

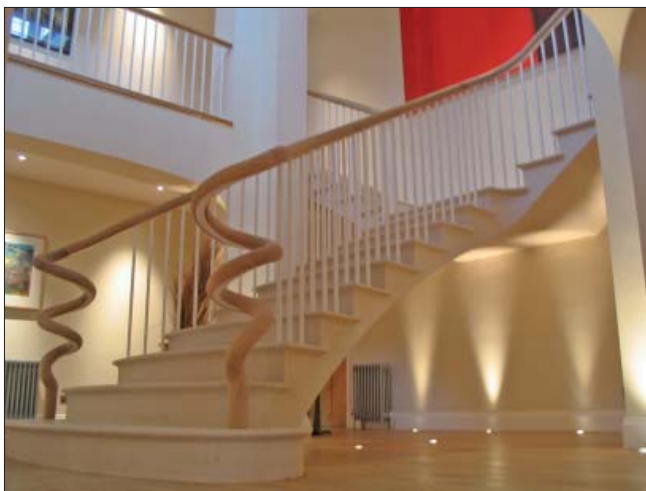
New Staircase, Private Residence, Surrey

When Bayley and Wilmer Architects first approached CWO with the basic layout of this staircase it was supported on raking steel beams. CWO were asked to advise the minimum steel dimensions and to come up with a scheme for cladding or concealing them. After producing various concept sketches, we came to the conclusion that if we were clever we could do without the steel.

It was at this stage that we involved Price and Myers, during a conversation with Helen Rogers she suggested a flying structural stair without ribs, an idea we took on enthusiastically. Helen set about making the structure work, designing precise joint shapes and proving the structure would work with colourful 3d images.

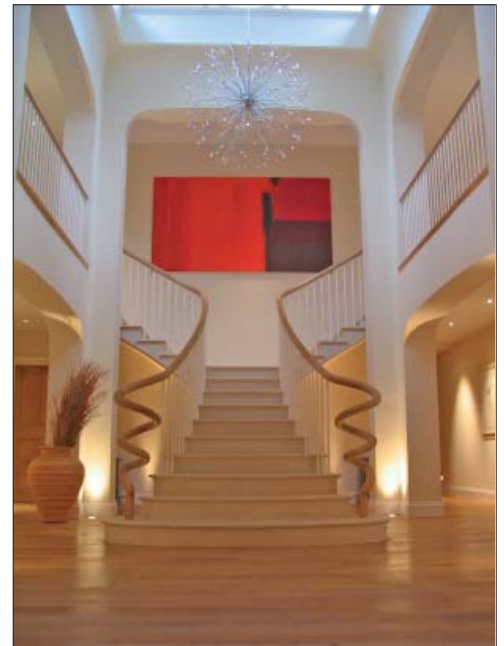
Our choice of Moca Crème for the stone was driven by the need for several very large stones with consistency of colour and texture. Moca Crème is also a very strong stone, more than capable of providing the flexural and compressive strength required for this application. Due to the eccentric shape of the soffit, and jointing, the stones had to be transported to site upside down with one stone per pallet, for the larger stones special pallets and crates had to be made to ensure they got to site in perfect condition.

To firmly buttress the thrust from the staircase, substantial steel and concrete work was installed and concealed in the subtlest of ways giving it the breathtaking apparent lightness we see now.



Client:
Main Contractor:
Specialist Stonework Contractor:
Structural Engineer:
Value:

Private Client
John C Lillywhite Ltd
CWO Ltd
Price & Myers LLP
£80,000



Helen Rogers of Price & Myers LLP, Project Engineer said of the project *"This staircase is a flying version of a traditional cantilever stair - instead of being supported on one side by a wall we sculpted the treads into a thin arch which makes the flight self supporting. The key was to make the arch as slender as possible - we were able to really push the design by comparing hand calculations to a finite element analysis which we made using 3d computer software.*

There are no hidden ties between the treads - instead we made sure that the joints were specially designed to resist all the stresses they were likely to come under. It was very important that each tread was carved to exactly the right shape so the forces could be safely transmitted between them.

I am really delighted with the finished staircase, and very impressed with the quality of workmanship."

NEW BUILD