



## Glass gives staircase fresh appeal

Detailed design work was carried out by MWE to determine the final specification and detailing of attachments to supporting structure for a double skinned glass feature stair enclosure at an office building in Queen Street Place in the City of London.

The specification for the glass was two layers of toughened low iron glass, laminated together with a bespoke, translucent interlayer, conforming to BS6206 Class A Safety Glass. The glass panels are secured to the staircase enclosure's main steel frame by six articulated bolt fixings, specially modified for this project using friction grip connections.

MWE worked on this project for specialist glass supplier Fusion Glass Designs. Main architect is HOK.



Glass fascia panels (above and below left) add colour and flair to staircase enclosure at offices in City of London



## MWI opens new office in Paris

Malishev Wilson Engineers have opened a new office in Paris to take advantage of a high construction workload currently being experienced in France.

A growing use of structural steel there is also providing experienced UK engineers with good opportunities.

Under the new company name of Malishev Wilson Ingenierie SARL, the new office is located at 14 Rue Oberkampf in central Paris. It now establishes MWE's presence in three countries – the UK, Russia and France.

"Our experience as designers working with structural glass will be another attraction for French clients and their architects," says



"Enormous potential"

Philip Wilson, (pictured above) MWI's partner in charge of the new Paris office. "Authority approval and insurance for design work can sometimes prove difficult because the structural glass market in France is a few years behind that of the UK. But there is enormous potential here for working with this exciting material."

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## Glass façade lifts performance wall at Millennium Sq

A striking array of low maintenance glass panels makes up the 24m long x 11m high façade of the new performance wall located at London's Millennium Square venue.

Main structure of the wall comprises a series of portal frames clad with kiln-formed laminated glass panels measuring up to 3m by 2m.

These are each secured by means of six articulated bolt fixings to the primary and secondary steelwork.

MWE carried out design work for the structural glass installation which was supplied by Fusion Glass Designs of London. Main contractor for the façade is Mero.



Glass panels provide façade for performance wall at Millennium Sq.

## BRITTANY - ORLEANS - PARIS - PROVENCE

### Paris office opens with four design projects in hand

Malishev Wilson Ingenierie has been commissioned for design work on three all-glass houses at Carantec, on the Brittany coast of Finisterre, by Paris-based architects Odile Decq Benoit Cornette. With individual floor areas of 170 sq m, each will be constructed with an envelope (facades and roof) of insulated glass units filled with Nanogel material.

MWI is also providing technical design assistance for two other projects in France, with architects Jakob + Macfarlane.

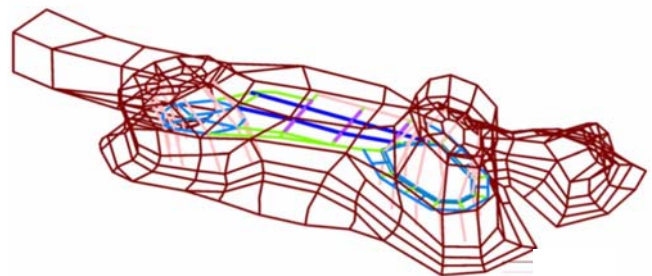
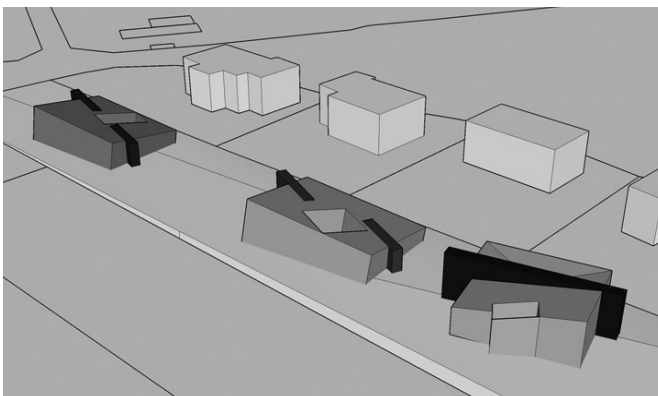
At the Regional Contemporary Art Centre (Fonds Regional d'Art Contemporain, FRAC), an old military base is being converted by constructing a new lightweight steel annexe, clad with concrete panels, glass and metal units.

And at the Municipal Academy for Music, Dance and Drama (Conservatoire de Musique, de Danse et d'Art Dramatique in Noisy-Le-Sec, a new build project consists of a two-storey building containing the music, dance and administration facilities and a 22m

x 18m Auditorium. Built with a steel work frame and pre-cast concrete floor units, the roof structure of the building is unique, with 3D facets defining its shape.

At a chateau in Roaix, Provence, the design for a 11m x 6m glazed extension with a lightweight steel structure is being undertaken by MWI.

An option is being provided for glass beams supporting a clear glass roof with external blinds linked to a pergola to protect from solar radiation.



Design drawings for: new Regional Contemporary Art Centre in Orleans (above) three all-glass private houses in Brittany (left)

## Research quantifies surface friction in glass water features

MWE have carried out design work for two water features using stacked annealed glass – one in Pompano Park, Florida, in the USA, the other in Coventry in the UK.

The design objective for both projects was to achieve a maximum visual effect while at the same time avoiding a prohibitively high skills requirement for glass production and installation on site.

The feature in Florida consists of nine, 3.5m high glass columns, each with 350 sheets of 10mm thick glass which carry thin layers of water. Water is fed upwards through a central stainless steel pipe in the centre of each glass column, spread across a connecting ‘table top’ and discharged to an artificial pool below.

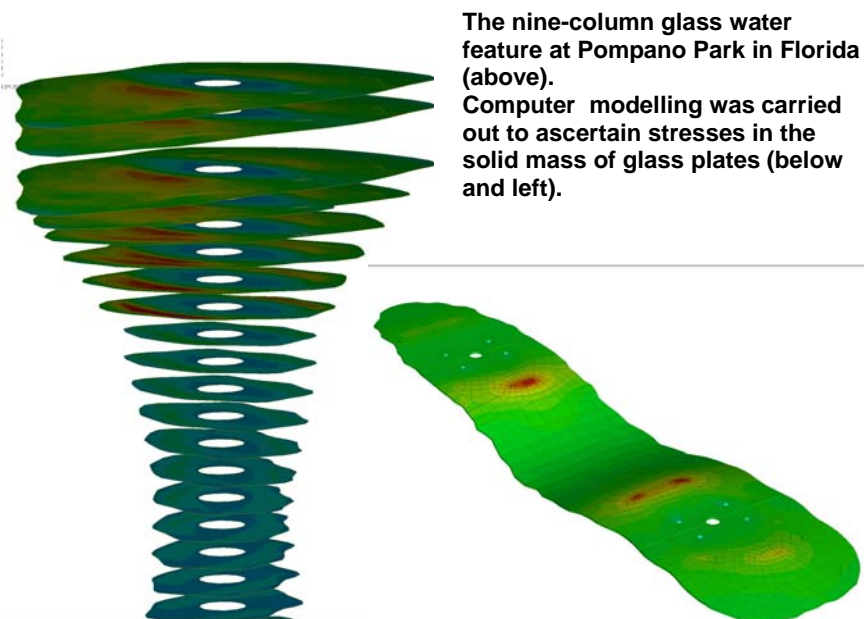
The presence of water and its subsequent ingress between the

glass sheets led to a series of tests being carried out at Imperial College in London, to ascertain the co-efficient of friction for the glass in dry and wet conditions. This enabled the structural behaviour of stacked glass under shear loading to be fully understood.

In Coventry, the water feature will consist of a single 7m high column with 700 sheets of 100mm thick glass.



MWE presented a technical paper on the two water features at the ‘Glass Processing Days’ seminar in Tampere, Finland, on 13-16 June. It outlined the design issue with glass thickness variations and flatness of commercially available glass, using the results from research carried out at Imperial College and elsewhere. It concluded with a summary of key principles that should be applied to the design of similar structures.



The nine-column glass water feature at Pompano Park in Florida (above). Computer modelling was carried out to ascertain stresses in the solid mass of glass plates (below and left).



### Gennady to tutor in structural engineering

Gennady Vasilchenko, partner of Malishev Wilson Engineers, has been appointed part time Tutor in Structural Engineering at the University of East London.

“I am looking forward to sharing my engineering experience and knowledge with the students,” he says.

## All-glass room opens up living space in 1930s period home

An all-glass home extension, believed to be the largest of its kind in the country, has been successfully installed at a 1930s property within the Harpenden Conservation Area in Hertfordshire.

The new 2.5m high, south facing extension has opened up the restricted living space in the narrow plan house - linking a new kitchen, dining and other family rooms to it.

The 9m long, 4m tall glass box structure is supported entirely by silicone butt-jointed, full height glass panels and glass roof truss beams. There are no metal components in the support structure, a strict planning requirement of the local conservation officer.

The glass doors opening to the garden area are frameless, using spider hinge fittings, a relatively new advance in glass technology.

Under the extension, a new basement area containing a gymnasium and children's play area has been created. This is lit by walk-on, toughened, single glass panels suspended in the floor above.

As well as opening up living space in the period house, the all-glass extension will enable a total interaction with the garden. And when new plants outside reach maturity, they will enhance a feeling of being in touch with the garden from within the home.

Malishev Wilson Engineers provided specialist design consultancy for the glass extension, working with the architect Crawford Partnership.



The new 9m long extension in Harpenden, opens up 1930s living spaces

## Steel box supports expanded floor space

Main aim of the structural refurbishment on a large, three-storey house in Lambeth Road, South London, has been to increase the living space on the top floor and create a lounge at the back of it. This has been achieved by building a steel box frame to support the house's rear load bearing wall and a tributary floor area.

The house has been used as office space and is returning to domestic occupation under a change of use planning consent. So future imposed floor loads will be lower. The load path remains the same

where a large opening is being created in the rear wall to accommodate the new living space.

The steel box frame transfers the load of this wall to a concrete strip foundation below. The frame is designed to provide lateral stiffness to resist wind loads. Stability in the other direction (front to back) will be provided by masonry walls.

MWE carried out structural design work for this refurbishment. Architects are jointly Crawford Partnership Architect and O'Reilly Architects. Contractor is Space.



The new top floor lounge provided at house in Lambeth