

Renovation of 60s building in Milan

Completed in two successive construction operations in 2006, the “Valtellina” office complex, that host the headquarters of Torno Internazionale SpA, consists both in a massive renovation of a 1960s building, and an original and bold new construction. While being integrated into the same complex, the two buildings are designed to be very different by nature and function.



Overall view of Torno Internazionale

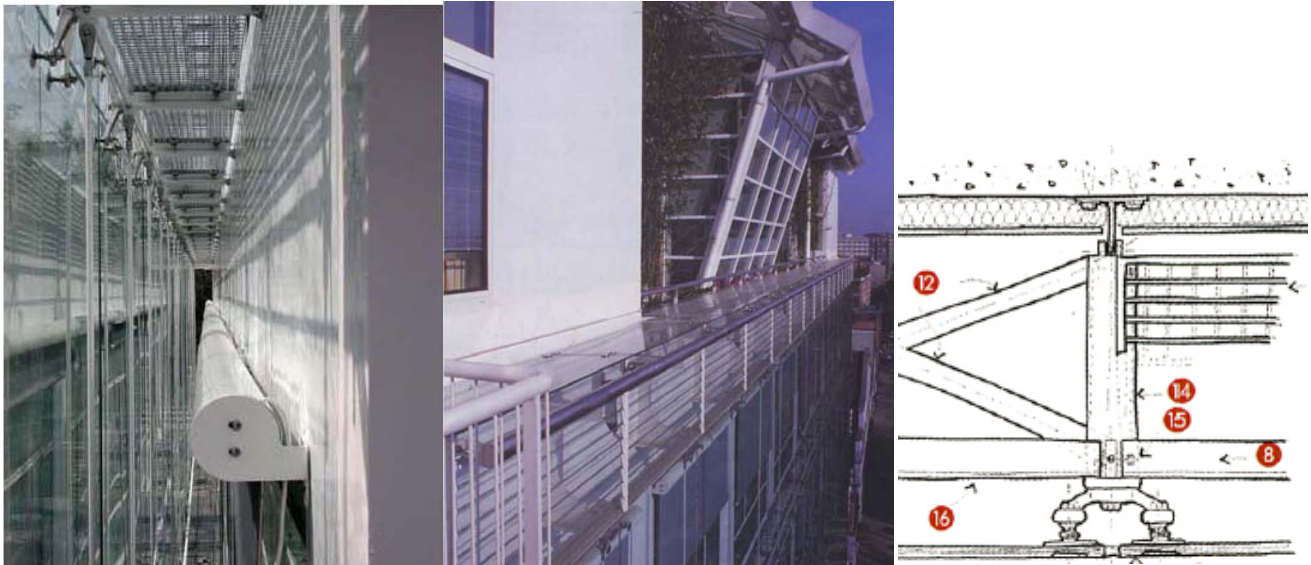
The structure of the former building has been untouched and kept as bearing skeleton: that gives the modularity to the new facade. To enhance comfort, the facades, roof and indoor spaces has been completely refurbished.



building before and after renovation

A 600 m² steel and glass double skin was added to the main façade, enabling energy savings as well as architectural lightness at the 7-storey construction. 60 cm separates the outer wall and the second inner skin of the building. This space acts as a buffer zone to reduce the need for additional heating or cooling. Following the need (heat or cold) air is drawn from the offices or from the outside and rejected through glass louvers located on the upper side of the external skin. Both

the flows and openings of the louvers are controlled by a central computer connected to sensors placed inside the space between the two glass skins.

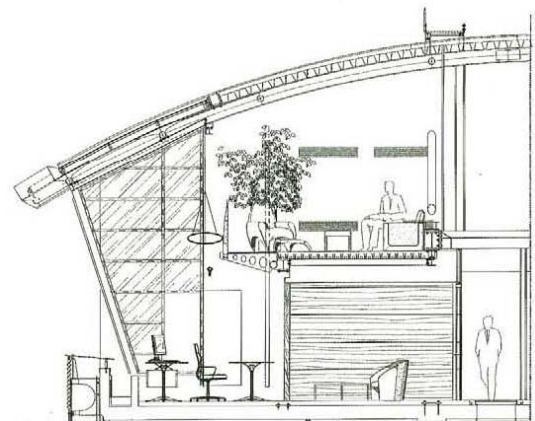


From left to right: interactive main façade, glass louvers, spider connections.

1540 x 3520 mm glass panels, sealed by silicone are connected to the floors through connection elements ending with glass-spiders.

In contrast with the main façade, the short side is neatly hidden by a 240 m² suspended metal cladding tapering towards the bottom, in order to conceal from public view a network of pipes. Indeed, all the plant and ducts were hanged on the north facade to optimize the internal spaces. 800 x 7000 mm panels made of stainless steel micro perforated compose the metal cladding.

A top- roof extension was made out of lightweight steel structure: the building is two floor higher without modification needed at foundation level.



The energy savings investments are supposed to pay the cost of the renovation: the return on investment is estimated in 5 years.

Sustainability benefits :

- Glazed double skin on the main façade
- Steel double skin on the north facade
- Rooftop extension
- Internal spaces optimized by hanging on the facade plant and ducts
- Repayed investment within 5 years

Project team :

Client : Torno Internazionale
Architects : Dante O. Benini & Partners Architects
Structure : Ing. Gabriele del Mese, Arup DLC
Steel framing : Lorenzon Techmec System
Façade : A.F.E.