourably with many alternative construction materials.

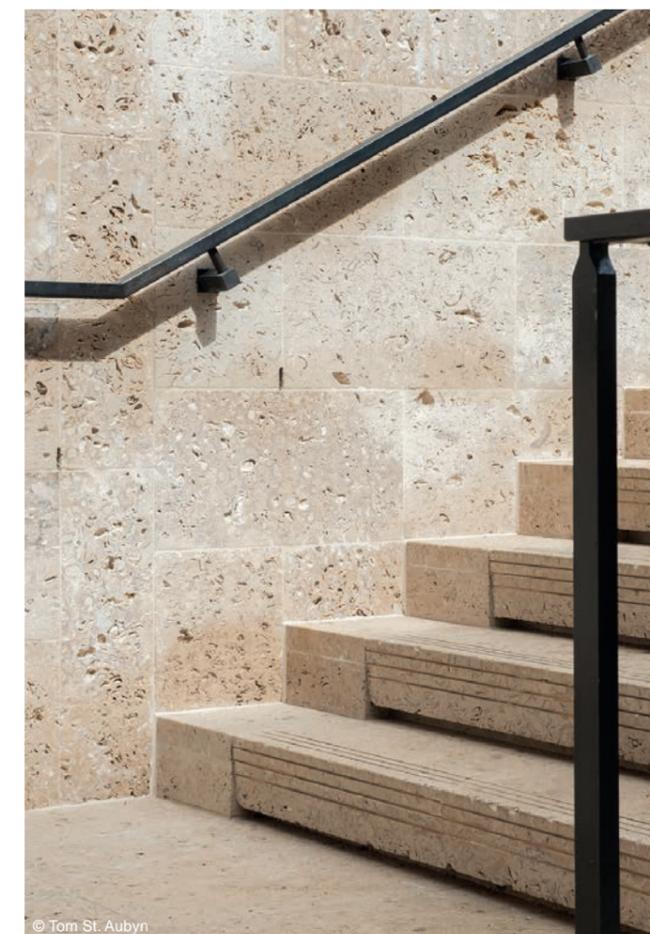
Our Limestone production facilities are now the most technically advanced in the UK, with our in-house Masonry works cutting this high quality, prestigious British Limestone into a full range of Portland Stone products, including: Ashlar Cladding, Walling, Flooring, Paving, Stone Masonry and Bespoke Carving commissions.



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RESTORATION AND CONSERVATION OF NATURAL STONE BUILDINGS

The UK is lucky to have such a wealth of Historic Stock, World Heritage Sites, National Monuments and listed buildings of national standing and importance. These significant structures must be maintained, repaired and/or cleaned sympathetically and in such a way that is respectful to their integrity.

Before any works are undertaken to these often-fragile structures, it is important to gather as much information about the building as possible. Finding out if information is available from archive documents and drawings is a good starting point. Many of these historic structures have been written about previously in case studies, appear in national archives or in Local Authority records. All of this leads to greater understanding of the construction methodology, history of works and original design. This makes developing a strategy for the repair and cleaning works easier.



When surveying a structure, it is important to not only look at the surface but what is behind the surface. Very often an intrusive survey will uncover the true problem the structure has to tell you. Intrusive meaning identifying any potential problem from cracks or movement visible from the external or internal of the building/structure. It may be that areas are carefully removed to see within the structure to analyse and diagnose the issue. In some cases, core holes will identify the full wall thickness, material and material makeup used. Other methods of surveying the external elevations are many and far reaching from the simple roadside binocular survey to a full on 3-point cloud survey, abseiling or viewing from a scaffold or elevated platform.

Depending on the type of building and its listing a decision will be made whether it is to be restored or conserved - the two are very different things. To restore a building entails the repair and replacement of the structure's fabric back to the designer's original integrity using materials, such as mortars, stone and repair lime mortars that match in type where possible and complement the structure (there are many notable examples of this). Restoration can also include the repair of decayed natural stone if structurally sound with an in situ lime mortar repair or a natural stone, known as an indent or piecing in.

To conserve we hold the structure in time, taking measures to allow such repair or replacement to a minimum but protecting the historic integrity of the structure. This will mean only replacing natural stone that is decayed but structurally unsound. Where the stone is still sound but may have lost much of its moulding or surface, conservation techniques can be used, such as lime shelter coats or protecting sky surfaces with a suitable weather proof

covering such as (traditionally) lead and therefore delaying the natural decaying process. Of course, as stated above this also applies to a structure being restored.

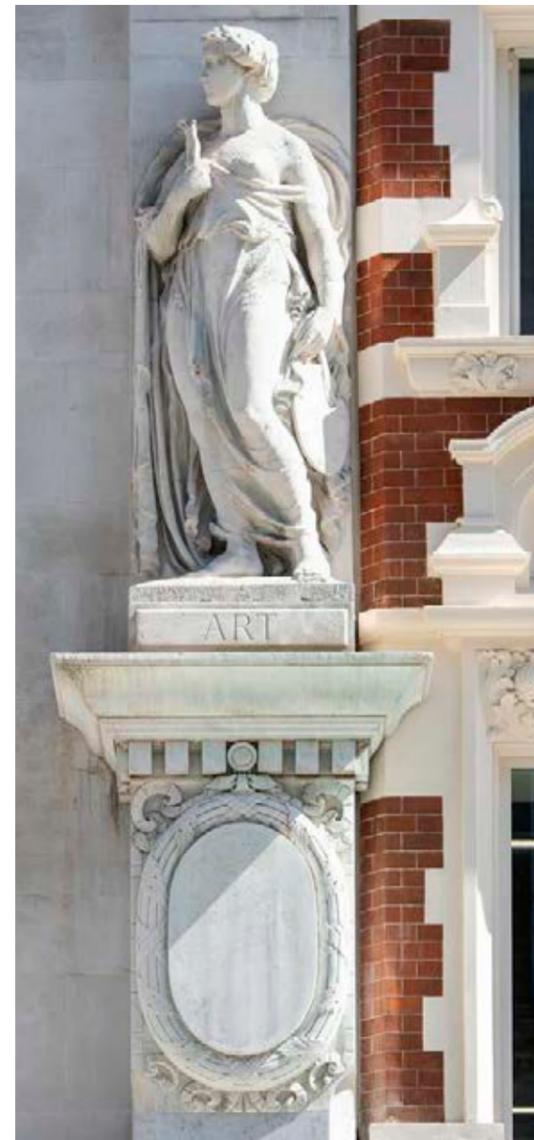
Identification of correct materials is important, often it can be difficult to find the same stone, if for example the quarry has shut. In these cases, an alternative that is as close a match as possible will need to be sourced. It is so important that any stone identified is chemically and petrographically suitable and selected on this basis and not just for texture and colour.

It is important that sky surfaces from historic structures that are to be conserved are protected by the method of coverings to protect them and slow the process of decay. This will be because the historically important surfaces are key examples of our past building processes.



BERNARD BURNS
BUSINESS DEVELOPMENT
SZERELMEY

Bernard has over 40 years' experience in the industry with a particular specialism in conservation, restoration and natural stone. Bernard is Chair of the SFGB Stone Heritage Group, a member of the Executive Committee of the SFGB, a member of the Worshipful Company of Masons and a Freeman of the City of London.



Before any work is carried out the use of exemplars is a must. The materials and surfaces used on our Historic Stock will behave differently, so these exemplars are needed to understand the fabric of the structure and level of clean and repair or replacement of the natural stone. They also provide an example of quality of the proposed finish and the levels of skill and craftsmanship of the restoration company.

The stone industry has learnt many lessons over a long period, but more so over the last 30 years. This is particularly true where cements have been cast aside allowing lime mortars to be used in both new build, repair and conservation, and the understanding that lime mortars are largely sacrificial. When applied whether in a mortar repair or in a joint they are allowed to decay over a period and in new build give the structure the ability to move and therefore reducing cracking.

In summary:

- Research and understand the structure
- Restore or conserve?
- Survey/test panels/exemplar panels
- Appropriate cleaning techniques - "under-clean don't over-clean"
- Repair techniques
- Exemplar case studies and experience

It is important to remember that the success of any project depends on the input of those with the specialist skills required. Obtaining advice from a specialist during the early stages is vital. Knowing what techniques need to be adopted to restore or conserve a facade without damaging it is very important. With the right qualified, experienced and accredited contractor, cleaning and restoration work can be undertaken effectively, sympathetically and to within time and budget constraints.

PROJECT FOCUS

CENTRAL LONDON RESIDENTIAL PROJECT

Szerelmey completed Phase I of works, consisting of internal stonework, on this substantial residential property scheme in London in 2019. The team then moved on to begin works on Phase IV comprising a complicated and extensive package of externals over three buildings (6, 7 and 8) arranged around a private courtyard. Given the size of the development, works remain ongoing. Also, given the large expanse of the site and the main contractor's welfare facilities our team were able to be safely remobilized during the Covid-19 lockdown relatively quickly and continue with their works at 50% capacity which increased to 75% in June and 100% by August.

Each building is six storeys with a two-storey penthouse set back at the upper levels; they each feature quite complicated parapets with dentril detailing. Building 6 comprises primarily stone cladding in Portuguese Cabeça Veada (6,100 stone units) with sections of rendered brickwork on the East facade and lightwell on the West facade. This building and building 8 feature lintels that are over 3m in length, produced in single pieces and requiring substantial fixings, and both have dense limestone plinths in Gascoigne Blue.

Building 7 is the most complex of the three and involves a double height load bearing colonnade comprising 21 columns. The colonnade columns are two storeys high made up of five courses of stone. The bottom stone on the column is hollow and is filled with in situ concrete to provide positive connection to the foundation. The four courses of stone above this in each column are solid stone which are pinned together. The columns support the terrace above. Further works include handset Cabeça Veada cladding, installation of a large stone frieze inscribed with a poem, precast spandrels, lintels and parapets and a Gris Cardosa granite plinth. On the South and East facades we are installing 108 load bearing precast stone clad piers with curved corners from floors 2-6 which support each floor slab via acid etched precast beams that are stitched to each floor slab using heavy duty Halfen thermal break/rebar connections at each floor level.

Building 8 comprises rendered brickwork, stone cladding and a total of 65,000 mixed antique facing bricks.

A total of 1,131m³ of stone was used across the three buildings and 976m² of render works.



WINDSOR CASTLE FACILITIES

CLIENT - ROYAL HOUSEHOLD
MAIN CONTRACTOR - ME CONTRACTORS
ARCHITECT - PURCELL

As project sites go, this one takes a bit of beating! The Szerelmey GB team, who work outside London, recently completed an array of works at Windsor Castle. These included the supply and installation of large areas of Purbeck flooring to the new visitor café and adjacent bathroom areas. Purbeck is a British hard limestone quarried in Dorset that has been used in construction since Roman times. It tends to have a lively surface pattern of fossils and varies in colour from bluish to greys. The large area of new flooring we installed complements the existing historic stonework of this Grade I listed building.

Purbeck flooring was laid in the grand new public lavatories, with Arabescato marble splashbacks and wall cladding in the ladies' lavatories, and Purbeck in the men's lavatories. These are certainly some of the finest visitor lavatories we have worked on.

A large part of the project works revolved around extensive exploration, enabling works and carrying out some of the builders' work. This included removing a fragile historic tracery

window which was carefully stored while works were carried out to convert the window space into a doorway leading to the Inner Hall. The new doorway was created to accommodate a new flight of stairs created from the Portland stone of two separate existing staircases which were carefully removed, combined and restored. The historic tracery window stonework was then returned and reinstalled.

Further works included the lifting, relaying and repairing of the majority of the existing flag stones in the Inner Hall, installing of Purbeck vanity units and floor tiling in the North Terrace lavatories, and the creation of two new ramps and a staircase in the Engine Court. Bath stone was used for the ramps' wall coping and sandstone for the floors and wall cladding.





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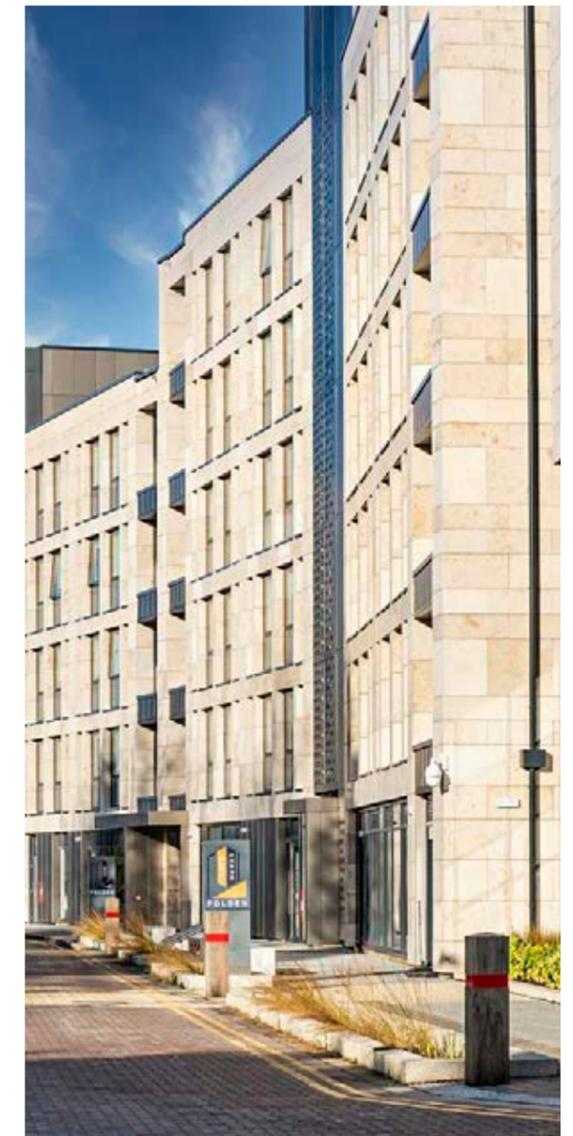
Watch Natural Stone 360° at: www.marshall's.co.uk/naturalstone and get the complete picture.



POLDEN CORNER, UNIVERSITY OF BATH

CLIENT - UNIVERSITY OF BATH
MAIN CONTRACTOR - VINCI
ARCHITECT - STRIDE TREGLOWN

Szerelmey GB, who work outside London, delivered the design, supply and installation of 40mm thick German Jura rainscreen cladding for the new university accommodation block on the Claverton Down campus, Bath. The building, designed by Stride Treglown Architects, has provided 293 ensuite bedrooms laid out across two buildings and four blocks around a landscaped courtyard. Szerelmey undertook the design of the lightweight aluminium supporting frame system, all of the SFS, weathering, insulation and fixings. The Jura was installed in sizeable pieces, ranging in size from 1m x 85cm to 1m x 35cm, with a total install of approximately 4,000 sqm.



ONE BISHOPSGATE PLAZA

CLIENT - UOL
MAIN CONTRACTOR - LENDLEASE
ARCHITECT - PLP

This was a complicated project that involved both new build and restoration work. We cleaned and restored the long brick facade with Portland stone dressings on Devonshire Row. The Bishopsgate end of this facade and the Bishopsgate facade itself was covered in many layers of thick paint. We carried out a number of tests to remove the paint before settling on a combination of eco-friendly paint removal, followed by a complete Doff clean. Once the paint was removed it became apparent that a considerable amount of damage had been covered up over the years. This was mainly due to historic bomb damage and the removal of a high-level cornice. The removal of the cornice left all sky facing surfaces unprotected from the weather and ultimately led to the demise of the soft Bath stone elevation. After carrying out a complete condition and restoration survey we commenced in carrying out an extensive restoration to both elevations. This included reinstating the high-level cornice and reapplying a breathable masonry paint.

The existing historic facade facing Bishopsgate was only half of what the original building had been, with one half removed at some point. Our new build team were tasked with recreating this missing part of the building as an exact replica of the existing. The facade



was recreated using Bath stone to match the original, with granite columns and ornate detailing. This also included the recreation of a decorative cupola, which had also been removed, but was known through historic photographs. Other works involved the recreation of a small faience facade, which had also been lost in history.

"THERE IS ALWAYS AN INTERESTING, AND AT TIMES, CHALLENGING RELATIONSHIP BETWEEN THE DIFFERENT ELEMENTS THAT HAVE TO COME TOGETHER TO DELIVER CONSTRUCTION PROJECTS, ESPECIALLY ONE AS COMPLEX AND DIVERSE AS ONE BISHOPSGATE PLAZA. IT IS A FINE BALANCE TO FACILITATE THE ARCHITECT'S VISION WITHIN THE CLIENT'S BUDGET TO DELIVER A BUILDING THAT WORKS, AND IN CASES OF HERITAGE BUILDINGS, THAT ADHERES TO ANY RESTRICTIONS FROM HERITAGE BODIES. SZERELMEY HAS WORKED HARD TO RESTORE THE HISTORIC ELEMENTS OF THE BUILDING AND PRODUCE A FAITHFUL REPLICA FOR THE NEW FACADES. THE IMPRESSIVE AND FAULTLESS RESULT SPEAKS FOR ITSELF"

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SENIOR FACADE SPECIALIST
LENDLEASE

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 **BOSTON VALLEY**
TERRA COTTA
The Architect's Newspaper 2020 'Innovator of the Year'

Building: 48 Carey Street, Lincoln Square
Location: London, England
Architect: PLP Architecture
Contractor: Szerelmey Ltd.
Product: Terra Cotta Masonry
www.BostonValley.com

THE ESTIMATOR'S WORST ENEMY

BY ANTONIO BUFFA

Contrary to popular belief, the estimator's worst enemy (I am tempted to say their nemesis ...) is not the client PQS who is trying to unpick your rates to the nth degree looking for any tiny residue of hidden profit, nor your own colleague, the project manager now running the job you secured and who constantly berates you for not having allowed enough money for this item or that item.

No.

A more formidable foe than those is SECONDARY STEEL.

For those of you who don't know, SECONDARY STEEL, is an assortment of metal components of varying size and complexity, which will be required where stone cladding needs to be built on a facade but nobody really thought of where you solidly attach the stone to.

The average structural engineer is generally more concerned with designing a building skeleton that does not sink, rake or twist too much and apart from providing the required number of columns and slabs (and even these are becoming thinner and thinner), deems any additional requirement as verging on the frivolous.

The average architect's main preoccupation seems to be to design and preserve the aesthetics of the building's skin and the practicalities of how that is achieved is certainly not his or her concern.

The facade consultant (if the client has decided they can afford one) however makes it their job to spot the dangers of the missing primary structure, hence the requirement for a secondary one, and point it out to you. The problem is that apart from showing some generic and indicative arrangements done with pencil sketches (scanned and PDF-ed, but still pencil sketches they remain), the estimator is really left with a rather large question mark: what the hell do I allow for this item?

The first port of call is the design department, who usually regard the estimator as a pest who asks impossible questions, armed with vague information, which they cannot possibly give a meaningful answer to ...

With increasing dejection, the estimator then tries to think of a friendly QS who previously worked on that particular project that had some secondary steel ...Yes! They will be able to help.

A few hours later (or maybe days later if the QS reveals themselves to be not as friendly as originally

thought) the estimator receives a series of emails with invoices with costs for nuts, bolts, washers, tek-screws, neoprene gaskets, holo-bolts, PFCs and box sections that they now need to unpick and somehow assess whether they can extract anything meaningful from.

No good asking a project manager, as to cover all bases (or more prosaically said their backside ...) they will suggest an extortionate allowance that, the estimator thinks, will blow their price out of the water.

What to do?

Guesstimation is the only answer.

And that is where they will need to bet one of their estimating lives on striking the right balance. Do you a) come up with a semi-random figure, put that in your spreadsheet and hope for the best, you want to win the job after all or b) treble that figure because that could be the black hole that makes the difference between a profitable project or a disaster...?

After a varying amount of stomach churning (some estimators are more susceptible to uncertainty than others) they will finally pluck the courage to decide on a figure and settle for the long wait until someone will either complain (the allowance was too low) or... nothing at all is said because there was enough money after all (or even more fantastically, there was plenty in there and somebody else is taking the credit for it).

There is further toil, though, that SECONDARY STEEL generates, and that is at the intermediate stage of post-tender analysis where regardless of the figures you have submitted the client PQS will balk at the allowance and ridicule you for attempting to fleece them on such a minor item (they are already spending hundreds of thousands of pounds on a concrete frame, after all ...).

As in many instances in the estimator's life, there is no winning where SECONDARY STEEL is concerned.



ANTONIO BUFFA
DIRECTOR
SZERELMEY

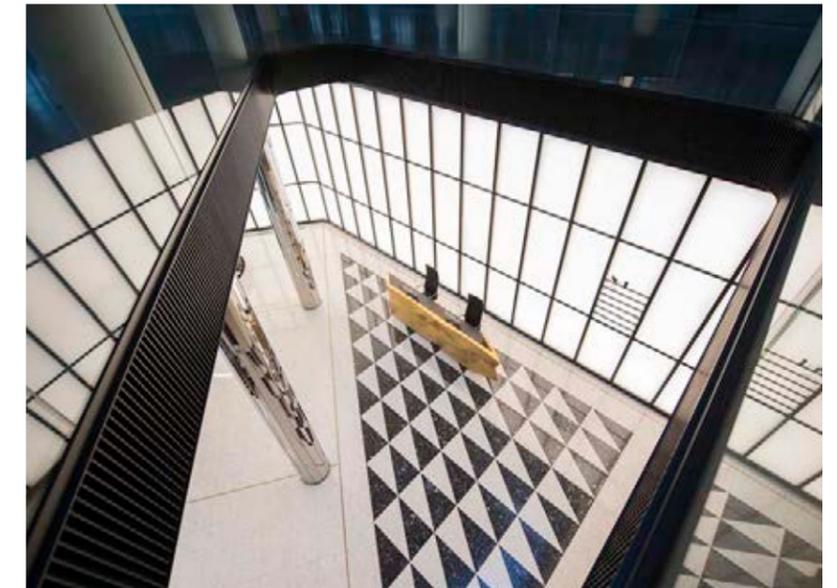


MATERIAL FOCUS

TERRAZZO

The earliest forms of terrazzo are thought to date back to the Ancient Egyptians, but the more commonly quoted origin of the material is rooted in 16th century Italy and the area around Venice and the region of Friuli. Throughout the Renaissance, the Veneto region became a centre of mosaic production, which remains true today. Legend says that the craftsmen involved in mosaics started to take larger or odd shaped pieces of marble and glass home with them to create cheap floors by mixing them with mortar. They devised a method of laying the floor and then grinding down the surface with a long handled weighty stone called a galero. It is said that the first sealer for terrazzo was discovered when workers noticed that goats milk brought out the colours and sheen of the marble!

From these humble early beginnings, this sustainable flooring system gathered momentum. People were drawn to the colours and patterns that could be achieved using terrazzo and the artistic potential it afforded. The use of in situ terrazzo made its way to the UK in the 1870s and to the US in the 1890s, becoming popular in both countries. The first terrazzo/mosaic craftsman recorded in London was Pietro Mazzioli who arrived in 1875. He established his company and as word spread, other Italian specialists followed him to the UK. The National Federation of



Terrazzo and Mosaic Specialists was formed in the late 1920s and around the same time a system for manufacturing precast reinforced terrazzo and the first hydraulic tile press were developed in the UK. It was also during this period that divider strips and electric grinding machines were invented. These greatly helped in situ terrazzo, with the dividers allowing the material space to expand and shrink after installation which cut down on cracking. The dividers also allowed for easier patterns when installing and acted as guidelines for different colours and mixes. The electric grinding sped up the finishing process and reduced costs making terrazzo an appealing flooring solution. By the 1960s there were over 60 associated companies in the Federation, but the 1970s saw the industry suffer during the recession culminating in a lack of skilled craftsmen and the demise of many small specialist companies.

Terrazzo has gradually regained its popularity, due in part to the development of improved manufacturing processes and even greater aesthetic possibilities. It remains a highly sustainable flooring option, being largely produced using recycled materials and has also been developed for vertical use. Terrazzo is a composite material consisting of chips of marble, granite, quartz, glass or other suitable materials mixed with either a cementitious or epoxy resin binder. Cement based terrazzo is suitable for internal and external applications, while resin based terrazzo, which can be achieved in thinner tiles is suitable only for internal use. Terrazzo



can be poured in situ with additional chips sprinkled to the surface before the mix sets. Once the mix has set or cured, the surface is finished with a grinder and then polished and sealed. Any depressions in the surface can be rectified with a matching grout material.

A popular form of terrazzo is the terrazzo tile, which is easier to install than poured terrazzo and requires less time on site. There are two main types of tile: a dual layer and a mono layer. Dual layer is generally manufactured in the following way. The decorative layer with the aggregate is poured into a tile mould first in a relatively wet state. This is followed by the dry layer of cement, sand and limestone. The tile is hydraulically pressed to force the water from the wet layer through the dry layer enabling mechanical handling to follow. The tile is released from the mould on to curing boards and set to dry in a regulated drying room - this process takes approximately 48 hours.

Once released from the drying rooms, the tiles are ground to a calibrated production finish. The highly polished finish is achieved through polishing once they are laid. Tiles can take up to four weeks to fully cure although this process is very much dependent on climatic conditions. The thinnest the dual layer tile can be produced is around 23mm and this will depend on the bedding beneath although a standard thickness is 40mm. Tiles can be supplied factory finished (polished



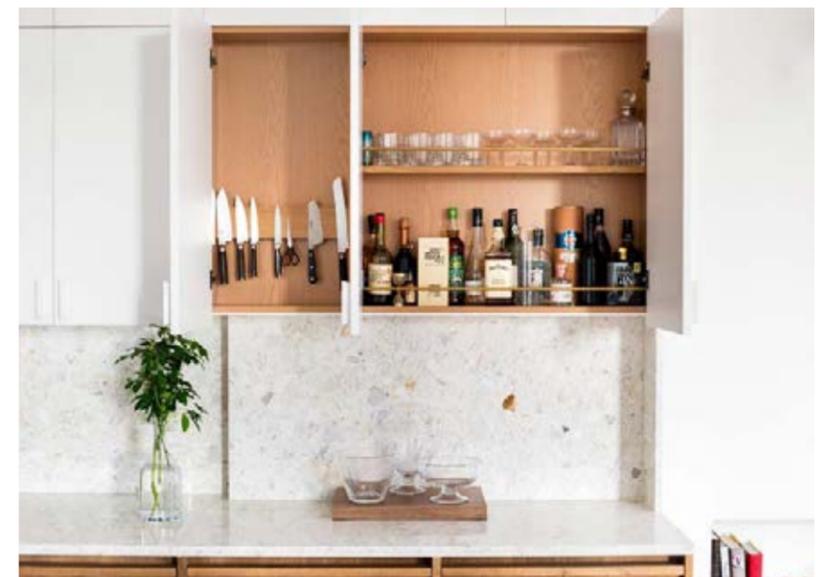
Above photography by Tom Bird

which opens up a huge range of possibilities for the material. The blocks can also be cut into slabs and are manufactured using a vacuum method.

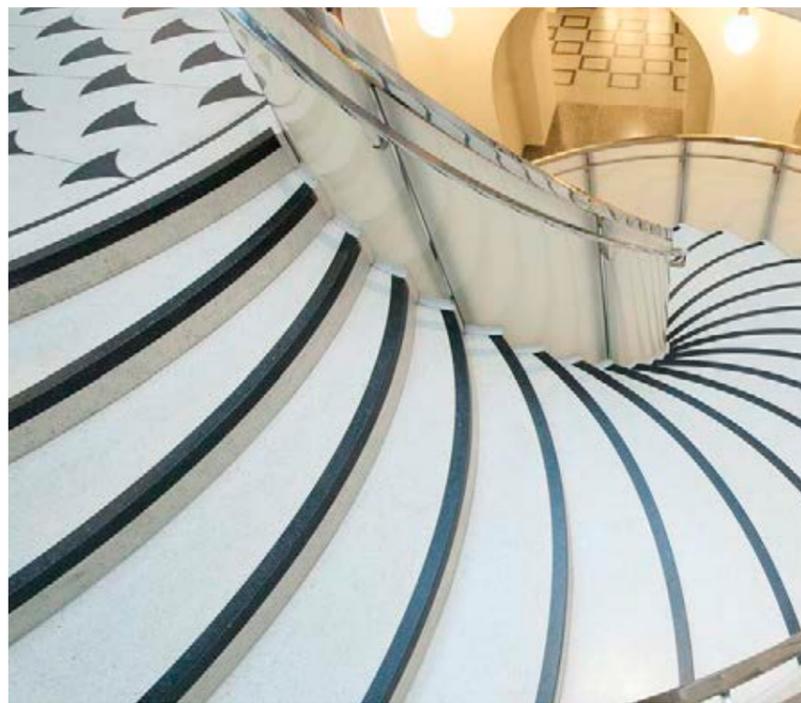
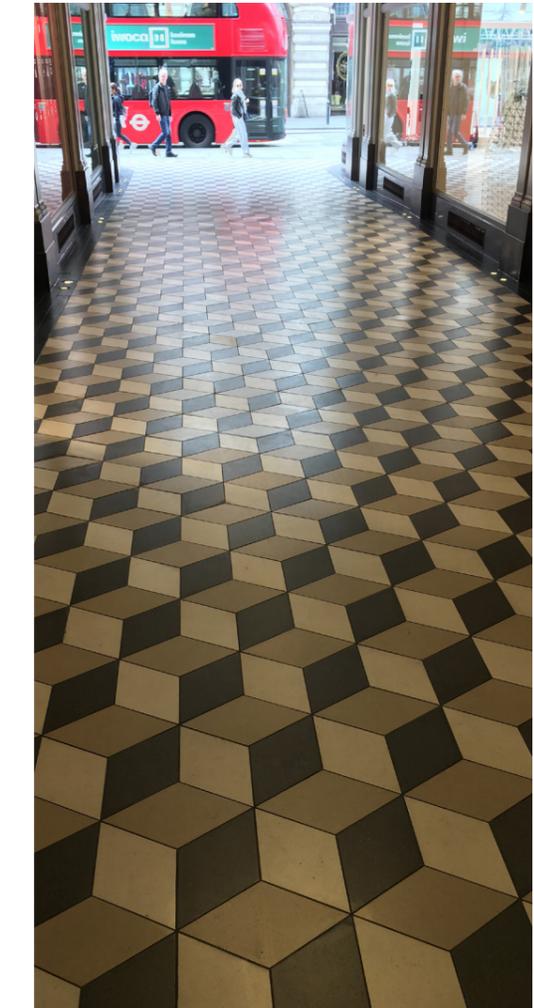
The selection of the aggregate and its mixing are crucial, and the improvement in quality is a work in progress. The key is as much art as it is science and the right balance of materials, for example in winter or wet weather less water is added as the aggregate is already wet. The mixing and the casting should all be carried out in a vacuum, each marble has its idiosyncrasies and recipes need to be adjusted accordingly, which needs to be taken into account when preparing the samples and production recipes.

Today's block production is on an industrial scale and requires the appropriate supply chain and technical knowledge. Each block weighs over seven tonnes and manufacturers will normally require a minimum of ten blocks for each bespoke colour. Investment in new production technology and processing has seen the largest manufacturers, such as Agglotech, increase their block production significantly with anticipated capacity soon to reach 40-50 blocks a day.

Much like stone, terrazzo can have a variety of finishes applied to it which can affect slip resistance and change the surface appearance of the material. Polished is seen frequently, but the material can also be given a honed, brushed, bush hammered or sandblasted finish.



Above and below left photography by Jade Nina Sarkhel - Interior Photographer



and sealed) to eliminate site grinding.

Mono layer tiles can be produced using either cement or resin and either hydraulically or in a vacuum. The resin tiles can be produced at a minimum thickness of 12mm for low foot traffic and in small formats, 20 x 20cm or 30 x 30cm. For cement tiles the minimum thickness is 18mm. For higher traffic areas a thicker tile is recommended, alternatively it is also possible to use a mesh backing on the tile to provide further strength. Wall tiles can be thinner than floor tiles generally.

A further enhancement is to cut geometric pieces (circle, oval, rectangles etc) out of the terrazzo tiles, the holes are then filled with equivalent pieces of marble or granite. This is achieved using the precision of waterjet cutting to match the cut out with the inserts. This methodology also allows for individual customisation.

Technical advancements have led to the production of terrazzo blocks up to 2.5m x 1.4m x 70cm. These blocks can be CNC machined to virtually any shape required,

Thank you to InOpera Group for technical input and the use of some of their images

BRITISH AND IRISH STONES

Britain and Ireland are home to a wide range of stones that can suit any application and satisfy virtually any aesthetic. This diverse collection of stunning natural material is readily available and easily accessible. More information is available on request on any of the stones listed below. This is a selection of those available and not a complete list.



SOUTH WEST



HURDCOTT GREEN SANDSTONE
SANDSTONE
BRITAIN, WILTSHIRE, BARFORD SAINT MARTIN

APPEARANCE - PALE TO MID GREEN STONE WITH SOME SMALL MOTTLED LIGHTER AREAS AND A HIGH SILICA CONTENT
USE - LOAD BEARING MASONRY, CLADDING, ARCHITECTURAL APPLICATIONS
PROJECT - WESTBURY HOUSE DENTIL CORNICE AND PEDIMENT



PORTLAND
LIMESTONE
BRITAIN, ISLE OF PORTLAND

APPEARANCE - CREAMY WHITE. APPEARANCE VARIES THROUGH THREE DIFFERENT BEDS: BASEBED, WHITBED AND ROACH WITH ROACH CONTAINING THE HIGHEST LEVEL OF FOSSIL
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - BRITISH LIBRARY



PURBECK
LIMESTONE
BRITAIN, ISLE OF PURBECK, DORSET

APPEARANCE - RANGE FROM OFF WHITE, BUFFS, AND BROWNS, TO DARK GREEN AND BLUE DEPENDING ON THE BED, WITH VARYING LEVEL OF FOSSIL
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - WINDSOR CASTLE



CHICKSGROVE
LIMESTONE
BRITAIN, WILTSHIRE

APPEARANCE - CREAMY WHITE IN COLOUR WITH SLIGHT GREENISH TINGE
USE - LOAD BEARING MASONRY, CLADDING, INTERNAL FLOORING, CARVING, EXTERNAL PAVING
PROJECT - FONTHILL ABBEY, TISBURY WILTSHIRE



STOKE GROUND BATH STONE
LIMESTONE
BRITAIN, SOMERSET

APPEARANCE - TOP BED IS FINE GRAINED AND VERY CONSISTENT, PALE CREAM OR BUFF COLOURED THAT MELLOWS TO HONEY COLOUR AND HAS GOOD BED HEIGHTS. BASEBED IS OPEN GRAINED WITH SOME SHELL DEPOSITS, LIGHT BUFF/GREY COLOUR AND HARD WEARING USED FOR ALL WEATHERING COURSES
USE - LOAD BEARING MASONRY, CLADDING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - PEMBROKE COLLEGE CAMBRIDGE, LIVERPOOL STREET STATION LONDON



HARTHAM PARK BATH STONE
LIMESTONE
BRITAIN, CORSHAM WILTSHIRE

APPEARANCE - PALE CREAM IN COLOUR AND WEATHERS WELL, CONSISTENT APPEARANCE
USE - LOAD BEARING MASONRY, CLADDING, INTERNAL FLOORING, CARVING
PROJECT - PEMBROKE COLLEGE OXFORD



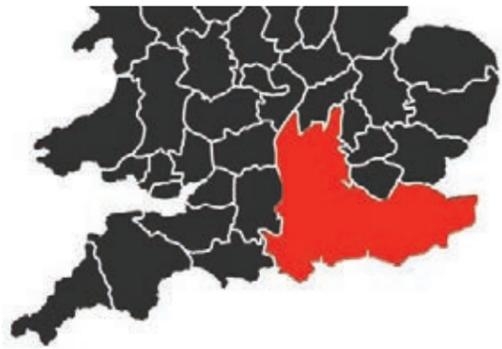
PENNANT
SANDSTONE
BRITAIN, FOREST OF DEAN, GLOUCESTERSHIRE

APPEARANCE - COLOUR RANGES FROM BLUE TO GREY, GREEN AND THROUGH TO BROWN
USE - CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING, ALL OTHER BUILDING APPLICATIONS
PROJECT - ST HELEN'S PLACE, LEATHERSELLER'S HALL, APPLE SUPERSTORE COVENT GARDEN



DE LANK GRANITE CORNWALL
GRANITE
BRITAIN, CORNWALL

COLOUR / APPEARANCE - SILVER GREY IN COLOUR WITH VERY EVEN GRAINED COLOUR AND TEXTURE
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING
PROJECT - 30 BROADWICK STREET



SOUTH EAST



KENTISH RAG STONE
LIMESTONE
BRITAIN, MAIDSTONE, KENT

APPEARANCE - HARD SANDY LIMESTONE, GREY TO BLUE GREY IN COLOUR
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING, MEMORIAL, WORKTOPS
PROJECT - MARKS AND SPENCER'S STORE, MAIDSTONE, KENT



STOKE HALL
LIMESTONE
BRITAIN, GINDLEFORD, DERBYSHIRE

APPEARANCE - BUFF COLOURED STONE WHICH IS QUITE CONSISTENT IN COLOUR AND TEXTURE
USE - LOAD BEARING MASONRY, CLADDING, INTERNAL FLOORING, CARVING, LANDSCAPING ELEMENTS
PROJECT - LAWSONS QUAY LANCASTER (PITCHED FACE WALLING AND CLADDING)



STANTON MOOR
SANDSTONE
BRITAIN, MATLOCK, DERBYSHIRE

APPEARANCE - VARIED BUFF-PINK COLOURED STONE, FINE TO MEDIUM GRAINED.
USE - LOAD BEARING MASONRY, CLADDING, CARVING, LANDSCAPING, INTERNAL FLOORING
PROJECT - LINCOLN SQUARE



CRETON SILVERBED
LIMESTONE
BRITAIN, LINCOLNSHIRE

APPEARANCE - BEIGE/CREAM LIMESTONE WITH CLUSTERS OF SHELL FOSSIL AND MINERAL VEINING
USE - INTERNAL FLOORING, INTERNAL ARCHITECTURAL APPLICATIONS, CARVING, INTERNAL WALL CLADDING, RESTORATIONS AND NEW BUILD
PROJECT - THE SHOOT LODGE, OXON



EAST MIDLANDS



ANCASTER
LIMESTONE
BRITAIN, LINCOLNSHIRE

APPEARANCE - TWO TYPES OF ANCASTER, HARD WHITE, A CREAMY WHITE FINE TO MEDIUM GRAINED HARD LIMESTONE QUITE CONSISTENT IN COLOUR AND TEXTURE. ANCASTER WEATHERBED, MOSTLY BUFF COLOURED WITH BLUE/GREY INCLUSIONS, MEDIUM TO COARSE GRAINED.
USE - LOAD BEARING MASONRY, CLADDING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - BLACK CULTURAL ARCHIVES



CLIPSHAM
LIMESTONE
BRITAIN, LINCOLNSHIRE

APPEARANCE - SOFT PALE CREAM TO RICH BUFF COLOUR WITH SOME SMALL SHELL CONTENT AND COARSE GRAINED
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - LIBRARY AND STUDY CENTRE, ST JOHN'S COLLEGE OXFORD



YORKSHIRE



MOSELDEN
SANDSTONE
BRITAIN, BARKISLAND, WEST YORKSHIRE

APPEARANCE - WARM BUFF TO LIGHT GREY COLOUR WITH SOME LIGHT GREY CRESCENT BANDING
USE - LOAD BEARING MASONRY, CLADDING, INTERNAL FLOORING, CARVING, LANDSCAPING ELEMENTS
PROJECT - WHITEHALL LONDON



CROSLAND HILL
SANDSTONE
BRITAIN, MATLOCK, DERBYSHIRE

APPEARANCE - LIGHT BUFF WITH NATURALLY OCCURRING VARIATIONS WHICH ARE ENHANCED BY WEATHERING, FINE TO MEDIUM GRAINED
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - BIRMINGHAM CITY LIBRARY



WITTON FELL
SANDSTONE
BRITAIN, NORTH YORKSHIRE

APPEARANCE - GENERALLY BUFF IN COLOUR WITH PINK INTRUSIONS AND LIGHT BROWN FLECKS AND VEINS
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING LANDSCAPING
PROJECT - RAVENSWICK CLADDING



RED ST BEES
SANDSTONE
BRITAIN, ST BEES HEAD, CUMBRIA

APPEARANCE - DULL RED IN COLOUR, SOME VEINING PRESENT, CONSISTENT TEXTURE, FINE GRAINED
USE - LOAD BEARING MASONRY, CLADDING, (LIMITED) EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - 19 BASIL STREET



NORTH WEST



BROUGHTON MOOR
SLATE
BRITAIN, CUMBRIA

APPEARANCE - LIGHT TO DARK GREEN STONE OFTEN WITH WHITE VEINS AND TONAL DIFFERENCES
USE - CLADDING, ROOFING, EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING, ARCHITECTURAL APPLICATIONS
PROJECT - 25 GRESHAM STREET, LONDON LOUVRES



BRANDY CRAIG
SLATE FELDSPAR, CHLORITE.
BRITAIN, CUMBRIA

APPEARANCE - SILVER GREY WITH SOME LIGHT, SOFT SHADES AND CONTRASTING VEINS AND FOSSILS
USE - CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING, ARCHITECTURAL APPLICATIONS
PROJECT - SAINSBURY WING THE NATIONAL GALLERY TRAFALGAR SQUARE LONDON

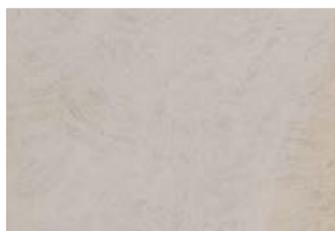


LAZONBY
SANDSTONE
BRITAIN, PENRITH CUMBRIA

APPEARANCE - MEDIUM GRAINED, LIGHT PINK IN COLOUR WITH A HIGH QUARTZ CONTENT WHICH GIVES IT SPARKLE IN BRIGHT CONDITIONS, HARD WEARING AND CONSISTENT TEXTURE
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - SARACENS HOUSE, GLASGOW



WALES



SCOUTMOOR YORK STONE
SANDSTONE
BRITAIN, RAMSBOTTOM, GREATER MANCHESTER

APPEARANCE - BLUE GREY TO BROWN IN COLOUR AND VERY HARD WEARING
USE - EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING
PROJECT - TRAFALGAR SQUARE LONDON



BAYCLIFF CAULFIELD
LIMESTONE
BRITAIN, CUMBRIA

APPEARANCE - BUFF COLOURED WITH LIGHT COFFEE MOTTILING AND SOME VARIETY
USE - INTERNAL FLOORING, INTERNAL WALL CLADDING AND INTERNAL ARCHITECTURAL APPLICATIONS
PROJECT - THE GUILDHALL CITY OF LONDON



WELSH SLATE
SLATE
BRITAIN, NORTH WALES

APPEARANCE - FOUR DIFFERENT COLOURS OF WELSH SLATE RECOGNIZED: PENRHYN HEATHER BLUE, PENRHYN HEATHER RED USED FOR ROOFING AND ARCHITECTURAL APPLICATIONS AND AGGREGATES, PENRHYN HEATHER GREY USED FOR ARCHITECTURAL APPLICATIONS AND AGGREGATES; CWT-Y-BUGAIL DARK BLUE GREY - DARK BLUE GREY WITH SOME WHITE VEINS USED FOR ARCHITECTURAL APPLICATIONS
USE - CLADDING, ROOFING, EXTERNAL PAVING, INTERNAL FLOORING, ARCHITECTURAL APPLICATIONS, LANDSCAPING
PROJECT - IRISH EMBASSY, LONDON ROOFING



NORTH EAST



DARNEY
SANDSTONE
BRITAIN, NORTHUMBERLAND

APPEARANCE - PALE GOLD THROUGH LIGHT BUFF TO ALMOST BLONDE IN COLOUR, FINE TO MEDIUM GRAINED
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING LANDSCAPING
PROJECT - GLASGOW SCHOOL OF ART RESTORATION



HAZELDENE
SANDSTONE
BRITAIN, NORTHUMBERLAND

APPEARANCE - FINE GRAINED, LIGHT WHITE TO CREAM AND CONSISTENT IN APPEARANCE
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING LANDSCAPING
PROJECT - MARKET STREET HOTEL, EDINBURGH



IRELAND



MOUNTCHARLES SANDSTONE
SANDSTONE
IRELAND, CO DONEGAL

APPEARANCE - BUFF TO BROWN IN COLOUR WITH SOME BLUE TONES
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING
PROJECT - DOMESTIC RESIDENCES



SILVER DONEGAL QUARTZITE
QUARTZITE
IRELAND, CO DONEGAL

APPEARANCE - BLEND OF LIGHT AND DARK GREYS AND SILVER WITH FLECKS OF QUARTZ WHICH GIVES IT SOME SPARKLE. MUCH VARIATION IN COLOUR
USE - CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING
PROJECT - DOMESTIC RESIDENCES



GOLD DONEGAL QUARTZITE
QUARTZITE
IRELAND, CO DONEGAL

APPEARANCE - BLEND OF LIGHT AND DARK BROWN, CREAM, GOLD AND BEIGE TO GIVE A WARM COLOURED MATERIAL WITH FLECKS OF QUARTZ WHICH GIVES IT SOME SPARKLE. MUCH VARIATION IN COLOUR
USE - CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, LANDSCAPING
PROJECT - DOMESTIC RESIDENCES



SCOTLAND



LOCHARBRIGGS SANDSTONE
SANDSTONE
BRITAIN, DUMFRIES, SCOTLAND

APPEARANCE - MEDIUM GRAINED AND FROM RED TO PINK IN COLOUR WITH LINEAR BLACK BANDING AND CLEARLY DEFINED BEDDING/LAMINATION STRUCTURES WHERE CLAY MINERALS ARE CONCENTRATED
USE - LOAD BEARING MASONRY, CLADDING, EXTERNAL PAVING, INTERNAL FLOORING, CARVING, LANDSCAPING
PROJECT - 19 BASIL STREET

Visit our website to download the full British and Irish Stones brochure.

FAIENCE AND TECHNOLOGY

Over the last 30 years of manufacturing terracotta, Boston Valley Terra Cotta has taken advantage of various technological advances and introduced these into the manufacturing process. Consideration is given to the production method for terracotta units, which can change based on size, quantity, and shape. Each process has its own set of constraints, which affects what is quickest and most cost effective to produce, and how best to match the client's design and budget.

Manufacture of terracotta was for many years based on the traditional methods of hand pressing and slip casting. The development of extrusion and hydraulic RAM pressing as forming methods has transformed the industry in terms of efficiency and productivity, but every process has its limitations as well as benefits. BVTC is currently one of few manufacturers to specialise in all four methods, offering clients great flexibility. Extrusion

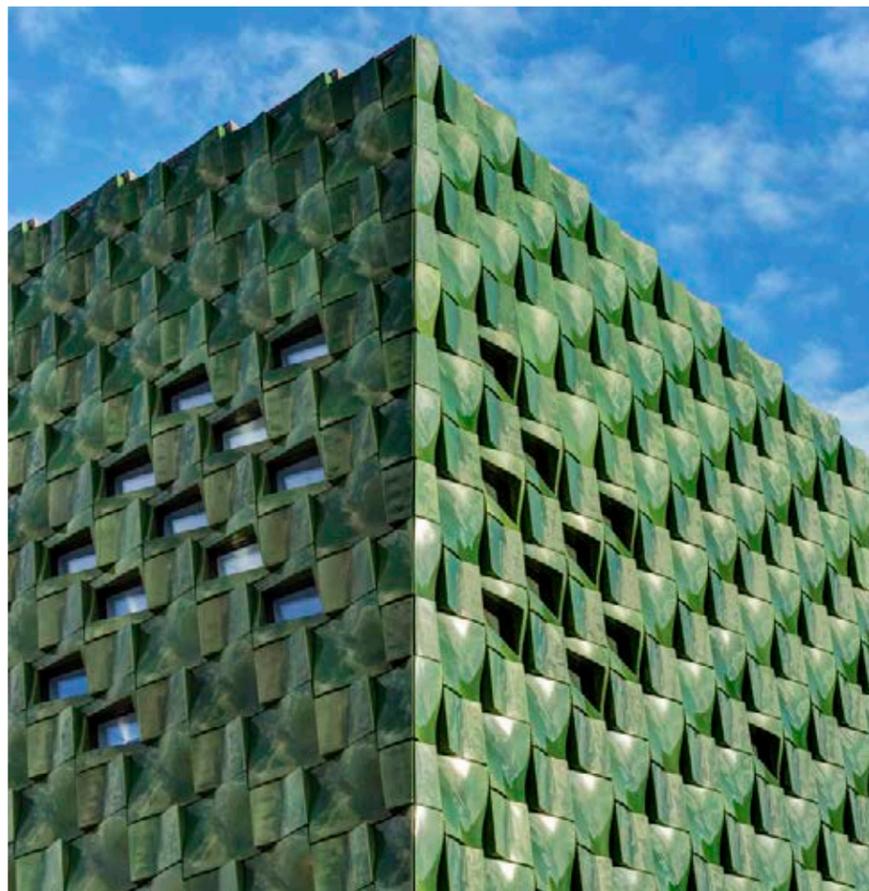
facilitates fast forming of large quantities of usually low-detailed pieces of terracotta, well suited for rainscreen panels, ashlar quoins, copings, sills, and cornices among other architectural block styles. Where typically manufactures use a tunnel kiln with this type of forming method which limits the height of the profile, BVTC developed the process to incorporate a static kiln, so allowing for greater flexibility on the size and shape of pieces. Currently under production, the Battersea Power Station project restored by Szerelmey highlights the different ways the extrusion method can be utilised. Boston Valley developed over 30 new dies and extruded over 6,800 units for Turbine Hall A and over 8,900 units for Turbine Hall B, averaging 25-30mm thick. Additionally, over 3,200 large rectangle panels were fired and cut in the back to create a lighter 'L' shaped corner piece, also known as a quoin knockout.

The hydraulic RAM Press was originally used as a forming method in the

porcelain industry. Pieces made with this forming method are not generally as sculptural as those made by hand pressing and cannot incorporate undercuts. The RAM die is a two-part die made to the approved shop drawing in the model and mold shop. A clay slug is placed on the die and hydraulically pressed into the form. Air forces water in the porous die to the surface, releasing the piece from the mold. This is an efficient forming method where there is repetition of the same shapes which reduces the number of RAM dies needed, while increasing production speed. Boston Valley continues to research, invest and redefine how machinery, such as the RAM press can accommodate the designers' unique visions. Previous size and shape limitations are now achievable allowing for complex terracotta facades never seen before on a large scale.

Combinations of different forming methods can easily be used on a single building. The striking green facades of the John and Mable Ringling Museum designed by Machado and Silvetti Associates incorporates RAM pressing, hand pressing and slip casting. The unique custom cut corners were manufactured using the hand press and slip casting forming methods. The hand press forming method is generally used for large restoration pieces, particularly ones that contain non-linear detailing or details with undercuts. The molds that are the negative of the finished piece are filled by hand with malleable clay. Rubber mallets are used to press the clay against all five faces of the mold to a set thickness. Internal webs are formed for support in drying and firing and provide stability for the walls during this process. Once pressed, the plaster dehydrates the clay, causing the part to shrink and release from the mold.

Slip casting utilizes a special recipe that produces a liquid clay body. This clay body is poured into a plaster mold that wicks moisture from a liquid slip, depositing a clay parameter at the mold. Once the desired wall thickness of the finished piece is achieved, the extra liquid clay body is evacuated from the mold, and the piece can dry further before being released from the mold.



A big step forward in the production of terracotta units has been the continuing development of 5Axis CNC machines. Combining centuries old technique with state-of-the-art machining does not make for an easy task, which is why the ARCH Design Lab continuously aligns their software and machinery to expand the boundaries of what can be achieved with this technology. The 5 Axis CNC machine's precise mechanical connection capability was utilized recently on the BVTC project One Vanderbilt, designed by KPF and the tallest office building in Midtown Manhattan. Whilst the bulk of the tiles were extruded, the T-31 anchors and aluminum back plates were produced using the 5 Axis machine to allow for longer seamless panels. It can also be used to facilitate historical restorations by creating high-density foam models that are cast into molds used to form new terracotta units. Once the machine establishes the outline, sculptors placed hand sculpted detailing on top of the machined foam blocks to replicate the original details.

Boston Valley Terra Cotta, a former winner of the Architect's Newspaper Innovator of the Year, is a leader in the field of research and development within the industry. Their dedication to anticipate the needs of the architectural industry has propelled their research in sustainability. Terracotta is naturally a material that inherits sustainable and beneficial properties, however ceramics can also be looked to as a natural material to lower environmental impact. BVTC's glaze specialist, Andy Brayman has been developing glazes with recycled glass that are long-lasting and have a lower carbon footprint.



ART INTO ARCHITECTURE

The last decade has seen a cautious-to-start re-emergence of the use of ceramics/faience in architecture. More recently this has gathered momentum to such extent it could be loosely termed a movement. Credit must go to those brave architects who were the first to re-awaken interest in this inspiring material, and also to the clients whose money and vision allowed this to happen. Like so many “movements” the use of ceramics, a fundamentally artisan material, represents a rebellion against the use of glass and steel that has been (and continues to be) so prevalent. Ceramics in architecture, particularly those born of handmade processes, slip casting, hand pressing and to an extent RAM pressing, are the antithesis of the shiny, machine-made, pristine skyscrapers dominating our cities. Where these are precise, engineered, uniform (boring?) and largely unstimulating, ceramics lend architecture an immediate warmth. They have a “humanity”, certainly the hand of the artist/maker is present. They are interesting, unusual, sometimes challenging but almost always visually exciting and tactile.

So, what is faience or ceramics, or even terracotta and why are these materials even used in buildings? Simply put, terracotta is literally “earth baked” i.e. fired clay. Its use dates back to prehistory with evidence of terracotta figurines dating to c 3000 BCE; it was also used for decorative architectural detailing and of course roofing tiles. Once fired, terracotta develops a “fire skin” which is a protective surface layer. Faience is glazed terracotta and similarly dates to early times. The description ceramics is interchangeably used with the word faience because it is a more commonly recognized and understood term. Of real interest when considering these materials is their original use for creating decorative objects; they were and continue to be materials used by artists. The fact they have

subsequently made a transition to use in architecture creates a tangible link between art and architecture and it is this relationship that is fascinating. This is particularly evident on projects where ceramic artists are involved with the architects in design development; the Grayson Perry/Fat Architecture House for Essex is one of the most original buildings of this century. This type of collaboration can often result in pushing the boundaries with glazes, the development of exciting new finishes and colours and increasingly profiled or tactile shapes and surfaces. One of the most alluring aspects of working with ceramics in architecture is the almost limitless potential for colour that the material affords. Glazes must be tested to ensure that they are robust enough to withstand changes of temperature and frost for use in externals. But still, the versatility of the material and the potential for artistic expression it affords on large-scale is extraordinary, and one that is still being tested in the marketplace.

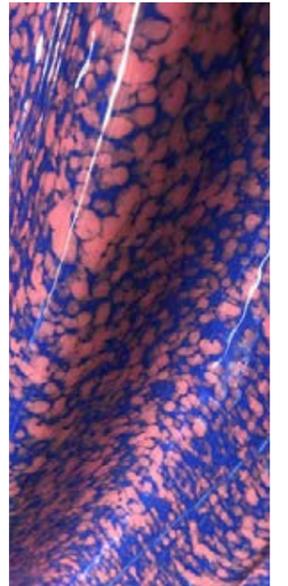
The transition from making ceramic objects to using ceramics in architecture is, obviously, not entirely straightforward. Setting the technical aspects of the material itself to one side for a moment, one of the greatest stumbling blocks is cost. Hand produced architectural ceramics are a high-end building



material in comparison to others, no great surprise since it is hand made. And this should be emphasised because hand produced ceramics are literally produced by hand at every step of the way from creating the model to the mould, to the unit to finishing and smoothing, to glazing and on it goes. At every step, every piece of ceramic that will form the building’s envelope is touched by the hands of the creators and this is genuinely an extraordinary thing when considered on the scale of a building project; Leatherseller’s Hall for example in the City and designed by Eric Parry Architects, comprised around 14,000 units.

In addition to the material itself, installation of ceramics can also be complicated and requires specialist, experienced installers. The point being that the cost is justified. They are in essence artist-made ceramics just on a grand scale. On the flip side, those clients that are willing to support such buildings can do so in the knowledge that they are responsible for creating true legacy buildings, works of art on a super scale.

From a technical perspective, ceramics can present challenges when working with them in large scale. For construction purposes + or - 1% tolerance on the material is allowed for. This represents the degree (or not) of warping that can occur when the clay is fired. This again is part of the natural, handmade aspect of the material, it is not always perfect, but for many its beauty lies in its imperfections. Those that want rigid conformity should stick to coloured plastics and aluminium. The glaze, which



again is applied by hand, will have variations that only become apparent after the pieces have been fired. These variations can be the result of several factors from the application of the glaze, to where in the kiln pieces sit when fired and the chemical reactions that occur can differ from piece to piece. Another area that can potentially throw curve balls is the transference of an artist’s glaze, which is generally developed in small electric kilns, to a manufacturer’s glaze, which is fired in industrial gas fed kilns. The firing process can greatly affect the glaze.

The use of faience/ceramics in architecture is not for everyone. But it is for those with vision, who reject building something as quickly and cheaply as possible, and who want to actually create something special; something that contributes to public space. This material affords a freedom of expression unlike others and in some cases it can be used to challenge conventions, which is surely a good thing; Eric Parry Architect’s groundbreaking building on Piccadilly being a perfect example. It is a brilliantly clever design that turns convention upside down, credit must also go to the client, Crown Estate and to Westminster City Council for making this building happen. Ceramics in architecture are rarely dull. They put a little of the human touch back into buildings and remind us that art, craft, colour and texture bring architecture alive.

87 AVENUE ROAD

CASE STUDY



Location: London, UK

Type: Residential

Completion: 2016

Stonework Contractor: Szerelmey

Architect: Richard Adams

Scope of Work: External Cladding

Stone: Moleanos and Moca Cream Fine Grain Limestone

The 87 Avenue Road is in one of London's most prime sites. This new neo-classical 10-bedroom residence with 12-seat cinema, spa, cigar room, two secure climate-controlled wine cellars, a state-of-the-art biometric security technology room, an underground four-car garage with a hydraulic car lift and illustrious neighbours, is the most expensive property on sale in London in 2020 so far, according to Homes & Property.

LSI Stone played a big role in this project for exterior cladding and lintels cladding. The impressive façade is complete with robust Doric columns that draws its inspiration from the Neoclassical architecture.

Its high complexity design of the stone parts was a big challenge for LSI Stone. The different stone profiles were created using specialized high-tech CNC cutting machines. The columns and decorative friezes were inspired by the works of one of the best-known British architects who were responsible for some of London's most iconic architecture, such as the Buckingham Palace.

Due to the complexity of the project, LSI's Project Manager helped decide on two different types of limestones: Moca Cream Fine Grain and Moleanos. Moca Cream Fine Grain is a limestone from central Portugal, quarried close to our factory. It has a beige homogeneous color and, if cut against the vein, a distinct parallel vein. When cut in the direction of the vein, the uniform background is highlighted with some shaded areas instead of the vein. Due to its hardness, it is suited for masonry, external cladding, and moderate traffic paving. Moca Cream Fine Grain is one of the most preferred stones from Portugal.

The other stone chosen was Moleanos, another favorite among the United Kingdom. This stone is particularly appropriate for London due to its similarities to Portland limestone that is all over the city, as well as its resistance to weather conditions. It has a light beige colored background and a slight greyish tonality, with thin to medium grain and disperse brownish fine spots. Due to its medium hardness, it is frequently used for cladding, flooring, street furniture and other stonework.

The finish applied to the exterior details was honed, turning the surface smooth but without shine or light reflections. In this case, the honed finish is more appropriate than the polished, due to the external erosion factors.

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HEALTH AND SAFETY WITH TECHNOLOGY

There have been massive improvements made in Health and Safety over the past decades and it is something that continues to develop. Perhaps surprisingly, the history of Health and Safety is relatively short in the grander scheme of things. It was only in 1974 that The Health and Safety at Work etc Act was introduced with John Locke appointed as the first Director General. This marked the start of a new system based on less prescriptive and more goal-based regulations, supported by guidance and codes of practice. It was the starting point for an escalation in Health and Safety procedures and regulations, eventually resulting in an entirely changed approach which now also so importantly encompasses wellbeing.

A driving force behind this is the Health and Safety Executive (HSE), who in their business plan for 2019/20 tackle the challenges of:

- 12,000 deaths per year from occupational lung disease and cancer
- 1.4 million workers suffering from work-related illness
- 144 people killed at work
- 71,000 employee injuries reported
- 30.7 million working days lost
- £15 billion approx. cost to Britain

Innovation and technology have been a driving force in improvements to the way employee health, safety and wellbeing is managed and continuing developments in this area are reaping positive results. We take a look at a few emerging trends that can have a significant effect on businesses, the industry and the safety of the workplace.

1. Health and Safety Management Apps

These mobile friendly apps enable users to log incidents, accidents and near misses in seconds and track the steps through to resolution. There are a number of different apps offering slightly different services, but overall they ensure businesses have the data they need to take fast and effective action, track trends and make improvements. The data is sent to a cloud-based portal where it can be viewed and shared by designated personnel. In the case of serious accidents, HSE Inspectors can gain rapid access to a real-time report, reducing inspection times and administration costs. The apps can provide a more efficient and therefore less costly alternative to the paper-heavy traditional accident reporting. Szerelmey is currently trialling an app called Notify for accident and near miss reporting.

Apps have also been developed for Safety Management Systems (YellowJacket); Method Statement/RA and associated documentation; Site Inspections; Health & Wellbeing; Training. Others have been developed for informational purposes such as PASMA for mobile towers and Spanset Inspector for harness inspection and for functional purposes such as noise meter apps which allow for indicative checks on site.

2. Virtual Reality (VR) Training Software

You may be more familiar with this concept from science fiction films of the 1990s, but it has become an actual reality and proving very useful. VR is a simulated experience delivered via a headset system or in a multi-projected environment. It generates a realistic digital scenario in which the user has a simulated physical presence. This type of software is used in aviation for pilot training. For the Health and Safety industry VR allows people to be trained in managing real risk, without fear of harm. It is also proving to be cost effective – the technology enables multiple learners at the same time, the training is totally consistent due to its delivery, and studies have shown that people learn faster and retain more when learning in this way compared to traditional teaching methods. Szerelmey has used this at Battersea Power Station using Nationwide Platform Ltd VR training for operating access platforms.

3. Smart PPE

Wearable technology is one of the most exciting and innovative developments in the design of PPE and it could have the capability to shape a much safer active site environment. Figures indicate that the industrial wearable market is set to grow by \$2.78 billion by 2024. Smart PPE,

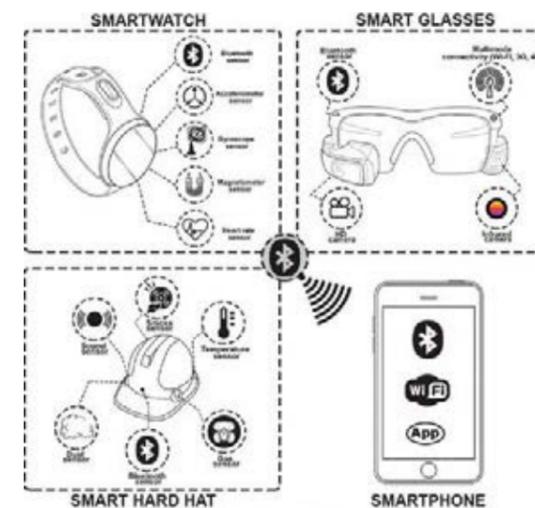
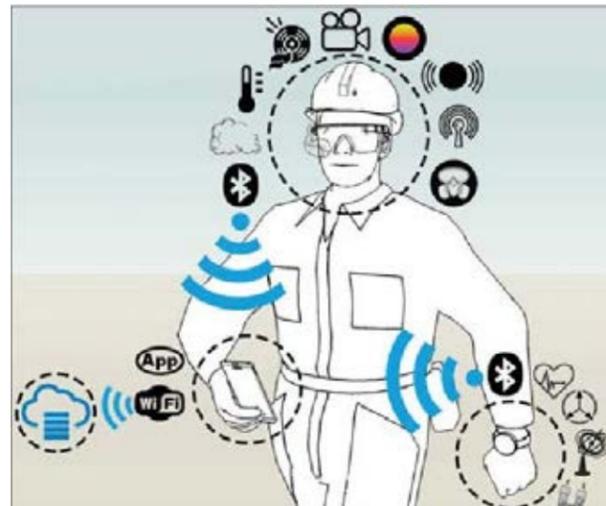


Figure 1: Smart technology and sensor upgrades in PPE

or wearable digital technology is clothing and PPE equipment that is enhanced with built-in intelligent electronic devices. These read and feed data; sensors imbedded in the PPE or clothing can react, interact and communicate with the wearer. For example:

Smart hard hats can use sensors that detect collisions, temperature, moisture, ambient brightness, oxygen levels in blood, brain activity and heart rate. Data is tracked and stored in real time, providing management with key information to ascertain fatigue or lack of focus in an employee which might put them at risk. Visors in smart hats can allow the user access to data allowing the user to operate hands free and without struggling with clipboards or tablets. They can be fitted with GPS tracking which is useful for single workers in very large environments (oil refineries, tunnelling etc) and can also be fitted with alarms that sound if they come into range of potentially hazardous plant or equipment.

Smart safety eyewear features a display in the corner of the lens that allows information to be visualised on the inner surface while being worn, giving the user access to sensor data. They can provide documents and information and can alert the user to hazards.

Smart gloves enable users to access information via their phone or tablet, they can be fitted with chips that act like a swipe card, allowing or preventing users access to restricted areas and can be programmed to allow access to certain machines.

Smart safety shoes contain chips that detect and evaluate hazardous situations and monitor their own functionality, alerting the user if they become damaged or faulty.

Smart workwear comes in many different forms. Cold wear clothing fitted with temperature, humidity and perspiration sensors is useful for extreme weather conditions. Data fed to management allows employees to be pulled off site immediately if they experience dangerously high or low body temperatures. Other smart workwear includes clothing

incorporating lightweight location monitors, fatigue monitors which monitor eye and head movements, environmental sensors which detect heat, chemicals, gasses and hazardous substances, light emitting clothing to increase visibility and prevent accidents and clothing that incorporates gesture control, allowing the operation of devices without touching them using 3D gesture detection technology.

Wearable technology such as smart watches and fitness trackers to improve health, safety and wellbeing in the workplace, and devices that measure exposure to risks. Szerelmey will be looking into using Reactec HAV Meters to check vibration doses from our cutters, drills etc.

4. Artificial Intelligence

AI software has been developed to identify when PPE is not being worn. The software uses leading-vision AI to carry out object recognition, image or video analysis and visual search to identify complex items. This can be used on construction sites to check employees are wearing correct PPE and to flag up potential health and safety concerns.

5. Robotics

The construction industry has always been one of the least automated industries. Robots automation work best in controlled environments doing repetitive work – construction sites are typically the opposite of this! However, robots are starting to feature in some areas of the industry and can be used for lifting and fixing heavy masonry and even brickwork. This can make for a safer environment for the worker and improve the speed of the work. Demolition robots are another source that can improve the safety of the worker although they can be slower to demolish but are cheaper than a demolition crew. One area where robotics is really progressing in construction is in 3D printing. A mobile robotic arm controls a 3D printer with a set of pre-programmed instructions to print an entire building. This technology was used in the Netherlands where the first ever 3D printed bridge was built.



ACCREDITATIONS - CONFUSED?

Accreditations are an essential part of our industry. An Accreditation Body is an organisation that provides accreditation services, a formal, third party recognition of competence to perform specific tasks. When a company or an organisation has been accredited by an Accreditation Body, it means they have been assessed against internationally recognized standards to demonstrate their competence, impartiality and performance capability. This allows clients to identify a proven and competent company to carry out their works. There are a number of different Accreditation Bodies, and this is where things can become complicated, time consuming and expensive for the contractor/subcontractor.

Historically, accreditation was only applied to Health and Safety. It is only in recent years that this has spread to include other areas such as quality, environment, BIM and ethical practice. In 2009 SSIP, Safety Schemes in Procurement, was established and supported by HSE. SSIP aims to streamline Health and Safety pre-qualification and encourage recognition between its Member Schemes (the Accreditation Bodies) in Health and Safety.

All SSIP Member Schemes are assessed through utilising the SSIP Core Criteria which is aligned to the government-backed construction pre-qualification document PAS 91. A list of SSIP Member Schemes is available on their website, as is the free SSIP Portal which lists all suppliers that hold valid certification with a SSIP Member Scheme. A further aim of SSIP is to reduce the costs of H&S assessments through cross recognition amongst its Member Schemes. There are quite a number of these Member Schemes including CHAS, SMAS, SafeContractor, Achilles and Acclaim.

One of the founding members and supporters of SSIP was Constructionline. This is the largest pre-qualification database in the UK and the UK's leading procurement and supply chain management service. Constructionline started as a

government scheme but is now run by Capita and collects, assesses and monitors company information across all areas from financial to performance, ethical and H&S (to name a few) and is based on PAS 91. A mandatory section of Constructionline is Health & Safety, and they will accept a SSIP Member Scheme certificate or an OHSAS 18001/ISO 45001 certificate from a UKAS accredited certification body as exemption from having to complete this section. Constructionline offers four tiers of membership: bronze, silver, gold, and platinum for a fee. Companies that have Constructionline membership will have been assessed/verified and therefore demonstrate a level of competence. Many large client organisations will require a contractor to be a member of Constructionline as part of the pre-qualification process.

But, significantly, Constructionline is not the only Accreditation Body to cover all areas of a company's information. Achilles also offers this service, as does CHAS, and all operate slightly differently. Achilles for example requires a two day site based audit to assess a company, Constructionline and CHAS require uploading nearly 200 certificates or documents for assessing or verification. Understandably there is a considerable cost in time and money for companies to go through this process and become accredited - and this compounds when different main contractors require accreditation from different bodies.

There might be a glimmer of light at the end of the tunnel in the form of the Common Assessment Statement, CAS. This is a new question set which has been developed by Build UK and the CECA (Civil Engineering Association) with expert input from clients, suppliers and trade organisations. This standard is a set of questions taken from the existing PAS 91 and with input from trade organisations, clients and suppliers. This new standard aims to improve the efficiency of the process and reduce the cost of the pre-qualification process. This can only be a good thing!



WELLBEING IN CONSTRUCTION

For a number of years, the focus of Health and Safety has been predominately on safety and it is only recently this has shifted to health.

Initially, manual handling and dust - silica in particular - were some of the issues that were flagged by the HSE as areas of concern and then in the last couple of years mental health became a significant focus, especially the suicide rate amongst construction workers. The construction industry in the UK accounts for some terrible statistics according to the Office of National Statistics. The suicide rate for male site workers is three times higher than the average male suicide rate in the UK. Added to which, 20% of all cases of ill health in the industry are due to work-related stress, depression and anxiety. This results in over 400,000 lost workdays a year, which in turn equals significant lost revenue.

As more resources were developed to address the issue of mental health, the idea of wellbeing has gained greater impetus. This is something that historically had never really been a consideration in construction, which has also, historically, been a 'macho' culture. A greater awareness of work and outside issues that can affect mental health has led to a number of helplines providing advice on areas such as:

- Relationship problems
- Family problems
- Money/debt problems
- Poor health (you/others)

Wellbeing itself is still a very new concept in construction, and the industry is still falling short. It has been a focus for a number of years in white-collar industries and should be relatively easy to adopt at construction Head Offices providing

there is senior management that buy-in to the concept and the benefits. However, it may be harder to put in place on sites. One area that can help on site is occupational health testing, which can go a long way to improving wellbeing, especially if additional testing for personal health is included such as urine dip test which can show relative early signs of conditions such as diabetes, kidney issues etc. supply of coupons for prescription safety glasses, health clinics/workshops etc.

For some companies, this in itself could require a major behaviour change at a senior level before the benefits are fully understood and appreciated. Equally at operative level, there could be distrust i.e. OH testing could be seen as a means of laying some off because of a medical condition.

Some principle contractors are trying to implement wellbeing practices and hopefully contractors and sub-contractors will be able to learn from these and develop them in their own companies. Certainly, as an issue it is gathering more importance.

SZERELMEY CURRENTLY HAS 12 TRAINED MENTAL HEALTH FIRST AIDERS IDENTIFIABLE THROUGH STICKERS ON THEIR HARD HATS. WE PRODUCE INFORMATIONAL POSTERS WITH HELP TELEPHONE NUMBERS FOR OUR SITES, TRANSLATED INTO FOUR DIFFERENT LANGUAGES AND DELIVER TOOLBOX TALKS ON MENTAL HEALTH AWARENESS. WE ALSO PROVIDE OH TESTING IN THE YARD FOR DIRECTLY EMPLOYED OPERATIVES AND THOSE CLASSED AS SAFETY CRITICAL I.E. SLINGER/SIGNALLERS, MEWP OPERATORS ETC., AND PROVIDE PRESCRIPTION SAFETY GLASSES VOUCHERS FOR THE ABOVE AND LONG SERVING LOSC.

WE CATCH UP WITH ...

GRAHAM AND JAY

Graham you have been heavily involved with H&S for a long time now but have recently moved over to manage Szerelmey's Quality and Environmental processes, a new role in the company. What are you hoping to achieve?



GRAHAM COYLE
QUALITY AND ENVIRONMENTAL MANAGER
SZERELMEY

I initially trained in Quality and the Environment whilst serving in the Army and acted as the Environmental Manager at my last two units and was a Quality Auditor at my last unit. Although I was the Health & Safety Manager at Szerelmey, I've still had an involvement with Quality and Environment. It is good to have a new challenge having seen the emphasis on Quality and the Environment - particularly Sustainability - grow in the last couple of years.

How achievable do you think the World Green Building Council's 2019 statement is that by 2030 all new buildings will have at least 40% less embodied carbon and all new buildings will be net zero operational carbon?

I think the targets are highly achievable for new buildings. We have seen 11 buildings in the North West verified as meeting net-zero carbon under the UK Green Building Council's 2019 definition and a major new development in London receiving planning permission with net zero carbon at its heart. We are seeing more major clients and Principle Contractors signing up to net zero - most recently Mace for whom we are working for on a number of projects - or through Contractors Declare which currently has 29 signatories.

Can you tell us a few ways Szerelmey has and is changing the way it operates to be "greener"?

We have introduced a "Green Team" at our Head Office who have been implementing items such as:

- Introducing a Szerelmey water bottle and removing disposable plastic cups from use
- Sensor lights
- Paperless Fridays
- Improving recycling in terms of rubbish in the office
- Recycling books around the office via a book drop system
- Assisting at the local food bank
- Going into local schools to assist with maths
- Starting a running group
- Various wellbeing workshops including a lunchtime back massage and a session on nutrition

Last year we were the first Specialist Subcontractor to join the Ethical Stone Register at Declaration level and this year we are in the process of gaining Level 2 Validation.

Can you tell us something we might not know about you?

I am a rock climbing, canoeing and archery instructor.

What do you like to do in your free time?

I was a Community First Responder for our local ambulance trust for eight years attending 999 emergencies where there was a delay in getting an ambulance to a patient within a 5 mile radius of my home. Hopefully when the current situation is over, I will be able to start responding again.

Jay, how long have you been involved with H&S in the construction industry?

I have been working in the construction industry as a H&S advisor for about 7 years now.

Tell us a bit about your background - what did you do before getting involved with H&S?



JAY ALEXANDER
H&S MANAGER
SZERELMEY

I was a security consultant in Africa and The Middle East. One of my roles was working in Kenya for a private anti-counterfeit company. We had clients such as Hewlett Packard and we would investigate the sale of counterfeit goods. Once we had established the premises was selling counterfeit goods, we would raid the premises with the Kenyan police and seize the goods and then destroy them.

In the years you have been in H&S you must have seen a lot of change! What do you think are some of the most significant changes you have witnessed?

The most significant change I've witnessed is tool tethering, when it was brought in about 5 years ago there was a lot of push back, and now it's becoming widely accepted and is almost second nature, which is what it should be. So many needless accidents were caused by a lack of tethering in the past. It is such a simple concept, but one that has worked so effectively.

Like most areas of life, technology is starting to have a real impact on H&S. Do you think these advancements will be available to everyone, or will the costs involved be prohibitive for SMEs?

There are countless bits of software claiming to do all kinds of things, but most of them have severe limitations and are so expensive at the moment that they're not cost effective.

I think VR (Virtual Reality) training will be the next big thing. I personally tried the demo MEWP VR training at Battersea and it was very realistic. The cost is quite high at the moment but the more people utilise it the cheaper it will get.

What do you think is the least progressive area of H&S in the industry or where the most change could/should be made?

Manual handling is still very far behind. We are still, in many scenarios relying on operatives to lift and carry the material, which has its own risks and safety limitations in weight. Mainly because for some hard to reach areas there just is not a practical manual handling aid available. That said, we are now using a robotic lifting arm for some installation, which is proving effective and efficient, where there is room to use it.



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Szerelmey

DESIGN

Early engagement with Szerelmey on a project can save time and money. Our inhouse Design Team is comprised of highly qualified and experienced designers, architects and engineers. In addition to the design of stone cladding, interiors, hard landscaping, faience and restoration, the team is involved in the research and development of bespoke fixing systems, the use of innovative materials and solving complex design issues.

OUR DESIGN AND TECHNOLOGY DEPARTMENT SITS AT THE HEART OF OUR BUSINESS, AND ALLOWS US TO FACILITATE THE COMPLEX PROJECTS WE ARE PRESENTED WITH

DESIGN - TECHNOLOGY - RESEARCH - DEVELOPMENT

To discuss your project contact us: info@szerelmey.com

GETTING GREENER

It is no secret that the construction industry is not the greenest going, but the actual figures might come as a surprise. According to the World Green Building Council (figures 2017) building and construction together account for 39% of all carbon emissions in the world. Emissions from heating, cooling and lighting buildings accounts for 28% of this and the remaining 11% comes from embodied carbon emissions. The latter, also known as “upfront” carbon is associated with materials and construction processes throughout the whole building lifecycle. Based on current practices, upfront carbon will be responsible for half of the entire carbon footprint of new construction between now and 2050. These figures underline the necessity for the built environment sector to change the way it thinks and operates. The World Green Building Council released a bold vision statement in 2019, to the effect that by 2030 all new buildings, infrastructure and renovations will have at least 40% less embodied carbon and all new buildings will be net zero operational carbon. And by 2050, new buildings, infrastructure and renovations will be net zero embodied carbon, with all buildings including existing buildings being net zero operational carbon.

These are ambitious goals, but they should serve to instigate across sector collaboration and coordinated action to dramatically change the way buildings are designed, built, used and deconstructed. Circular business models and economy are key in driving this change, where resources are kept in use for as long as possible, waste designed out, and materials and components managed to extract their maximum value with reuse; this replaces the traditional linear concept of make, use, dispose. Not least in this process is looking at existing buildings and renovating/remodeling them for more efficient use, rather than demolishing and building from new. In the past 4-5 years Szerelmey has noticed an increase in these types of projects, most recently in the London Wall and Moorgate project (see page 8) and those where materials are salvaged and recycled for reuse.

More Information on the work of the World Green Building Council is available here: www.worldgbc.org

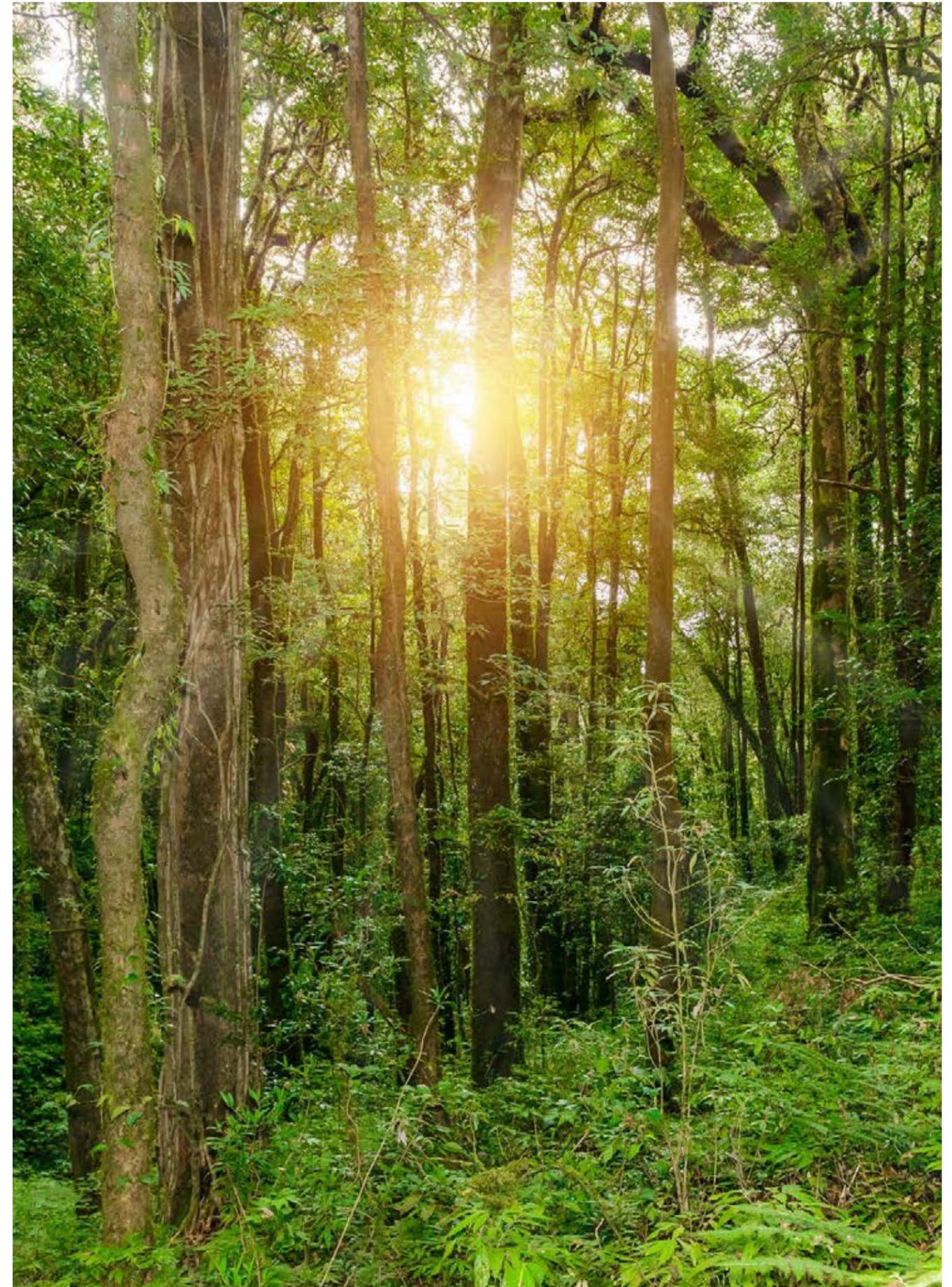
Industry leader Arups has recently published a report, working with the Ellen MacArthur Foundation, that examines the principles of circular economy and how it can be translated into everyday built environment practices. Available for free download: www.arup.com/perspectives/publications/research/section/first-steps-towards-a-circular-built-environment

SUPPORTING THE WORLD LAND TRUST

The World Land Trust was founded in 1989 by John Burton and counts amongst its patrons Sir David Attenborough, David Gower OBE, Chris Packham CBE and Steve Backshall MBE. The WLT is an international conservation charity that protects the world's most biologically significant and threatened habitats acre by acre. Working with partner organisations across the world the WLT funds the creation of reserves and provides permanent protection for habitats and wildlife. The partner organisations engage support and commitment amongst their different local communities. WLT works in a number of different ways including funding the purchase or leasing of threatened land to create reserves. The land is protected and managed by the local partner organisation. Once land is acquired and under conservation management by local partners, a programme of tree planting and regeneration is implemented. The reserves are managed by reserve rangers, individuals from local communities, to protect the threatened habitats and animals. The WLT also runs a Carbon Balance programme utilising REDD+ (Reducing Emissions from Deforestation and Forest Degradation) to fund the protection and restoration of areas of threatened forest and reduce emissions that contribute to climate change.

Through their website they offer a carbon calculator to enable organisations and individuals to measure their carbon footprint and offset it. Szerelmey has to facilitate a large number of flights during the year to visit quarries and suppliers, in view of which we now measure our carbon footprint through flights made and donate to the WLT for each one. There are several different options for donating from specific projects such as Saving the Barbacoas' Forests and Wetlands, to purchasing acres of land or donating to a general action fund that facilitates fast response to urgent conservation situations.

More information on the World Land Trust here: www.worldlandtrust.org



STONE AND SUSTAINABILITY

BY PAOLA BLASI - ARUP

Defining the environmental sustainability of natural stone could become a box-ticking exercise based on measurable parameters such as embodied energy. But for a product that can provide outstanding longevity and graceful ageing, the importance of assuring its technical suitability combined with good design detailing is very much an overlooked aspect of defining its sustainability.

The first time I considered the importance of clarifying the environmental impact of natural stone was a couple of decades ago during a European standardisation meeting. A British colleague introduced the BREEAM scheme. Two points of his speech caught my attention:

- Sustainability will become more and more important for the stone sector;
- It is very difficult, if not impossible, to find a scheme covering all the sustainability aspects of different construction products - in other words, the blanket is too small, and everybody will try to move it in their preferred direction.

He was so right.

I spent a lot of my time, especially when I was working in Italy, trying to better understand which schemes were appropriate for the natural stone, whilst trying to support the industry in identifying stone's genuine sustainable credentials rather than simply applying greenwash to everything.

Eventually I realised it was very difficult to apply schemes created for more industrialised products, like ceramics and glass, to natural stone without introducing a lot of assumptions and simplifications that might not give reliable results.

Let's take the example of medium to large stone manufacturers - those with greater experience and most likely to supply big projects: they process many different stones sourced from all over the world and produce cut-to-size products to be shipped to many national and international clients.

These are the key parameters they should take into consideration when defining the environmental sustainability of their products:



PAOLA BLASI
ASSOCIATE/ARCHITECTURAL
STONE SPECIALIST
ARUP

Paola Blasi is a chartered geologist with 30 years' experience in the natural stone industry. As Architectural Stone Specialist at Arup she supports the work of facade engineers, landscape and interior architects. Paola is particularly interested in quarrying and processing methods that together with appropriate design play an essential role in the sustainable use of stone. She has been the Chair of the European Committee for Standardization CEN TC 246 Natural Stone since 2009.

1. Quarry: place of origin, yield, technology, power consumption, and waste (is the waste recycled or left in the quarry?)
2. Factory: location, technology applied, water recycling, waste (is the waste recycled or sent to landfill?) power source and consumption.
3. Destination of the finished products: straight to job site or via a pre-caster; or unitised panel fabricator; or distributor's stock yard.

Clearly dimension stone is a natural product and is not fabricated, only processed. Therefore, in general terms, it is the embodied energy of transportation that is the main factor contributing to the environmental sustainability of stone during the various phases: from quarry to processing plant and from factory or stockyard to the job site.



Detail of Finlandia Hall marble cladding in Helsinki by Alvar Aalto to show importance of assuring the stone suitability. The original marble cladding (1971) was replaced in 1999 due to bowing of the cladding panels. Less than one year later the new marble started to bow again.

This embodied energy should be straightforward to define in numbers, but the remaining parameters are highly varied, and make the definition of system boundaries complicated, so for this reason it is not possible to give a straight answer when somebody asks generally about say, the embodied carbon of marble or granite. I tend to be sceptical about the numbers given in articles and papers because they can refer to specific situations and be invalid in other contexts.

I am not saying that it is not possible to define the sustainability of stone.

Stone associations in different parts of the world in collaboration with qualified consultants in the field of sustainability have produced standards, Environmental Product Declarations (EPDs), guides and schemes. These are important initiatives and in future more and more information relevant to stone's sustainable parameters will become available.

My concern at present is that much of the focus is simply on ticking the 'sustainability box', whilst other important considerations affecting the responsible use of this natural resource are left in a grey area.

For example, an interesting paper published by Historic Scotland in 2010 on the Embodied Carbon in Natural Building Stone in Scotland clearly declares a limitation of the study because any considerations about a stone's technical suitability is explicitly excluded.

That's my point exactly: how often does the choice of unsuitable stones and/or poor design affect the opportunity for stone to be a durable and sustainable material? For a material that offers incredible longevity, this aspect is almost entirely overlooked. How sad is it to see stone removed and scrapped just because it has been wrongly used?

As a geologist, I am especially sensitive to the way in which a quarry is planned and equipped and to how stone is processed and installed. Cutting-edge technology offers the possibility to reduce the quantity of waste in both quarries and factories but must be combined with expert knowledge of the specific material to optimise this benefit, and to ensure the material will be durable for years to come.

Stone is a precious and unique resource - characteristics that alternative products try to replicate. But stone is not renewable in the short term like timber, and for this reason, its durability must be preserved to take full advantage of its longevity. This is only possible by expertly pairing technical suitability with appropriate design detailing.

Are we all ready to add these two boxes to the ticking exercise?

FOCUS ON A SITE TEAM – WOOLWICH

One of our Restoration teams has been on site at Woolwich delivering a restoration package of works to two of the Grade II listed buildings within the original Royal Arsenal. Although our work on site began before the outbreak of Covid-19 and subsequent lockdown, this was one site that was able to reopen relatively quickly working to strict new RAMS to take account of social distancing. Our team here, and all our teams that returned to work during lockdown have done a fantastic job and an important one in keeping the industry going. Our Woolwich team were commended by Mace:

“IT HAS BEEN OBSERVED BY SENIOR MACE MANAGEMENT, THAT THE ATTITUDE OF YOUR WORKERS AT WOOLWICH CREATIVE DISTRICT, HAS BEEN VERY GOOD, MAINTAINING THE 2M RULE AND ADAPTING YOUR WORK PROCESSES TO ENSURE THE COVID-19 GUIDANCE IS ADHERED TO”

DAVID JOYCE
ASSOCIATE DIRECTOR OF CONSTRUCTION
MACE

We caught up with some of the team there to find out a bit more about them and their work.

How long have you been with Szerelmey for, George?

I have been with Szerelmey for nearly 18 years now.

This must be one of the most unusual working circumstances you have ever been in. How is it going and how is your team?

Yes, this is definitely something we all haven't experienced before. We have had to adapt our working procedures to ensure they are compliant with social distancing which is working really well. The site guys have been extremely proactive and compliant with the new procedures that are in place.

I have heard that due to the long history of Woolwich Arsenal it is home to a resident ghost. Have you come across any supernatural beings?!

Me personally no, but the security guard has allegedly seen a man dressed in military uniform marching up and down the courtyard of Building 41, this is supposedly a soldier who was told never to leave his post! Who knows??



GEORGE ROSS
CONTRACTS MANAGER

What work are you carrying out on site, Nigel? And have the Covid-19 restrictions made it more difficult?

I am currently undertaking internal brickwork repairs. The procedures introduced by Szerelmey and Mace have not affected us too much, I can build a tower on my own up to 2.1m to maintain social distancing. We are all working on different elevations too.

Have you always worked in restoration? If not, what did you do before?

I joined Szerelmey as an apprentice in 1982, therefore I have always worked in restoration.

You must have worked on a number of really interesting buildings. Which is your favourite?

My favourite project was Bodiam Castle in East Sussex which consisted of cleaning and restoration works.

How long have you worked in the industry for, Tony?

16 years - I was previously a carpenter.

What is your favourite part of the job?

My favourite part of the job is carrying out the intricate moulded repairs and colour matching various fabrics.

Szerelmey is still very busy with enquiries and projects. Do you think the industry will bounce back quickly from this situation?

Yes, I do think the construction industry will bounce back as it did in 2008. We are very lucky to be associated with specialist trade as people will still need to maintain their building fabric to protect it from future decay.



NIGEL BROWN



TONY PARSONS



Ross, you started with us as an apprentice and are now qualified. I bet you never thought you would be working with social distancing! What do you find the hardest thing about the current working requirements?

The hardest thing for us is to keep other trades out of our working areas and keeping people from walking the wrong way on the pedestrian one-way system. The procedures Szerelmey have in place are working very well.

Which is your favourite Szerelmey project you have worked on and why?

My favourite project I have worked on was Radnor Place, I really enjoyed being part of the project from start to finish and learning new skills under the mentorship of Richard Smith. We completely refurbished the facades, removing existing render and replacing with new brick effect render.

How long have you been with Szerelmey, Gareth?

I started working at Szerelmey in January 2016.

And where were you before?

I was working for Christian Marshall for 10 years when he owned his own stonework and restoration company.

What do you enjoy most about working in restoration?

I really enjoy working on historic buildings and using traditional methods to preserve the lifespan of the building. I also really like the variety of work and every day poses a different challenge. I am very lucky to work within a team who shares the same passion as me.



ROSS WARRY



GARETH LANCASTER

Do you think we will ever get back to normal working as it was before Covid-19 or do you think this will change the way people work on site?

I personally believe that this will change the behavioural and working methods for all trades on site. The level of hygiene and cleanliness has changed dramatically on site and this can only be a positive thing. Sites are a lot less crowded and there is now plenty of room to get changed and have your lunch. The new procedures implemented by Szerelmey Restoration and Mace have proved to be effective with preventing the spread of Covid-19 without impacting our methodology excessively. These measures make me feel safe to come to work each day.

Constantin, you have also come through our apprentice programme, which is great. Would you recommend an apprenticeship to other young people and why?

I would most definitely recommend an apprenticeship with Szerelmey because you get the opportunity to work with skilled craftsmen and learn a specialist trade.

Who at Szerelmey has had the most influence on you and your work?

I would have to say Nigel Brown and Tony Parsons.

What type of work are you doing on site at Woolwich?

I am working alongside Ross, Nigel and Tony. We are undertaking various types of restoration works at Woolwich creative district - this includes stone indenting, replacing stone sills, brick replacement, brick pointing, brickwork reinforcement works using HeliBars and brick mortar repairs.



CONSTANTIN ZIMBRU

SPOTLIGHT ON OUR QUANTITY SURVEYORS

Why did you become a QS?

My dad was a QS, so I visited a few sites at an early age. It was a toss-up between engineering and QS, and I chose the latter.

Tell us something we might not know about you.

I enjoy putting my hands to work where I'm rewarded for my efforts, like making Honey Mead, Elderflower sparkling wine, beer - there's no theme here by the way!



WAYNE MCINTYRE

How long have you worked for Szerelmey?

I have worked within the Szerelmey group of companies since 1994 and moved to the London operation in 1999.

Tell us something we might not know about you.

ALAN KENNEDY

In another life you would have found me in the middle of the mosh-pit, complete with hair to match.

In the year before joining the group, I was a combat engineer in the military, laying and lifting landmines (fortunately in training only), sleeping on red sand under the desert sky (alongside the Cape Cobras) listening to the sound of heavy artillery and building temporary bridges for other units to progress in South Africa.

Being a QS, do you find you apply your skills to home life - how so?

Being a QS requires a systematic approach to a task and attention to detail to ensure you correctly manage the project accounts. Both of these skills directly transfer to your home life as



ALAN BURD

they become engrained in the way you approach a task. For example, before a recent re-landscaping of the garden at home, a great deal of time and effort was put into the prior planning of the works, from the early budgeting stages and selection of materials through to the sequencing of the relevant tasks to complete the works. Because of this systematic approach, the works were completed to the schedule with minimal delay and within the budget.

Tell us something we might not know about you.

I am a keen tech and audio fan and spend far too much time and money on the latest gadgets and audio equipment, often much to the annoyance of my other half. I also love travelling, and winter sports when time allows.



MATT ROLFE

If you could be anything other than a QS, what would you be?

If I wasn't a QS, the job I wanted to do when I was younger was Air Traffic Controller.

Tell us something we might not know about you.

When I was younger, I missed my

return flight home from holiday due to having a McDonald's and was stuck in the south of France for another 11 nights as all the flights were sold out.

Do you prefer refurb projects or new build and why?

I prefer working on restoration projects simply because they are more challenging, both from a commercial aspect, as well as from a technical aspect. Restoration work requires more artisan skills than some new builds.

Due to the complexities of the design and the need to keep the facades as close to the original as possible, it is not always possible to use alternative details and /or materials to achieve the desired result. Furthermore, whilst the sense of satisfaction with the end result may be diminished as the finished project "looks like it was always there" - therein lies magic.

Tell us something we might not know about you.

Many years ago, I joined a local Judo club in Port Elizabeth, Eastern Cape in South Africa.

I was able to gain a place in the Easter Cape Judo team and took part in a few inter provincial tournaments. SA organised their own SA Games in March 1969 and I was fortunate to gain a place on



NEVILLE AREINGTON

the Provincial team and took part in these games which was in itself an experience.



SIVA SIVANANTHAN

Have you always been a QS, if not, what did you do before?

Nope! Before I was a QS, I had been an estimating manager, project manager, architectural assistant, property manager ... a bit of a jack of all trades.

I like a challenge and that is what

attracted me to being a QS. My strengths lie in being analytical and commercial, so who knows what the next challenge will be?!

Tell us something we might not know about you.

Umm...I had lived on three continents before turning seven. And I once hitchhiked from London to Morocco in six days.

What aspect of your job do you most enjoy?

Being involved with iconic buildings. Knowing that you were part of a team, creating a home, place of work and retail / leisure spaces, which are enjoyed and appreciated by whoever ventures.



FRED MASON

Tell us something we might not know about you.

I studied Electrical / Electronic Engineering at college.



MIKE COX

What inspired you to become a QS?

I've always been interested in architecture and buildings, and the opportunity presented itself to train as a QS, so I took it.

Tell us something we might not know about you.

I can touch my nose with my tongue.

What do you enjoy most about being a QS?

No two projects are the same, which keeps the workload always challenging and interesting. Being a QS gives you the opportunity to diversify from the office and be on site quite frequently. Seeing the work develop really enriches our knowledge.



NATALIA BELE

Tell us something we might not know about you.

I actually have a bachelor's degree in Graphic Design and used to work in photography before entering the construction industry (and after a short career in cocktail bar tending).



MARK MERRICK

How long have you been a QS for?

Around about 1200 days, give or take a few.

Tell us something we might not know about you.

I used to play guitar in a couple of different bands including the Brainflowers, Anti-

Nowhere League and Mister Magic. And I am quite competitive at marathon mountain biking too.

If you could do anything else other than be a QS, what would you do?

If I wasn't a QS, I would definitely still be involved in the construction industry as my dad was a bricklayer and my uncle and grandad were carpenters, so it kind of runs in the family. If I was to choose from the two, I would probably choose to be a carpenter.



LOUIS MARTIN

Tell us something we might not know about you.

I was once having a drink with my dad in one of our local pubs, and on my way to the toilet bumped into none other than heavyweight champion of the world Anthony Joshua!

NEW FACES

Our team has grown again, and we would like to take this opportunity to introduce them to you. There is more information about our team members available on our website. In addition to profiles on everyone (who is not internet averse) we have a short film on Who We Are and are adding individual films on people explaining their job roles. We strongly believe that any company is only as strong as its people and for us, our team members and relationships with our clients lie at the heart of our business.

Visit www.szerelmey.com for more information.



DARREN HIGGINS



VIVIANA ARANGO REY



NEVILLE AREINGTON



TERRY TOOMEY

DO YOU WANT TO JOIN OUR TEAM?

If you are interested in working with us then please visit the new Jobs page on our website: www.szerelmey.com/jobs for more information or contact the office.

THANK YOU MONICA!!



We would like to give a big shout out to Monica, our wonderful cleaner who looks after us all and keeps our (very large) office spick and span. Monica has also been a huge help to us with our Health and Safety posters, which we publish in four different languages, translating them into Romanian for us.

FROM MASON TO DESIGNER

INTERVIEW WITH STEVE POOLE

Steve, I understand you are a trained mason. Where did you do your training?

I completed my apprenticeship with Meister Masonry alongside an NVQ & Diploma at Bath College. The college course was a combination of practical, design and theory work carried out at the college (Diploma); and on-site assessment (NVQ). I was at the college for three years in total; two years to complete the Level 2 qualification (formerly known as the "Craft" qualification) and an additional year for the level 3 (formerly known as the "Advanced Craft").

I also took part in a masonry competition at the college which led to an opportunity to train for the world skills competition. I made it to the final three of young masons in the country at the time, competing to represent GB in the WorldSkills competition in Leipzig.

What type of things did you have to carve during your training?

The college course covers a range of different masonry components with increasing levels of complexity, but I think the one that sticks in my mind, along with every mason, is the very first task. We had to make a six-sided square block from a Portland quarry block (boulder), using only hand tools (mallet and chisel). This was the most frustrating part of the whole course, but at the same time one of the most rewarding.

We then had to turn this into a chamfered plinth on the one side and an ovolo moulding on the other. Moving on to a Bath stone plinth which is a much softer stone, so uses different techniques such as saws and drags, alongside the mallet and chisel. We then stayed with Bath stone to make a column base, label kneeler, ball finial and tracery panel.

Did you work as a mason after you graduated, or did you decide to go straight to a design office?

I continued working as a mason at Meister for a further two years, continuing to progress my skills on the banker as well as getting some on site experience in fixing. A defining moment was successfully making a pediment springer (pictures attached) from a S6S block, on a price work rate.

I then voiced my interest in the design office, having enjoyed the design aspects of the college course. Due to there being no vacancy in the design office at the time I was offered a management role, managing the masons I had worked under, as well as the sawyers and laborers.

Might we know any of the buildings you work on?

Compton Verney-Warwickshire

Woodchester Mansion - Gloucestershire (as part of the Conservation & Restoration module at college)

Nazrin Shah - Oxford (working alongside the Szerelmey team)

St Johns College - Oxford (working alongside the Szerelmey team)

What made you decide to move away from the tools and into a design office?

I wanted to keep progressing in my career and always enjoyed the problem-solving aspects of design. Also, with the industry making the move towards CNC machinery I decided it wouldn't be a bad idea to learn how to do the design and programming works that are needed for the machines.

Do you miss it? What other aspects of being a mason do you miss?

I do miss it occasionally. I think I miss the sense of achievement that comes from having something physical to show for your day, as well as being physically exhausted at the end of the day. Although I don't miss being covered in dust from head to toe all day.

Do you think that having "hands on" experience working with stone has helped your development in the design office?

I think it has helped to have experience of what is physically possible. As well as knowing how the stones I am designing will be manufactured/handled helps me to be more efficient with the material.

Where do you see yourself in 5 years?

I want to continue to develop my design skills, possibly making the move to senior designer.

What do you think the biggest changes in the design office will be that are driven by technology?

I think the biggest thing to come will be gearing the manufacture information towards being machined rather than cut by hand i.e. we will be providing more 3D models along with our schedules.

Tell us something we might not know about you.

I did Tae Kwon Do for seven years at school and got a black tag belt (one before black).



STEVE POOLE
DESIGNER
SZERELMEY





SOME OF OUR CLIENTS DON'T ALWAYS REALISE THE FULL SCOPE AND EXTENT OF WHAT WE DO. WE ARE NOT JUST STONE CLADDING SPECIALISTS, BUT UNDERTAKE A WHOLE RANGE OF WORK ON THE NEW BUILD AND RESTORATION SIDE.

NEW BUILD

In our New Build division we facilitate the design, supply, installation and full management of projects across all sectors, primarily in stone, but we also work with a whole range of hard bodied materials.

EXTERNAL CLADDING - traditional handset cladding, load bearing masonry, rain screen and stone/faience on metal railing system

INTERIORS - flooring, wall cladding, bathrooms, receptions, staircases

FAIENCE - external and internal projects

HARD LANDSCAPING - bespoke paving, planters, benches, water features, terraces, private courtyards

RESTORATION

Szerelmey Restoration offers a complete range of restoration, conservation, refurbishment and remodelling services and we are experienced at working on fragile and heritage buildings. In addition to a full range of restoration and cleaning services we employ specialist restorers and are experienced in working with: brickwork, stonemasonry, terracotta repair, terracotta replacement, lime plaster, lime render, lime washes, rendering, joinery, carpentry, roofing, decorative painting, metalwork and leadwork. Over the course of our long history our Restoration business has worked on innumerable listed, heritage, fragile and iconic buildings across the capital.

MATERIALS

Stonework forms the core of our business, but we also deliver projects in faience, terracotta, brick, precast, terrazzo, agglomerate and mosaic.

NATIONWIDE

Szerelmey delivers projects across London and throughout the UK. Call us for more information about our scope and range of works.

A LOOK AT OUR SERVICES

WHAT YOU MIGHT NOT REALISE IS, WE DO:

- BACKING WALLS AND SUPPORTING STRUCTURES
- DPCs
- FIRE AND CAVITY BARRIERS
- DRAINAGE
- UNDERFLOOR HEATING

DESIGN

Szerelmey has its own in-house design department led by industry professionals Mark Walden and Ian Lee. Design works with New Build and Restoration and undertakes the following:

- Practical facade engineering
- Design advice
- Research and Development
- DPC, VCL, insulation and fire barrier
- Testing and analysis
- Backing structure design
- Compliances
- Thermal engineering
- Cladding and fixing calculations
- 3D model digital files
- Programme
- Supporting technical information

CONTACT US

PROJECT ENQUIRIES

One of our team would be happy to discuss your project with you.

Our involvement early in a project will invariably save the client time and money.

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Restoration Heritage
Solutions
Conservation Skill Trust
Communication Social Value
BIM Development
Reliability
Creating Teamwork Research
Being Teamwork Integrity
Better Doing Delivery
Diversity Mosaic Working Together
Training Technology Building
Apprenticeships
Stonework Green
Thinking
Relationships People
Giving Back Listening Knowledge Inclusion
Mental Health Design
Experience Brickwork
Wellbeing
Positive Spaces Environment
Collaboration
Value Safe Pair of Hands Service
Quality



Szerelmey