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Publication
Home Review (UK)

Issue
June 2009

Page
35

Tortona 37, designed by Matteo Thun & Partners, has achieved a cult status in Milan and become a model of sustainability worth emulating. Text By Parvathy Menon

In the present day scenario, the construction business has matured much more than being about making mere profits or enticing customers. The need to respond to climate change and other environmental issues has driven most of the leading architects to ensure that sustainability becomes an intrinsic part of their design process. An iconic example is Tortona 37, designed by Italian architect, Matteo Thun.

Thun defines his firm's architectural philosophy as 'Ecotecture', - "Of ecology, economising, quality of architectural design and the pleasure of using it." According to the architect, the word 'sustainability' should be expressed in numerical terms of energy efficiency, but it has a much more complex meaning which cannot be confined to just technical and normative prescriptions.

Tortona 37 defines this concept and philosophy, and proudly claims itself to be a part of the transformation of via Tortona in Milan, which was started back in the 1990s, trying to reveal the full potential for redeveloping and

THIS PAGE TOP & BOTTOM To maintain a comfortable environment, the lower level comprising of the ground floor and mezzanine, are recessed to remain perennially in the shadows. The glass curtain used restricts the solar impact.

Matteo Thun
& Partners

Publication
Home Review (UK)

Issue
June 2009

Page
36

reinterpreting some of the most interesting urban spots in the city.

Tortona 37 is a part of the healthy process of reusing the land and strengthening it through low environmental impact architecture. The project covering 25,000 sq.metres, started in the year 2003, was conceived as a "micro city within a city". The edicts of green architecture play not only into each individual building but also to the project as a whole, with all the in-between and surrounding spaces pulled into it.

Located in one of the most dynamic international hubs of fashion and design, the 'Tortona Zone' becomes the most visited district during the design week. The architects knew that the complex had to be an icon to attract the design world, while interpreting the area's multi-purpose vocation along the diktats of sustainability.

The project is a mixed-purpose architectural complex around a landscaped garden venturing to salvage a former industrial plant (General Electric) and restore it to the city through cutting-edge energy-efficient technology. The five rectangular-based white buildings sit out like the courtyard around a garden planted with trees.

Each building has six levels, allowing double-exposures for the property units and generating open spaces with an interior mezzanine of great functional versatility. Here all the showrooms, labo-

THIS PAGE TOP Panaromic view of the project. **BOTTOM** The wooden shutters form the third layer on the facade and partially screen the interiors. **OPPOSITE PAGE BOTTOM** Plan and Section of Tortona 37

Matteo Thun
& Partners

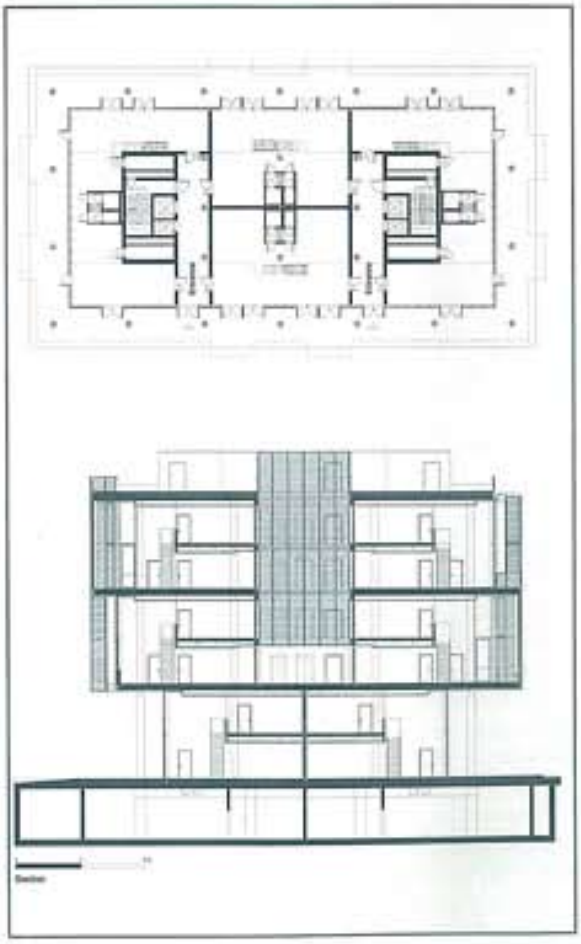
Publication
Home Review (UK)
Issue
June 2009
Page
37

ratories, professional studios, shop and offices find their own custom design. On the exteriors an overhanging white lattice frames the wide glass windows of the complex, culminating with a large roof-garden, an authentic urban plaza with extensive views across the horizon.

The project has aimed, right from the early doodling stages, at achieving maximum energy efficiency. The shell is made up of a glass facade screened by wooden shutters on window frames and large overhanging windows. This glass by itself reduces the solar impact by almost 87 %, and along with wooden shutters and overhangs notches up the efficiency of the curtain wall; the multi layer screening renders the interiors pleasant even during summers. Positioned around a courtyard lined with trees, the language connects from animate to inanimate elements with natural ease.

The courtyard is a green turf with trees strewn casually within and lined with trees on the outer edge. The space between two buildings is decked with wooden planks and accommodates garden furniture, all designed from reusable wood and boards. This space, shaded throughout the day by the building flanking it makes for restive spots, and the green central space allows for a cooler micro climate, giving less energy stress to the structures.

The energy efficiency is enhanced by the use of geothermal methods for heating and cooling. Though used all over the world, Italy has not seen much use of geothermal exploitation, which is a cutting-edge principle of eco-sustainability and has been proved to provide environmental benefits. A well engineered ▸

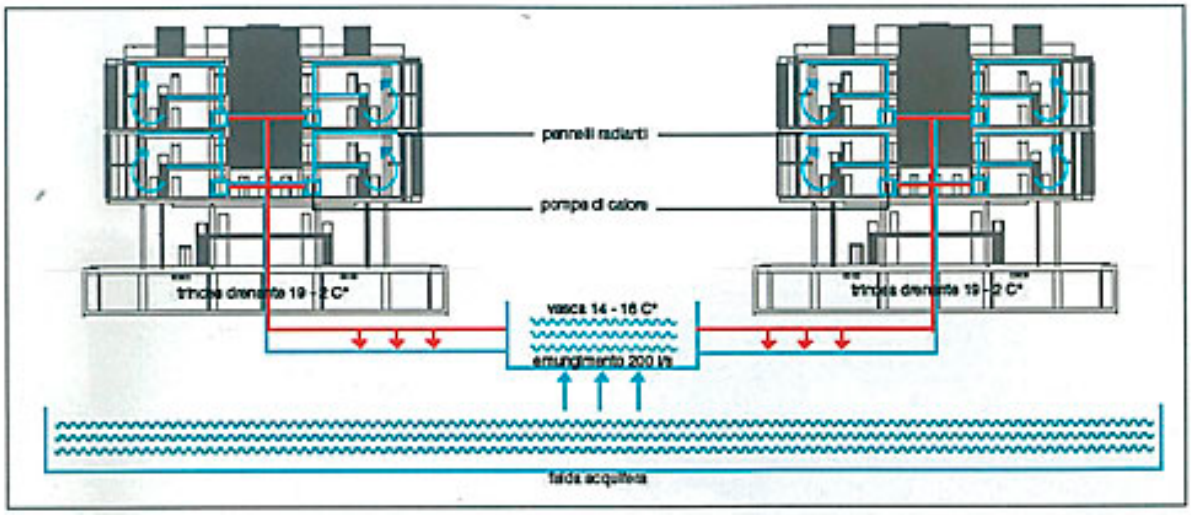


Matteo Thun
& Partners

Publication
Wallpaper

Issue
August 2009

Page
38



coordination between architectural design and plant-engineering allows Tortona 37 to take advantage of the geothermal energy, which is a free source, to create hot and cold water by means of water polyvalent heat pumps, one of the most efficient systems currently available causing the least environmental impact.

Tortona 37 uses a mixed system of primary air and radiant ceiling panels for acclimatising the interiors. A heat pump supplies the groundwater extracted from four underground wells to individual buildings, which is 'low-temperature hot' water in winter and 'high-temperature cold' water in summer, using minimal energy to feed the panels. The ambient temperature is controlled by irradiation, with no noise or air currents, warranting maximum comfort in the areas occupied by people. The primary air provided is by processing units with pre-processing batteries drawing on ground water. This system ensures high energy efficiency, zero emission at the installation site, no sound or landscape impact.

Many a time when we enjoy the landscape and architecture, we do not realise the effort that has gone in rendering that particular construction eco-friendly or sustainable, we tend to just enjoy the comfort the space offers. Tortona 37 does not advertise its sustainable features; a visitor will only enjoy the spaces, utility values and aesthetic qualities. In all of this architecture and Matteo Thun as the architect, emerge as silent winners, exhibiting social responsibility by providing society with yet another example of an iconic eco-friendly project. ■

THIS PAGE TOP Four wells extract groundwater at a temperature ranging between 14°C-16°C and convey it to an underground catchment and decantation tank and then supply it to each of the individual building units.
FILMSTRIP TOP TO BOTTOM The entire complex is conceived as a micro city within a city. The complex lights up like a lantern at night.

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