The proliferation of stone on both exteriors and interiors has been aided by choice, with a vast range of options available

Carving a lasting legacy

Mark Walden, Design Manager at specialist stone masonry and building restoration contractor Szerelmey, discusses the current techniques being used and the recent resurgence of faience and the technical expertise required when developing these projects.

Despite a skyline of glass and steel, it is stone that underpins and clads the majority of London's buildings, and has done for centuries. It is one of the most ancient building materials yet continues to be widespread, which is testament to its versatility and, in part, to evolving construction techniques. It is also a material of longevity and can be indicative of status – more recently and with contemporary design, stone has become elegant and stylish.

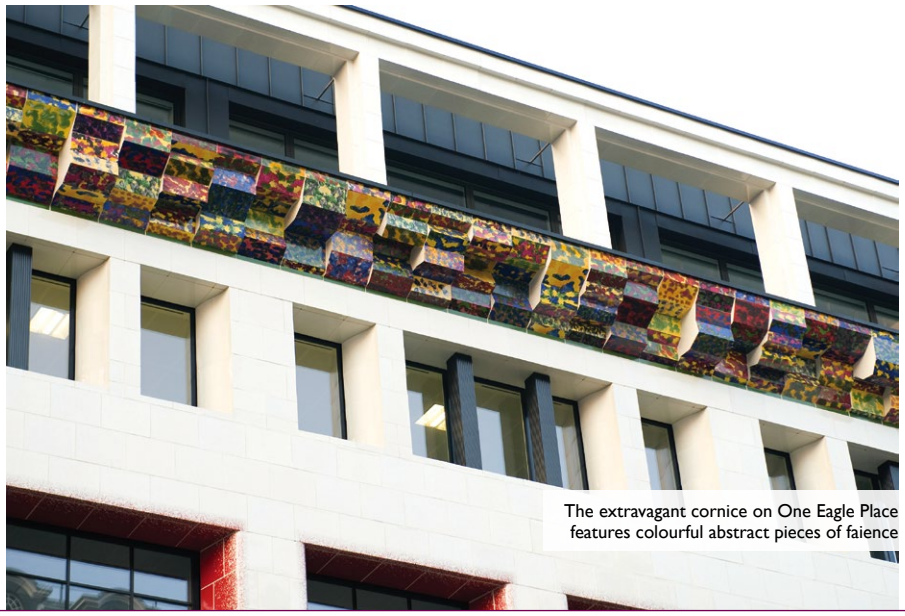
The proliferation of stone on both exteriors and interiors has been aided by choice, with a vast range of options, diversity of colouring, texture and pattern, catering to virtually any taste and style.

One obvious consideration effecting the widespread use of stone, is weight. Weight impacts on the way in which stone is used, with stone cladding frequently replacing load-bearing stone walling. Modern processing technology allows stone to be cut into thinner elements, reducing this weight while simultaneously enabling more panels to be sourced from a quarried block.

The application of thinner stone pieces to lightweight aluminium honeycomb backing panels is one way to allow for the easy installation of stone panels to ceilings, as demonstrated in the outstanding Rothschild Bank building, New Court. Composite panels, which can be used for ceilings, walls and floors are formed off site and can be quickly and easily installed, reducing the need for the wet trades, time and money. These same techniques allow the slicing of exotic stones to create two halves of a single pattern, or book matching, which is often used in luxury bathrooms to create stunning stone feature walls.

A priority to reduce cost has seen building structures also become more lightweight and consequently less rigid. Accommodating building movement becomes critical in the design and application of the building's facade and as specialists in this area we have seen fixing systems and installation methods become increasingly complex, requiring in-depth knowledge, skill and precision.

To overcome such changes in building structure when fixing stone cladding, more detailed levels of design and installation have to be undertaken. Cladding and fixing systems have to accommodate thermal changes, movement, acoustics and general weathering whilst maintaining highest quality finishes and interfaces, and adhering to building ▶



The extravagant cornice on One Eagle Place features colourful abstract pieces of faience

regulations.

Sustainability is also a leading priority for the construction industry and one that has led to change within the sector in innumerable ways. With regards to natural stone as a building material, emphasis is now placed on quarrying techniques, control of waste and accuracy of cutting stone sections. The longevity of the material is stressed through restoration and maintenance of the building. In new builds from a construction perspective the Energy Performance of Buildings Directive (EPBD) dictates the requirement for an Energy Performance Certificate. The considerations of thermal insulation has necessitated the design of new fixing systems for cladding to reduce thermal breaks while still achieving the client's aesthetic.

The current rise in retrofit building schemes has led to a requirement for lightweight cladding systems for use in reduced cladding zones. These are not always the most viable option, in fact traditional handset stone cladding in a 50mm format is a better, more durable and cost-effective solution. Specialist stone cladding systems produce a higher quality finish in a more stable format than some of the alternatives.

CE marking and impact testing are also currently very much at the forefront of the design process. The code for the design and installation of natural stone cladding and lining, BS 8298 has been revised and now encourages the designer to calculate the required thickness of the stone cladding – this effects the stone itself, imposed loads and the fixing system. All these have to be carefully reviewed at initial stages.

The increasing use of faience (glazed terracotta) is fast becoming a considerable trend amongst designers and architects in the industry. This durable and versatile material was used prolifically by the Victorians and can still be seen on a number of buildings including London's underground stations. Then, as now, the material was favoured for its durability, resistance to pollution, ease of cleaning and repair and the huge versatility in artistic terms that it allows for. Eric Parry Architects has been key in leading a revival of this material, whose qualities are well demonstrated in One Eagle Place, Piccadilly. He has now been joined by other architects who have produced stunning and practical designs using faience.

While fixing systems will share similarities between stone and faience, handling the products themselves requires expertise and skill. Also, like stone, it is subject to the same criteria of impact testing and fixing systems to avoid excessive thermal breaks. Faience has unique properties that need to be fully understood when being used on exterior facades. Specialist installation teams using advanced technology should be used.

Faience is produced in two ways, either extruded or hand crafted and finished.

The entire facade was organised in a dry lay on the ground at Shaws of Darwen to check for quality before being fixed to the building

Mark has 35 years' experience in the stone industry and heads up Szerelmey's team of design and installation specialists providing bespoke design solutions to clients. He has a wealth of experience working on all aspects of stone and its uses in construction.

The first method produces a very uniform and flat finish while the second opens the opportunity for truly unique designs. One of the great draws of faience is the range of colours and finishes in which the material can be produced. Gradually we are witnessing a more colourful London emerging from the grandeur of Portland stone and the contemporary glint of steel and glass.

The hand-crafted faience production process has changed relatively little over the years with the exception of greatly improved kilns, equipment and colouring techniques. What has changed is cladding technology which allows for modern architectural practice and sophisticated complex building design to be realised. The extravagant cornice on One Eagle Place is a good example. The colourful abstract pieces of faience, designed by artist Richard Deacon, was transferred using screen printed waterslide transfers, while the red 'splashed' tiles surrounding the windows were individually hand painted. The entire facade was organised in a dry lay on the ground at Shaws of Darwen to check for quality before being fixed to the building. Shaws are one of very few leading specialists in the production of faience and they work closely with our design team.

In this industry, it is important to be at the forefront of innovation, where research and development enables engineering solutions that continue to embrace ever-changing demand and trends. ■

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