# **IFA**INTERNATIONAL



#### INNOVATION FOR ARCHITECTURE

by ETERNO IVICA socio ANIT Via Austria, 25/E - 35127 Padova - Italy www.eternoivica.com

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#### Dear Readers,

Having achieved an important result and then trying to replicate it is not a matter for everyone: but the past year has marked a new record for sales and growth both for our company and for the world of elevated outdoors. Searching for the causes would imply devoting an entire IFA to a story, however exciting, capable of crossing the various stages not to be taken for granted, that have taken place within our organization: economic efforts, marketing, intellect, combined with a 'innate passion for our profession, served as the locomotive to a company, or to a market that is still growing and that will give us all great satisfaction even in 2016.

Riccardo Griggio

## Phonolook Design The Fonolook renews, changes skin and wears colors ... here is the Phonolook Design



**ING. MICHELE VALOTTO** Technical Manager of Eterno Ivica, Acoustic Engineer

New elements can be applied not only on walls and ceilings, but also directly on the desks or on the floor by floor lamps furniture.

Market a sound-absorbing panel even more attractive and versatile than the already technically very performant PHONOLOOK. This was the goal, now achieved, that the Acoustic Division had set for the first days of the new year.

The historic sound absorber PHONOLOOK was introduced in the catalogs of SOUND SYSTEMS as early as 2008, when the market began to demand an effective and simple answer to the problem of excessive reverberation inside buildings intended for speaking and listening or environments holding many people. At that time, the sound-absorbing panel was created to be applied to the wall or ceiling, a rectangular standard and multiples of 60 cm.

Eterno Ivica is now proud to present the sound-absorbing panel PHONO-LOOK DESIGN, an evolution of great aesthetic appeal of its predecessor. The PHONOLOOK DESIGN line is now able to satisfy the most demanding aesthetic requirements of architects and designers, maintaining high performance sound absorption. The new line of sound-absorbing panels is composed of elements of various shapes and thicknesses, with a wide choice of color shades and two types of fabrics.

Beyond being an aesthetic refinement of the previous technical solution for wall and ceiling, PHONOLOOK DESIGN also contains a varied selection of items for noise reduction inside the offices. In fact, the extensive use of smooth and rough materials and furnishings typical of modern architecture often creates the problem of excessive reverberation within the workplace. Not least, the spread in the Italian system for open plan offices raises the need to place among the desks absorbing shields that are effective and, at the same time, customizable and adaptable to different customer expectations.

New elements can be applied not only on walls and ceilings, but also directly on the desks or on the floor by floor lamps furniture. Indeed, the panels can be rapidly displaceable and adjustable in function of the daily needs of the offices.

From a technical point of view, PHONOLOOK DESIGN is on the market accompanied by a complete range of certification, in particular relating to fire behavior, the recyclability of the materials, washability and, of course, the sound absorption coefficients as a function of the frequency.

The applications of the PHONO LOOK DESIGN Line will be multiple and will be adaptable to all environments in which hearing people speak is important, including offices, schools, meeting rooms, churches, gyms, public places and music rooms.

Finally the effective technique has its maximum aesthetic expression in the service of designers and Residential Customers.







## Wooden buildings and living quality: avant-guarde technology for thermal and acoustic comfort

ing. Ph.D Federica Bettarello - Design Firm ABC-lab, Conegliano (TV) and www.abclab.eu ing. Marco Caniato, Studio Associate AcusticaMente of Caniato & Associates, Conegliano (TV), www.acusticamente.eu.

The proposed project is part of a perspective of recovery and improvement of existing buildings and follows the principles of less waste of soil, recyclable materials, rainwater collection and production of energy from renewable sources. The design also includes the creation of a single compact volume in wooden structure, with high breathability, insulation, heat storage, sound insulation, permeability to natural energies. The property consists of two twin buildings extending from a basement of concrete three floors above ground in a green building prefabricated in wood with technology in every frame . Natural cellulose, wood wool and rock wool for thermal insulation (phase shift up to 10 hours for the walls, up to 13 hours for the roof); waste recycled fabrics and technology "dry" for sound insulation. For these choices made in order to integrate attention to good acoustics with the classic thermal design parameters that accompany this type of construction, this project stands out in the current construction landscape.

The signs were in fact the ones not to forsee any installation passage either within the partition walls between the two buildings, or in the attic. All technological crossings have been prepared in special vertical shafts or in false walls and ceilings in the service partition.

In this way the sound insulation of dividing partitions of the project has not been undermined by problems of improper workmanship or weakened by "splits" to undesirable marks. On the other hand, each wall has been made in the factory and therefore guaranteed by the CE marking, transported and mounted in a way equal to the conditions of the establishment.

As regards the insulation of floor treading, the absence of installation crossings above the structural part has allowed to avoid the laying and the cost of the classic "lightweight screed". It was therefore chosen to make a special floating floor, but instead of the traditional screed, selecting for both design philosophy (the wooden structures do not like elements damp inside the building), and for reasons of speed embodiment, a "dry " type of screed. The discrete element mass and the low sound insulation power of the horizontal base structure have required a precaution of the laying of a double layer of resilient material. In the end the raised floor has been designed with a total thickness of 8 cm and obtained values of normalized levels of impact sound much lower than those allowed under the regulatory provisions (DPCM 5/12/97).

The bioclimatic study of the intervention scenario led to the creation of a roof gable that, thanks to natural southsouthwest orientation, allows you to make the most of the sunlight and produces energy using a wide area covered by solar panels in groundwater, capable of providing the house up to 6 kWp. The healthiness of indoor air is guaranteed by a continuous exchange of air flow with the outside, thanks to the VMC (mechanical ventilation with heat recovery), allowing control of the rooms' temperature.

In environments where most of the population lives (southeast, south, southwest) the control of the energy from the summer sunshine is guaranteed by the arrangement of the rooms and the same high level of thermal lag due to the peculiar stratigraphy of perimeter structures. Given the peculiar stratigraphy, the thermal inertia of the floors will provide the basis for the accumulation of heat radiation and for its subsequent re-entry into the surrounding environment. On all the glass partitions there is low emissivie, double glazing glass installed in order to limit losses as much in the summer as in the winter. The open day organized during construction was attended by more than 50 appearances between designers, installers, contractors and individuals. Having the opportunity to observe closely what lay "hidden" at the plant and behind the construction of houses within this new concept was of great interest to all participants.

The new building will have features of environmental sustainability and biocompatibility that will help to reduce the consumption of resources (water, electricity, gas) and to choose the type of renewable energy (photovoltaic, water accumulations), accompanied inside by a high acoustic comfort that allows you to fully enjoy the wellbeing sought by a construction of this type.









## 28-31 January 2016

#### CEVISAMA FEB 2016 CEVISAMA TIME TO FEEL ALENCIA SPAIN

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#### **ARATA ISOZAKI**

Born in Oita, in Japan on July 23, 1931. He is one of the most important figures of international architecture. He graduated from Tokyo University in 1954, where he studied under Kenzo Tange (1913 Osaka-Tokyo 2005, Japanese architect and urban planner, one of the main figures in architecture of the '900) and later he took part in his studio.

In 1963 he founded the "Arata Isozaki Atelier ", today" Arata Isozaki & Associates "; in 1986 he won the gold medal of the RIBA, the most important award in the field of English architecture with a resonance on par with European and international circles.

The architect enjoys a great popularity and he is the protagonist of many competitions, winning numerous awards, and has major projects around the world.

In Italy his project won the international tender for the new monumental release of the Uffizi in Florence, which has been realized up to the executive project and is now waiting to be comhe created the Palasport Olimpico Turin where they play ice-hockey games. Among his most recent works in progress is the masterplan of the entire complex and tower for Citylife, in collaboration with some of the most Daniel Libeskind and Zaha Did -, and with the young Andrea Maffei, with whom since 2005 has opened the Arata Isozaki & Andrea Maffei Associates many lectures and lessons, especially in the United States; Today he is an

## PEDESTAL PROJECTS Torre Allianz Isozaki-Maffei in Milan Eterno Ivica comes out on top of the summit of the tallest skyscraper in Italy

...stands as a towering pillar of crystal that comes from far away ... in the city of the future where everything happens and can happen ... and it seems to have come to connect heaven and earth ...

After Expo and the Fuori Salone, Eterno Ivica also "conquered" the top of the highest tower of Italy: Torre Isozaki-Maffei, nicknamed "The Straight" that rises above all the rest in the center of city life, in Milan.

Simple and repetitive elementary geometric forms are constantly found in the architectural work of the Japanese, and "his" new tower is another example; the new headquarters of the German insurance company, Allianz (which made it the new business park) each vertical segment consists of six levels of inter-spaced 3.90 meters (2.80 meters net of floors, ceilings and floating floors ), for a total of forty-stories of offices, three floors and a technical triple-height lobby that connects, on two levels, the lower floor where there is a stop Tre Torri Line 5 of the subway with the elevated portion of the central square CityLife (area of the former Fair in current redevelopment).

With its rectangular based plan, the tower reaches an area of 50,000 square meters, to accommodate up to 3,800 people. If the facade is characterized by the repetition of curved forms, the interior spaces are designed to maximize flexibility: Nuclei of service in cement are divided to the heads creating offices for a free area of 24 x 36 m; 1.50 m is the step that adjusts the timing of the frames, the one of the dividing beams , the distribution of heating and air-conditioning -, positioned every 3 meters, and the span of the reinforced concrete pillars aligned behind the planes of the façade (each 6 meters).

There is a computerized and cutting edge control system which runs through the badge, the various streams of employees and visitors through the two sets of side elevators: one at the service of the first twenty-four floors, the other for the exclusive use of the following twenty-five floors. We find then three panoramic glass elevators, on the short side, which with their movement give life to the close quarters of the tower, and create very scenic games and futuristic images , taking guests to reach the top floor in less than 40 seconds. Needless to say, but the building immediately brings to mind, both for proportions, and for transparency and design, Gio Ponti and his Pirelli Tower, an important symbol of Milan's late 50s and emblem of contemporary Italian architecture, expressed in "Architecture is a Crystal " by Gio Ponti. In Allianz tower, all of the property, the prospectus, the structural choices and architectural ones, in fact serve to emphasize and enhance the lightness and transparency of implementation: its crystals, its transparency, the steel very clearly bent in cold to follow the soft fold of the loops of the prospectus, prolonged sailing, projecting, at either end of the elevation; Also elegant golden struts to the base, respectively 60 and 40 meters on the front lines north and south, do not seem to be of the "prosthesis structural support", but rather, for their tapered constitution, seem to be mere "ornamental appendages".

They actually perform the function of mitigating, to the top of the building, the oscillations caused by the wind, improving the perception of comfort of the upper floors. At the base the tower rests on a plate of underground parking (which measures 63 x 27 meters) and on a podium, as anticipated, it relates directly to the output of the new metro line 5, housing the canteen and two conference rooms (the largest of three hundred seats). The design of all these elements - square, podium and entry hall - is governed by a pair of diamond shapes each having four sides of unit length in golden ratio to each other, allowing you to control and coordinate the arrangement / dimensioning of the spaces up to the reason for laying the floors and walls. The tower has a wrap, which covers a total area of about 39,000 square meters, which is characterized, as mentioned previously, by transparent facades on the long sides of the offices and opaque on the short at the lift shafts. The architectural concept is based on the idea of vertically repeatable modules.

Every four overlapping modules is a technical floor. The streamlined rectangular plan, with the nuclei of the elevators in the vicinity of the short sides allows for each floor to be completely visually free , thus enhancing the transparency of the facades; In fact the idea is to create floors all illuminated by natural light with panoramic views. The high transparency of the facades required the need to adopt high performance glass in terms of solar control to meet the thermal performance specified by the designers of the installations, also to accentuate the already high transparency and lightness of the facades of the tower, the

edge cells are devoid of outer mounting; Basically everything is a reminder of the technology, transparency and lightness, thereby Torre Allianz is not only an exemplary example of "beautiful architecture" but is also an innovative and advanced manufacturing technology. Eterno Ivica supports and collaborates on this project of high architecture and technology, providing more than 4000 adjustable supports SE, distributed across the first floor terrace, characterized by white flooring that enhances the brightness of the building, and connecting various technical rooms and more, and all the technical rooms of the top floor terrace, on which rests the RAI antenna, reaching more than 1,300 square meters. The media used, Adjustable Support for Self-leveling floor, Eternal SE with head tilting has the advantage of combining technical, aesthetics and ease of installation, and certainly this realization is an obvious example. The uniqueness of the head tilting of the adjustable support ETERNAL is in the self-leveling that allows you to automatically compensate slopes up to 5%. This technology makes the laying of supports extremely fast, allowing you to create an efficient floor plan very quickly.



Designed by Japanese architect Arata Isozaki and Italian architect Andrea Maffei, with its 207 meters high and 50 storeys actual becomes the tallest building

Bund Deutscher Architekten and knight of the Order of Arts and Letters.









## eternoivica

The studio One Works of Milan has envisioned both for the last two floors of the tower as well as a middle floor of the Allianz tower a raised white floor. The Colombo Construction company of Lecco has entrusted the waterproofing and construction of the pavement to the Ing. Alajmo Milan company , which has placed more than 4,000 holders of the SE series that were delivered between December 2014 and May 2015.





#### **TOWER AND** ANTENNA **ISOZAKI RAI**



## )HFKAII( **JTERVENTI SPECIALI**





**Prof. Franco Laner** Italian architect, pioneer of the use of laminated wood in Italy, former prof. technology architecture at IUAV.

## Experimentation as a strength of the consolidation of the wooden floors

#### The company

The group to which the Cox® Peter "Peter Cox® special interventions" is subsidiary, is an established company in the world, with different technologies of intervention. Born in London in 1950, he started the business with demolition operations of derelict buildings and neighborhoods by the bombings of WWII and later, as a natural evolution, he specialized in recovery and restoration.

It was through this experience that Mr. Peter Cox<sup>®</sup> started to use innovative methods and patented systems. Output from the borders of England, the Peter Cox® developed its assets with regard to the restoration of monuments, the disinfection and consolidation through dynamic vacuum.

In Italy, the Peter Cox<sup>®</sup> special interventions operating since 1975, transferring the lessons learned in the world with specific national issues, whilst also developing innovative technologies, as is the case of the recovery of wooden floors.

#### Recovery and consolidation of the wooden floors with connectors Peter Cox®

Preserve the ancient wooden structures or adapt them to new challenging destinations, with adjunction of new benefits is the issue on which the Peter Cox® has invested in research and experimentation in the past 25 years, leading to important results and technologies now widely used, in tune with recent NTC (technical standards for construction) both for the restoration project of the architectural heritage, as well as for the seismic strengthening.

The objective is to arrive to coexist, in perfect union, two materials with different mechanical characteristics, wood and concrete. If this happens, the T-section of the floor can be considered "rigid" and the resulting static performance will be very high, for the great inertia of the new section. The connection elements developed by Peter Cox<sup>®</sup> are of two types: continuous and punctiform, both applied dry, or without the assistance of resins or other adhesives.

The LPR is the continuous connector. It consists of a trellis, with omega section, of different heights, saulderized to the wood with lag bolts (DIN 571) of appropriate diameter and applied with pre-drilling. This connector resolves the vast majority of cases, especially lending to a highly effective scarfing partition with curbs and with the wall. Sometimes you need more powerful and strong connections, as in the links between the large beams with pin secondary structures and concrete. In such case it takes the FLAP, made integral to the timber by the circular milling of a few centimeters in depth and diameter up to 10 cm, with a central anchor bolt, so investing a surface area sufficient to avoid the bearing stress (the gap) of the wood due to the scroll stresses, generally its maximum in the interface wood-concrete.

In this way, with a few centimeters of the concrete slab, the timber floor increases many times its structural and technological characteristics.

New and challenging overloads are generally warrantable, but mostly the deformations are severely reduced (elastic arrow). The slab thus conceived is suitable for functional integration and performance, such as insulating, acoustic, fire. The partition can be considered a real rigid diaphragm, able to effectively close the box walls.

#### **Research and experimentation**

The results obtained are essentially the result of research and especially experimentation, which has been a great effort, also economic, since the variables in play are numerous, starting from the characteristics of the wood (wood species, state of preservation, defects, residual strength), of the connectors (especially in relation to the bearing stress) and the concrete. Therefore, only the number of samples could clarify and suggest which of the components was appropriate to intervene and ultimately how to quantify the variables for crafting reliable calculation models and able to interpret the mechanisms of breakage or out of service. This activity was recognized by the recent NTC involving precisely the use of experimentation for the suitability of innovation.

#### Site and project

Product innovation requires service on site and in the planning stage. The calculation programs developed by Peter Cox<sup>®</sup>, both for the FLAP and for the LPR, allow immediate feedback on the mode, volume and costs of the intervention. The Peter Cox<sup>®</sup> extends assistance in the design phase to the construction site, both with their workers, as well as by starting demonstratively the work of installation of connectors, so that in a short time the Contractor can proceed independently.

The model calculation and verification of safety is set according to the NTC and the Eurocode 5 with parameters derived experimentally. From this one can deduce the importance of the tests, conducted by Peter Cox® in collaboration with the Official Laboratory Materials Testing Institute University of Architecture of Venice and other Official laboratories.

Many of the ceilings established were thoroughly work tested . The applications, which were very demanding, as with the wooden floors with lights above 10 m and destined for use in the library, are now numerous and growing. As of today more than 2,000,000 square meters of floor slabs have been consolidated.

The system also is establishing itself on wooden floors of new constructions, particularly where demand is not deform partition (arrows less than a thousandth of the light).

It is true that it is passed by product recovery applications built with the new reversal of the trend. But maybe it can just simply see that the experimental research -however- will eventually pay.



Connector insertion LPR in continuous bead





of the Peter Cox technology

is in the infinitely rigid behavior of the mixed section

for macro deformations.

slab wood-concrete LPR connectors. A relevant fact that proves that the wealth



Section of LPR connection with insulation internosed







Graphic of the slip wood-concrete. Note the rigidity of the connection for values far superior to the operating loads.

Check for evidence of resistance to flow of the LPR connection



#### NEWS

### WATER TAMERS.

#### Liquid system: unique thermal fusion with perfect result.

The Liquid System is an innovative and revolutionary solution thanks to the process of thermal fusion between the handkerchief in TNT or glass fiber and the flange of the filler. Each product in the Liquid range allows to avoid possible cracking and consequent harmful infiltrations of water caused by the detachment due to incompatibility between the impermeable laver and the liquid plastic which forms the product, thereby ensuring a real continuity in the waterproofing.

For use with all types of two-component liquid waterproofing and cement, the system has a Liquid extended range of accessories that make it compatible with all applications and for all problems



www.eternoivica.com













## World Crest: Eterno Ivica is there!

Located in *Upper Worli*, Mumbai, the towers of the World One Crest are immersed south of Mumbai in a strategic position in the most luxurious part of the city. Infact here dwell the exponents of the last and best contemporary industry, famous sportsmen and celebrities; It was created and designed to achieve a rich social and cultural fabric. In truth, like the area and the territory, it is the first choice as a destination throughout what is now the creme de la creme of the "global fight".

The residences, designed especially for the "months where you do not go touring the ocean on a yacht...", are luxurious and with great attention to comfort of all kinds, they have been especially designed to transmit a serene and youthful life experience.

Consisting of 3 towers, but with a unique curved shape plan, the World Towers form a breathtaking sculpture of glass and steel, which rises towering into the sky of Mumbai. World One, the tallest residential tower in the world, World View and World Crest, present themselves as a powerful symbol of Mumbai's aspirations absolute and unstoppable drive.

They are home to a world in itself, private, secret, surrounded by unimaginable luxury that covers nearly 70,000 square meters (about 17 acres) of beautiful landscape consisting of silent, organic urban gardens, walled areas of flowers and pools that create the right places for meditations and serene reflections. They create an unimaginable oasis of well being and tranguility. At the center of the complex there is the "GRAND COURTYARD", 10,000 square meters (100,000 sq. Ft. To be exact) of landscape expanse composed of large lawns (great lawns), a naturalist Theatre (Theatre Lawn), a veranda, a café, green hedges and walls of flowers, a spectacular fountain with water jets creates colored water shows. Then there are several pools, a leisure pool, an indoor pool, a children's pool, a pool arranged that those who want to practice swimming, all with water temperature control.

Ten floors above with respect to the "green" platform connection we find the Sports Arena, where you can play cricket, tennis, squash, there is also an athletics track and another pool. Obviously, in addition to the sports area, you can not miss the SPA Relax area, to integrate exercise, refreshment and rejuvenation which is considered the balance of good mental and physical health.

The culture of the body is nothing without the culture of the spirit and of the mind, so that there is also art and culture to satisfy intellectuals: an 'elegant art gallery, in the middle of flowering plants and trees, is prepared to accommodate temporary masterpieces, or exhibitions of famous artists.

On top of the tower we finally find the observatory, dubbed 1000, which is just 1000 feet from the ground, and has a view that extends up to 60 km for every 360°, overlooking everything from the seascape to the city lights that Mumbai offers.

SOURCE: http://www.theworldtowers. com/ world-crest/











Continued climate change accustoms us to scenes of heavy rains and major winds, which in some cases may create problems lifting objects not anchored to our terraces and exterior.

These events are not rare, they require us to think more about versatile products, which take into account any risks caused by bad weather: products that are "Blizzard proof". Eterno Ivica is now able to present a new line of supports created to counter the force of the wind. They just call it "windproof" because they safely, effectively and economically solve the problem of lifting plates.

The system is designed to establish a solid bond between the plates, supports and the laying surface: the steel screws cling inside the Eterno Ivica support passing through the scape of the plates, these are linked to the support through a stylish and robust ring steel, the base of support is anchored in an innovative double-sided adhesive butyl sheath hiding a compound designed specifically to adhere to a variety of waterproofing membranes, resulting in a system with a wind resistance up to now unthinkable. The system is compelling not only for the elements between their latches, but also for the reaction that the entire pavement connection imposes against the suction force of the wind, resisting to its traction in a systematic way, by distributing the load of the wind between the plates and the



adjacent interconnected supports.

WINDPROOF IS USEABLE WITH THE SUPPORTS IF NM PEDE-STAL LINE.



#### INNOVATION FOR ARCHITECTURE

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Cover photo: Tower construction site Isozaki-Maffei