

Ventilated facades: the expert answers

Which advantages **aluminium offers to architecture?**

This is the first subject of the new section where **engineer Giacomo Botta** will answer to **readers' questions**.

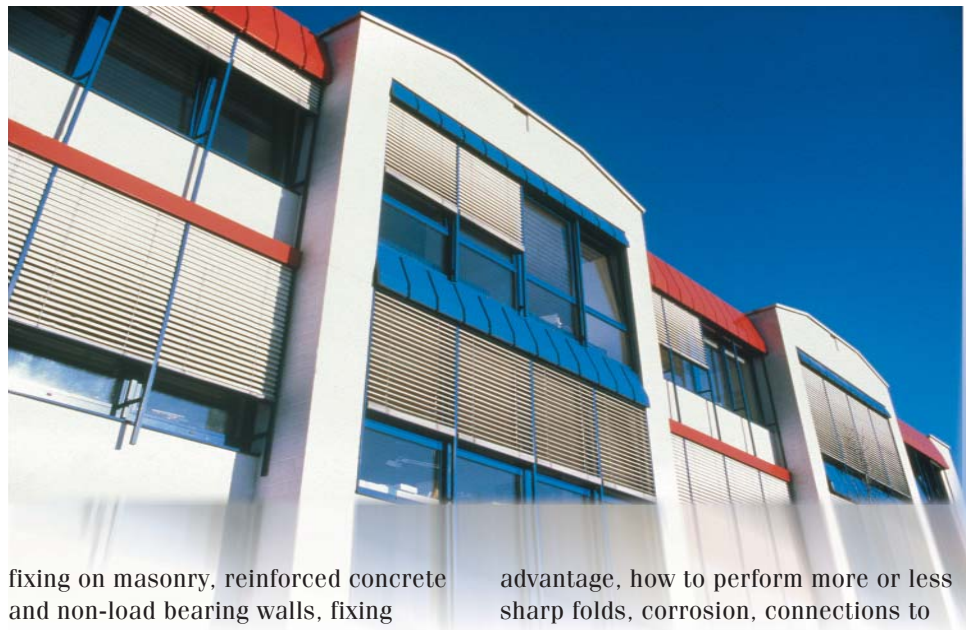
In order to answer users' and designers' questions we have created a "technical service" that we called "Miraservice"

synthesising in this word our desire to solve doubts and problems concerning the designing or building phase of ventilated facades and, generally speaking, of the working of the Mirawall sheet.

We apologize in advance to our readers if we will be promoting this initiative also in the next issues to incite users to take advantage from it. You can challenge us also with difficult problems that will give us an incentive to find solutions.

We would like to propose something new by answering your questions. We will try to give you some useful advice and, at the same time, to enlarge our application proposals through this commitment.

We are ready to answer questions concerning above all the panels statics (we have already received a lot of questions about this, even a little unusual) and in particular: panel dimensions and thickness in relation to the sheets commercial dimensions and avoiding they could be strained under the wind power, side walls, the way to hang the panels, the substructure, the



fixing on masonry, reinforced concrete and non-load bearing walls, fixing accessories and small parts, screw anchors, the possibility to have mainly horizontal or vertical dimensions. Only one subject, in this case statics, carries inside many aspects which would have to be individually analysed, according to the designing situations, in order to optimise the work. Once that "everything stands" we can analyse other aspects like the best distance between panels and masonry, ventilation, adjusting during the fixing phase, dilatation, how to prevent noise and creaking, calculating energy

advantage, how to perform more or less sharp folds, corrosion, connections to fixture.

Obviously there would be many other subjects to analyse, but these will be enough quite a while. Every issue will deal with one or more subjects chosen according to the questions we will receive.

Why to choose aluminium?

Before discussing about more technical problems, in this issue we would like to answer the most important question that constitutes the premise for the others.

The answer is not so simple, because there are so many reasons affecting the choice.

We will begin with the architectural choice; we do not want and we are not able to substitute architects in this first choice which is influenced by many factors: intellectual, architecture/urbanistic background, functionality, tradition and more, so it is impossible to synthesise all in a choice.

We can only try to underline some undeniable advantages of aluminium. There is no need of great efforts to show its advantages in the industrial and tertiary architecture, as many buildings hosting industries, trade centres or offices are covered with aluminium and glass.

Why? Because of their great use ductility, the possibility to precisely plan time and performance (given that they are industrially produced, so only few factors are linked to yard conditions, the production is entirely completed in workshops and the fixing is rapid, it is easy to make almost positive time provisions), its low thermal inertia and its high isolation, that make the building get rapidly warm and cold, allow to prevent dispersions due to the massive masonry inertia, that during the night and the weekend closing loose the heat or the cool that needed many hours to be accumulated during the week in summer and winter.

Ventilated walls, instead, offer the best energy saving.

The technological aspect of the covering, used in modern colours and shapes, can perfectly match with the function of the industrial building.

It is more difficult to support the using of aluminium in historic centres, or in environment backgrounds different from industrial, commercial and tertiary buildings, but there are some well-known examples that make easier supporting our idea.

In the historical centres of Vienna, Paris, London, Berlin and many other cities in the central and northern Europe there are aluminium and glass building in perfect harmony or in a



desired contrast with the existing buildings.

This kind of architectures is often integrated in the historic centres aiming to create a carefully studied contrast between modern and ancient styles, that does not disturb but excites the curiosity of peoples thanks to the attraction of geometrical beauty itself, independent from time and style. A well-known example is the Louvre glass pyramid, but also the buildings by Renzo Piano in Paris, the recovery of abandoned eighteenth and nineteenth century buildings such as the imperial stable in Vienna, the Lingotto in Turin, the former Birra Peroni brewery in Rome and other interesting examples of abandoned buildings that, having acquired a social or cultural function, have been rescued to the oblivion and rediscovered a new life instead of being demolished. The aluminium and glass covering have created a link between old and contemporary architecture attracting old and young peoples for these interesting buildings that have been restored in perfect harmony with the environment. In Ipswich, on the British coast, a restoration intervention with aluminium and glass on a building complex with facing bricks and Liberty style columns restored its life and brightness, colour and function and the covering with bright aluminium sheet help to lighten and to camouflage, if possible, the

massive volume of the high block. Sometimes the sheets colour and the geometry of designs create a real fusion of shapes and colours with the existing background instead of an intentional contrast between ancient and modern architecture.

In the centre of Vienna, the ancient imperial stable, an almost impenetrable building block, as it was typical of Hapsburg military building complexes, have been restored and modified to host exhibitions, galleries, museums, shows of extemporary, classic and avant-garde art opened to everyone.

The more interesting aspects of this restoration are just the ones linked to the daring use of innovative materials such as glass and aluminium among Baroque stuccoes and impressive eighteenth century façades, that has attracted common peoples and intrigued intellectuals.

The architect who created the project says that “architecture does not make sense itself, in this case it is died, but it does make sense when it is useful and attracts people. In this case, it has fully accomplished its role.” ■

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