AFEAL 30 years: Event that will remain in history

AFEAL 30

CONGRESSO INTERNACIONAL DE SOLUÇÕES ARQUITETÔNICAS E CONSTRUTIVAS EM ESQUADRIAS DE ALUMÍNIO

Patrocínio

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CDA HIGH QUALITY IN ALUMINIUM

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DOW CORNING

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Realização

AFEAL Associação Nacional de Fabricantes de Esquadrias de Alumínio

Summary

Aluminum frames in debate

October 2013 will be marked in the history of AFEAL, because it was the month in which the association held its first great international event - International Congress on Architectural and Constructive Solutions in Aluminum Frames - AFEAL'30. The event marked the 30th year of the foundation of the major company in the sector of aluminum frames in Brazil and for the first time in the country the market met architects and engineers for an important experience exchange. The approximately 400 participants at the meeting had the opportunity to broaden the debate on aluminum frames, as well as to get acquaintance with the new trends and technological innovations that emerge in Brazil and abroad.

The congress happened in the APAS – São Paulo Association of Supermarket, in Alto da Lapa neighborhood, in São Paulo on the 29th and 30th. Great names attended, like the architects Joe Witchell, Roberto Aflalo, Roberto Loeb and Luca Bertacchi, and the engineers Klaus Böde, Winfried Heusler and Ricardo Ruhter. The traditional forum VidroSom, wich presented the topic 'The Role of the Framesin the Buildings Performance - NBR 10.821 e NBR-15.575', also made part of the schedule.

The AFEAL trajectory is the highlight in the opening speech

In his opening speech, the president Lucínio Abrantes dos Santos emphasizes the entity importance for the industrial window frames and facades

Lucínio Abrantes dos Santos, AFEAL president

The official opening of the Internacional Congress of Architectonical and Constructives Solutions on Frames of Aluminum – AFEAL '30 was marked by the AFEAL president speech, Lucínio Abrantes dos Santos. Remembering that the event was representing the highlight of the celebrations of 30 years foundation of the association. The businessman said the guest speakers would collaborate in the knowledge enrichment of all the presents. 'Which is really welcome at this moment of great challenges that the facades architecture poses to the manufacturers. The urgency to produce buildings with high energy efficiency us directly to the envelope, thought and built with frames and glasses of high performance. Come into play the double ventilated facades, the solar control glass and selective glass, and also the photovoltaic panels among other solutions".

Lucínio Abrantes dos Santos recalled that some years ago, Brazil has lived a constant growth economy. 'This year the country should be again the 6th world's largest economy. The construction industry has acquired pace and strength, and us, manufacturers of frames and aluminum facades follow it, delivering products with the desired quality and quantity. But we had to go beyond, with the sophistication of the facades projects that the current architecture develops. For this, the Brazilian industry prepared over the last decades, in a process promoted by AFEAL of continuous updating of knowledge, expansion and modernization of industries', he affirmed.

The president also exalted the achievements of AFEAL, that since the 90s visits annually the main internationally frames trade fair, absorbing and looking to implement technologies and products on the national market. 'On these trips, industries were able to learn and acquire the best equipment available in the international market. From 2001 onwards, we built our Sectorial Program Quality of Aluminum Frames. Today it is consolidated and gathering 115 large companies. The technical standards governing the quality of our products are constantly updated, as occurs now. I remember that early on 2014 we will have a new standard advance, with the classification of acoustic and thermal insulation of frames, label proofed', he celebrated.

Other data presented were more than 220 companies that today comprise the membership base of AFEAL, the qualified professionals through programs which the association promotes in partnership with long-standing formation centers, the hiring of sectorial research will allow better understanding of the active frames sector in the country and the election in AFEAL to preside the newly created Ibero-American Forum of Windows, Doors and Facades. 'I take this opportunity to say that from the moment that Brazil has attracted worldwide attention, AFEAL adopted the policy of supporting the coming of industrial technology, raw material, even frame manufacturers for production in Brazil. Despite this, there is no space to import unfinished product, like frames or curtain wall', finished Lucínio Abrantes dos Santos, declaring open the International Conference on Architectural and Constructive Solutions on Aluminum Frames.

Public present in AFEAL'30 Congress accompanying the speech of the president

Construction of skyscrapers, an option

The English architect pointed out the particularities of high buildings and presented places in various places of the world

The director of architecture in London office Broadway Malyan, Joe Witchell was the responsible conducting the first lecture of the Aluminum Congress – AFEAL'30. The professional started his speech explaining that until the decade of 1930 there was a limit of high that the buildings of the British capital should respect. 'In a different way of Manhattan, USA, London has strong rules for the construction of tall buildings', affirmed Witchell.

The architect explained that there are regions of the English metropolis where the construction of big towers is forbidden. However, the current lack of land and the high prices of available land end up turning a typology that is currently minority – the skyscrapers – in a option. 'London is a historic city that needs to be renewed', he evaluated. With emphasis in 'green' buildings, Witchell advocates the production of new buildings in prime regions of cities where users have different transport options and the solutions 'mixed-use', gathering residential and commercial property.

'With prices of commercial and residential properties among the highest in the world, the developers are working to construct an unprecedented number of tall buildings. The transformation of the historic center of London is not well seen by everyone, but the lack of spaces for buildings and the need to conserve energy in construction and transportation convinced city planners to embrace this type of building for the 21st century. This transformation makes the skyline of the London full of cranes towers", summarizes.

To illustrate his lecture, Witchell presented some of the projects developed by the office in which he operates. The Vauxhall Tower, largest residential building in London with 181 meters tall and 213 apartments is one of those. 'The construction work was a catalyst for revitalizing the region close to the Thames River, and that location allows residents and visitors to have available five different means of transport', said. The construction has a circular shape allowing all the apartments to have river views. It aggregates different sustainable solutions, such as a wind turbine installed on its top and takes advantage the high-speed of the winds to generate part of the energy that the building uses, trough battery charging station for electric cars in the basement and bins in all the floors. The facade

Architect Joe Witchell

was designed to provide thermal comfort throughout the year. There are two layers of glass and you can open them, just as the shutters, for better air circulation. The balconies are also glazed, but not completely, allowing air to enter.

Another presented example was the complex mixed-use Seyrantepe located in Istanbul, Turkey. The project contributed to the revitalization of a peripheral area in the city, next to the new stadium Turk Telecom Arena. The work is composed of three towers with 350 meters each. One of which houses commercial offices, another is just residential and the third is a hotel. Between buildings there are central atriums covered by a layer of glass and occupied by shops. 'At this compound, each facade was designed according to the characteristics of the buildings. For example, in the residential, is more open and has terraces, unlike the commercial where it's closed to preserve privacy', explained Witchell.

The last detailed design during the lecture was the Trump Tower, the largest residential building already constructed in Manila, Filipines, with 250 meters tall and 65 floors. The project takes its name from having been funded by the U.S. businessman Donald Trump, which has similar assets in other countries. With high headroom, the building was designed with European appearance and offers automated solutions. Highlighting the shutters that move according to the sun's rays, so that the heat stays outside. 'Due to the climate of the region, was not necessary to provide for the closing of the facades', added the architect.

Witchell presented the panorama of British architecture

Architect has been honored by the vice president of AFEAL, Lage Mourão Gozzi

Were presented different works that were carried out by the British office Broadway Malyan, where Witchell acts

Joe Witchell - Graduated in architecture at the Sheffield University and member of the Royal Institute of British Architects, and Council on Tall Buildings and Urban Habitat, and British Council of Offices. He is now director of architecture on Broadway Malyan(England), responsible for a large team of architects and designers. He has extensive experience in development projects and retrofit in various sectors. He already developed projects for offices in Europe, Middle East and South America. Witchell materialized large assets to Standard Life and Hammerson in financial district of London. He has special interest in coatings and facades with energy efficiency in buildings of great height.

The functions of facades

The architect Roberto Aflalo discusses the different solutions for the envelope of the building

Architect Roberto Aflalo

The first Brazilian to speak in the AFEAL'30 Congress was the architect Roberto Aflalo, managing partner of the office Aflalo&Gasperini. The lecture began with a historical of the projects developed by professional, such as building Sudameris, built in the decade of 1980, in Paulista avenue, São Paulo and has a structured grids on its façade. 'This period was an improvement of the construction system with the use of new solutions, such as the fixing system granite with metal parts and use of colored glasses', affirmed the architect.

To illustrate the architecture of 90s, time when the facades become increasingly intelligent, Aflalo presented the project of the building E-Tower, the first building to use the unitized system in your envelope. 'The façade does not necessarily correspond to the structural elements. The look of the building is designed according to what architect wants', indicated the professional, remembering that commercial buildings during this period have light and discrete columns, large slabs and wide circulation areas.

Other project presented by Aflalo was the Eldorado Tower, which received the LEED Platinum certification and it has glass curtain wall acting as the walls of lobby, and the complex Rochaverá consisting on four towers of offices characterized by facades with leaning glass walls, which resulted in larger slabs on the upper floors. 'The shape of the buildings of Rochaverá was planned due to preference of the occupants by the latest stories that have privileged view'. The office Aflalo&Gasperini also participates in the process of regeneration of the port region in Rio de Janeiro. The project named Porto Maravilha, Aflalo and his team had to develop alternative to a terrain that is elongated in the vicinity port. The solution was to occupy the site with five commercial towers. 'These buildings have brises to compose the diagonals of facades'.

The professional also spoke of the case of the building Eco-Berrini, construction that has as a particularity its façade divided in three different areas for better control of light passage. Different solutions were employed as brise, trays of light and double glazing. 'The trays of lightis an option for temperate climates to maximize the entry of light. And the brises, in despite of the function to prevent passage of heat to the area, they are elements rarely used by the difficult of cleaning and maintenance. This project also includes a protection with aluminum elements in the lobby to contain the entry of sunlight'.

In Infinity Tower in São Paulo, a solution for facades used by Aflalo, were the brises with screen printing, collaborating with thermal comfort for barring the passage of heat and at the same time allow passage of light. At the end of his lecture, Aflalo pointed out which would the tendencies of facades in the future.

Among the solutions that should gain space, the architect highlighted the photovoltaic glass, the smart windows and the multimedia resources. 'The façade is a large surface area that is exposed to sunlight and use this energy is a great opportunity. With it, the use of photovoltaic panels should grow, which consequently become more accessible. Buildings like that already exist. They use this solution generating more energy than they consume, and thus return part to the public network', predicted.

'The smart window is an innovation that made the light control in the environment possible by changing glass which is more transparent or opaque depending on the need. The multimedia resources, relatively widespread, consist of animated film installed in glasses, which besides the visual effect, they also capture energy', finalized Aflalo.

Architect presented the recent production of his office...

...and trends for the future of facades

Aflalo was honored by ex-president of AFEAL, André Méhes Filho

Roberto Aflalo - Graduated in architecture by São Paulo University. He has master's degree in Urban Design by Harvard University, in Cambridge, Massachussets, USA, and member of the Asbea Council – Brazilian Association of Architecture Office. Integrates the Committee Marketplace of Real State on POLI (USP) and is managing partner of Aflalo&Gasperini Architects.

The role of facades

From left to right: José Carlos Cattel, Alcoa director, Paulo Duarte, architect and frames consultant, architect Roberto Aflalo, architect Joe Witchell, Lucínio Abrantes dos Santos, AFEAL president, and architect Marcio Mazza

The first debate in International Congress of Architectural and Constructive Solutions in Aluminum Frames – AFEAL'30, mediated by the architect Marcio Mazza had the participation of Lucínio Abrantes dos Santos, AFEAL president, and architects Joe Witchell, Roberto Aflalo, the frames consultant Paulo Duarte and the director of Alcoa, José Carlos Cattel. They discussed the evolution of facades, its role in thermal and acoustic performance of buildings and energy efficiency of an enterprise.

Asked about the use of double glass facades in UK, Witchell replied that is mandatory of all new buiildings, including the expansion works on already existing building. 'Certain values are required for heat loss and energy use in indoor environments, and to attain that standard, all glass must be double. As glazed facades have inferior performance when compared to solid, it becomes more difficult to achieve such levels of performance with the use of glass, and in some cases designers choose triple glasses or double skin facades', he explained.

Duarte spoke about the countries that have the most advanced codes and norms regarding thermal performance. 'In South America, Chile is one of the highlighted in this aspect by presenting very low temperatures in winter. And in Brazil there is an exchange of information with Chile and Argentina, but our norms are based on European guidelines and are adapted to the climate here'. He said, still on the use of double glazing facades in regions showing differences in temperature, such as the Rio de Janeiro, where in summer the temperature reaches more than 40ºC.'I have been, for long time , specifying double glasses with thermal protection value of about 2,7 for Rio de Janeiro, in order to help the solar factor, decreasing heat that transfer temperatures from one side to other (indoor and outdoor ambience)', complemented.

In another way, Aflalo commented about the use of photovoltaic technology in large scale in Brazil. 'In general, leading technology is established first in developed countries and takes a few years to get here. That technology was still not established in developed countries. They are seeking to minimize costs to make it viable', said the architect, mentioning also the evolution of the curtain wall.

Regarding how the Market is preparing for new facades and constructive systems technologies, Lucínio Abrantes dos

in the buildings

Santos affirmed: 'The sector is following the global trends, technical standards, the projects development, and also the changing in logistics for installation of facades, once the buildings are getting taller and the construction sites are minor'.

Cattel said that Brazil occupies the fourth place in the world ranking of LEED certification – Leadership in Energy and Environmental Design -, with over 170 projects already certified or in the process of acquiring the stamp. 'And the facade appears on this scenario as an element of fundamental energy efficiency of the enterprise and contributes to the achievement of certification'. The professional questioned if the use of more sophisticated technologies, as photovoltaic, can gain prominence over this scenery. The question was answered by Aflalo. 'I'm not specialist in photovoltaic technology, but I know that over the years the ability to transform solar energy in energy has increased significantly', said.

About buildings sustainability, Aflalo thinks that green building is a purely economic equation. 'It's obviously that it brings all the benefits of nature conservation, relation with the surroundings, and others. But when we design a building we always have this concern. Perhaps with less vectors in this direction, but the great questions were there – as energetic consumption, thermal comfort, impact on nature, and others'. And complete: 'Some buildings that I showed, as Eldorado Business Tower and Rochaverá, have LEED certification, bus, at the moment that they were being designed, there was not even exist such certification. This subject turned to be interest from the past decade. For conquest LEED, only minor changes were incorporated, to adjust to American demands'.

The last question was addressed to architect Joe Witchell, about the use of smart facades in Europe. 'European legislation and norms of construction are the main agents of the popularization of smart facades. Currently, there are two tendencies: use of technologically advanced systems, for example, lining solar control and automation to combat climate problems; and passive design, such as solar orientation, shading and reduce fields of glass. Passive design solutions tend to be more prevalent outside urban areas and in warmer countries, because still a strong desire to construct buildings strongly glazing in major centers' completed the English.

Facades and sustainability

Architectural projects should contain conceptual solutions favorable to nature

Engineer Klaus Böde

The second international participation in International Conference on Architectural and Constructive Solutions Carpentry Aluminum - AFEAL'30, was the German Klaus Böde, director of ChapmanBDSP, environmental engineering company and specialized consultancy in the area of sustainable development and responsible for the brand office in Brazil. He discussed strategies and interfaces between environmental design, architectural and engineering pursuit of sustainable development.

'Facade is not only an element of skin, which surrounds and protects a building, it is intrinsic part of whole, is a complete component. The facade does the interaction between the external world and internal and is static. But the climate, temperature and environment changes constantly, so the facade must be dynamic', affirmed Böde

For this reason, the use of facade technologies is not the only alternative, says the engineer: 'Many solutions can and should be resolved in the conception of the architectural design'. He also cites the trend in Brazil of the glazing terraces. 'That is a bad example of the use of glass for spacing closure, creating the need, often, the installation of an air conditioning. Where is the intelligence of these facades?'

Böde affirmed that Brazilians are used to associate sustainable architecture to the use of LEED certification. 'The stamp does not necessarily reflect the intelligence inherent to a project. Besides that, intelligent facades cannot be confused with automation, which although useful and important is more expensive'.

The director showed in his lecture, projects which participated as One Airport Square, in Republic of Ghana, in Africa, inspired in local culture, which used concrete of the region, simple glasses and the work has a central atrium which provides ventilation and light to the environments. 'The concrete structure is externalized to shade the construction, which also features brises in variables depths, according to the solar orientation'.

Other examples were the headquarters building of the Commerzbank, in Frankfurt, Germany, and the 30 St Mary Axe, in London, England. The both were designed by Norman Foster. In Brazil, Böde cited the new center of distribution Natura Anhanguera. 'We focus on the climate of São Paulo – light and pleasant in the most part of the year – which is good for architecture. Because the great natural lighting was necessary to protect the facades of solar radiation', he explained.

For Böde, sustainable architecture transcends LEED certification

The engineer received a tribute from the hands of ex-president of AFEAL, João Batista Padilha

Klaus Böde - Graduated in Civil Engineering by the Bath University(England). The increase of environmental concern in Europe inspired him to found, in 1995, together with their partners the BDSP, a company specialized in sustainable development area, headquartered in London and with offices also in Lisbon and Belgrade. In 2012, the company merged with Chapman Bathurst and became ChapmanBDSP, company that collaborates with a wide range of internationally renowned architects and projects to all Europe, North America, Far East, and recently, Africa and South America. He is a member of Advisory Council of the Urban Age Group LSE Cities Programme LSE and has been the leader of projects of a series of buildings that received environmental certification.

Photovoltaic panels in architecture

Solution applied to buildings combine aesthetics and energy generation

Initially used in satellites about 60 years ago, photovoltaic cells enable to the consumer the production of their own energy. 'Aneel – National Eletric Energy Agency– ruled that the electricity consumers can also generates energy, working together with the distribution network, under the exchange of energy', explained Ricardo Ruther, professor and coordinator of the Group of Strategic Research, Federal University of Santa Catarina, in his lecture at International Conference on Architectural and Constructive Solutions in Aluminum Frames – AFEAL'30.

Ruther says that part of the energy generated and not consumed creates energetic credits to be used on up to three years, eliminating the need of accumulation in batteries, as it occurred before. 'This change is what enables and makes economically possible the utilization of the photovoltaic in Brazil, in facade or a roof, due to cost reduction. With this we expect a significant increase in the use of this technology in the country', commented.

Great part of this success, according to the professor, depends on the understanding and adoption of photovoltaic system by architects. 'They are fundamental actors, after all, they are what make projects with this technology to be applied', reinforced. The photovoltaic system only generates energy during sunshine hours, and the period of peak of energy consumption in Brazil has been changing. 'Currently the demand for energy in the afternoon, around 15h, is increasing significantly due to the growing consumption of air conditioning by Brazilians', explained.

The professor also told that, in Brazil the hydropower park has about two thousand plants, the largest being Itaipu, which is also the world's largest power generation. And compare: 'If we cover the Itaipu area with photovoltaic panels, they would generate the double of the energy generated by the plant, which is around 20% of electricity consumed in Brazil', emphasized. 'But far away to purpose something as that, makes more sense to start use photovoltaic panels in places where we work, live and have fun', said Ruther, citing some examples: 'There are many cases abroad, as the Papa's house and in some residences where people chose this kind of energy generation. And to show cases closest to our reality, we have the University of Santa Catarina, the Efficient House of Eletrosul, the Living space Tractebel/UFSC and the Eletric Station Eletrosul'.

Engineer Ricardo Ruther

The professor also said that little time ago, the photovoltaic modules were one plate with aluminum molding, which was not designed to integrate the building and be part of the envelope. 'The modules were placed on top of the roof'. From 1990 begin to be designed photovoltaic modules to architectural application. Thence came up the concept of BAPV and BIPV. 'In BAPV, the photovoltaic module over the roof is normally a retrofit and does not substitute the seal material. In the integrated – BIPV -, panels form part and tend to copy the characteristics of the application, besides they do not change the orientation and inclination. On this case, plates may substitute the sealing element and can be used in blind facades, half transparent, inclined, brises, and other systems'.

In a study that compared Brazilian and German regions, it was possible to verify that the same vertical facade in Brazil receives more energy than a vertical facade in Germany, where there is more than 1,3 million of photovoltaic power plant. According Ruther, the factors influencing directly the generation of photovoltaic energy are from solar irradiation, temperature, shading and state of cleanness. 'There are seven different photovoltaic technologies which are compared by power (R$ x Watts). These technologies also have different temperature coefficients, which is a very important point of the photovoltaic project generator, once they are made of different materials having different temperature response', completed.

Audience attentive to the data and information submitted by Ruther in his lecture

AFEAL treasurer, Antonio Antunes, honored the speaker Ricardo Ruther

Ricardo Ruther - Graduated in Metallurgical Engineering by the Federal University of Rio Grande do Sul, has a master in Engineering in Mining, Metallurgical and Materials Engineering from the Federal University of Rio Grande do Sul. Doctorate in Electrical and Eletronic Engineering The University of Western Australia and post-doctoral in Photovoltaic Solar System realized in Fraunhofer Institute for Solar Energy Systems in Germany and in The University of Western Australia. He is currently is associated professor in Federal University of Santa Catarina and coordinator of the Strategic Research in Solar Energy, Federal University of Santa Catarina. Is part of the National Institute of Science and Technology in Renewable Energy and Energy Efficiency in the Amazon.

Sustainable

The second debate in AFEAL'30 Congress, was mediated by civil engineering Jorge Dutra Fragoso, and gathered at the debate table the speakers Ricardo Ruther and Klaus Böde, the AFEAL treasurer, Antonio Antunes, and the engineer and frames consultant Crescêncio Petrucci. The overriding issue was the alternatives that can be adopted to have a more sustainable construction.

The first question, about the costs of the photovoltaic panels, was directed to the engineer Ricardo Ruther. 'The modules are bought by power and priced around R$ 2,00 to R$ 3,00/kW, and one 100 watts plaque occupies the space of 80 centimeters square. The principal count is which energy value must be eliminated using photovoltaic generator. If it costs anything superior of R$0,50/kW/hour, it 'already possible to have an economy with photovoltaic modules', answered.

Antonio Antunes was questioned about big constructions that require increasingly more procedures to achieve sustainability in the construction site. 'The greatest constructions company, mainly São Paulo and Rio de Janeiro, have worked for all their collaborators to adapt to the criteria of sustainability. In our companies, we also developed some courses to guide the professionals about the way they have to act. We see with good eyes, and even surprisingly, the speed at which such shares are growing', he said.

Fell to the German Klaus Böde to talk about the trend of the BAPV and BIPV systems in European architecture. 'The principal aspect about the photovoltaic market is that it is a sector that has grown with the recent economic crises and became a trend in some countries. But there is a great doubt as to the reasons of it not being produced in great volume, in order to make them accessible and reduce their prices. The factories answer that the biggest problem are the architects who don't specify the products, while the architects contest saying that they do specify, but not the necessary quantity, for being a still very expensive solution', alerted the engineer, emphasizing that this is a solution that will have a future, but require actions to reduce prices.

Being an alternative not widely used in the domestic market, the photovoltaic panels installation can be a problem, observed Antonio Antunes. 'We have to work to form specialized work force. I realize that we are still initiating all disclosure about what is possible to be done with photovoltaic modules. I consider important to the sector to know a little bit more of that alternative to, then, be able to work in training specialized workers'.

Ruther clarified that the photovoltaic modules only absorb visible energy of the spectrum, while the heat is reflected. 'So this is an impact that needs to be studied to avoid the creation of very heat zones near to buildings that adopt this solution'.

Other debate question directed to Klaus, was about how the Brazilian market relates to the use of architectural sustainable solutions. 'There is already a demand for this type of service in Brazil. One point that has my attention is the LEED stamp, which not necessarily reflects the intelligence inherent in a project. The certification promotes the environmental architecture; however some countries, as Scandinavia and Australia, do not have certification systems and present good examples of ecological buildings. The architecture should promote technological solutions, but you need to know that is possible build buildings with low consumption of energy betting only on projects solution', finalized the German.

Crescêncio Petrucci engaged in responding only about the possibility of the aluminum production chain to organize the adoption of a more sustainable fabrication. 'There are many paths that can be followed, as the specification of materials focused the questions of sustainability. Some recent projects have interesting examples of options and not only in energy economy. For example, studies show that the use of reflective glasses is not indicated, because these are not perceptible to birds. Other point is the material specification with possibility of recycling, as aluminum. Formerly, there was a tendency to always use new aluminum and today we already have quality profiles, produced with a percentage of recycled material', answered.

From left to right: engineers Klaus Böde and Ricardo Ruther, Antonio Antunes, director-treasurer of AFEAL, Crescêncio Petrucci, frames consultant, and engineer Jorge Dutra Fragoso

The use of parametric construction on facades

The parametric design will have significant influence in architecture of XXI century

Engineer Winfried Heusler

Winfried Heusler, mechanical engineer and senior vice president of Engineering in Schüco International, began his lecture at the International Congress on Architectural and Constructive Solutions in Frames Aluminum - AFEAL'30 doing a comparative between architecture and automobilist industry in last 100 years. 'From decade to decade it is possible to view the architectural evolution of the buildings and his influence in cars design. In the 70, for example, the architecture became as crazy as the cars, with futuristic-like cars. Currently we have the example of the Renassaince building, in Istanbul, with curve and acute shapes, presents also in the design of the electrical sportive, from BMW. Moreover, this enterprise is a great example of parametric design', explained.

At this moment, there are seven global trends that will change the world and constructions, according to Heusler. 'The standouts are the demographic change and globalization. The global development led us to a change raw materials and energies, and the motives are the population and economic growth. Consequently, there will be greater demand for quality, comfort and growing need for housing spaces and resources', said he. The engineer also affirmed the existence of two global trends in the civil construction market which are already in evidence at the present time: first, the costs efficiency and resources, and the other are the desire for great comfort and maximum design freedom.

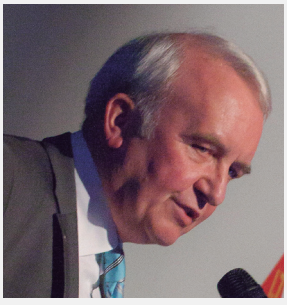
To better explain what the parametric architecture is, the vice president showed some building examples. 'One of them has a square base and, as you move up, it twists. And how to get to do things like that? To Conciliate ideas, architecture and to get to these forms?', asked he to quickly answer: 'Currently, with technologies, new systems and custom solutions'. Heusler also showed examples of buildings with unusual facades, which were only possible due to the use of technologies in constructions. 'We have this apartment house in London, with rounded facade and inside the building; the closure is done with rectangular sliding doors. And one example of simple solution, viable and good looking, but sometimes you need to create more complex and customized solutions'.

Today it is indispensable the digitization of the creation process in asset. 'We are getting a better form and manner to fabricate buildings. Besides improving the physical properties of the buildings – solar light in different moments of the day, angles of incidence, etc – with simulations to find out which solution is more economic, from the productive point of view, to the constructor. Then, we seek the best technology to meet all these criteria. That is a previous process in the planning and production', explained the engineer. 'With the parametric architecture, is possible to discover, for example, which local façade of the building are more critical and needing more complex forms and designs. After understanding the geometry of the whole building, it is possible to discover what is the better solution to be used', he said.

The parametric architecture means the continuous digitization of the processes in production chain. 'Individual modules are fabricated with cost efficiency and high quality, using models of parametric construction projects made from tested components of modular systems', affirmed Heusler. And completed: 'In the future, the parametric construction concept will be a perfect process chain, with 3D design software for architects, as well as calculation software for companies that manufacture curtain walls'. The engineer said that the parametric design will have a significant influence in the architecture of 21st century; just as in series production has shaped the architecture of the 20th century. 'In many countries the use of parametric construction in architecture with geometric complexity and applied in computer programs is already a reality. The use of new technologies enables architects and engineers to reach an economically viable solution', concluded.

Heusler said the parametric construction will be trend in architecture

Winfried Heusler was honored by ex-president of AFEAL, Antonio Molina Spina



Winfried Heusler – PhD by the Technical University of Berlinwith a thesis on the daylight. He was professor at the University Of Stuttgart, Germany. In 2004 he was awarded with the tittle of Professor h.c. (honoris causa),by Faculty of Architecture of the University of Kiev, Ukraine. From 1998, Dr. Winfried Heusler goes to Schüco International, in Bielefeld, Germany, where he acts as technical diretor of Aluminum and CTO (Chief Techinical Officer). Initially responsible for the systems technology, and currently supervises international projects, special constructs and innovative solutions for complex facades as senior vice president of Engineering.

Debate about parametric

The activities of the first day of the Congress AFEAL'30 were closed with a discussion that had as main theme the use of the parameterization concept in facades. Participated in the discussion the president of the Ethic Council of AFEAL, Domingos Moreira Cordeiro, the architect Maria Teresa Godoy, the general manager of Schücoin Brazil, Michael Eidinger, and the speaker engineer Winfried Heusler. The mediation of the event was handled by Magda Reis, representative of Votorantim Metais.

The first to deliver a speech was Michael Eidinger, when he was questioned about the parameterization benefits. 'We have some examples of complex construcions from the geometric point of view, and the lack of parameterization requires much work and time of architects. That is a technology that we should absorb as fast as possible. The popularization of this alternative is already happening among European professionals and now it must happen in the Brazilian market', affirmed.

Domingos Moreira Cordeiro, president of the AFEAL's Board of Ethics

Architect Maria Teresa Godoy

Engineer Winfried Heusler

construction closes the first day

Winfried Heusler pointed out that the first big challenge was to insert the computer science in architecture. 'Until 2023, Brazil will have to build 23 million of housing units, and that is an opportunity to deploy the concept of parameterization', indicated the German. One example of the use of the computer resources in architecture is the software BIM – Building Information Modeling -, an app that combines modeling of buildings, budgeting tools and qualitative analysis of projects. The architect Maria Teresa Godoy acts with this solution for more than two years in her office and said that: 'Basically, different information about the project' are presented.

'Is it possible to photograph the already existing building and send these images to the computer, where the informations will be process and will show all the dimensions of the construction, thus facilitating the work of the architect', finalized the Heusler. The businessman Domingos Cordeiro remembered that, in Brazil, it is necessary to advance in standardization of spans and his interfaces, involving project, execution of masonry and the production of frames.

Engineer Michael Eidinger, General Manager of Schüco in Brazil

Magda Reis, representative of Votorantim Metais

Innovative project is highlight at VidroSom

Experience submitted in the event shows that is possible to combine air circulation with acoustic isolation

Businessman Edison Claro de Moraes

The fifth edition of VidroSom, held in AFEAL'30 Congress, had as highlight the presentation of a prototype that shows it is possible a window ventilate a room at same time that isolates noise. 'The Standard Performance of Buildings Housing made us rethink about the relationship between noise and holes. We live in a tropical country with an amazing climate, because of this the great challenge is create a product that permit the air circulation and acoustic isolation simultaneously', said the businessman Edison Claro de Moraes, manager of Atenua Som, in his lecture.

The video displayed by Claro showed an experiment done at the acoustic laboratory of his company. A sound source that generates noise in the same magnitude of an airplane engine was installed in a test chamber along with a fan. Two windows were part of the structure, one with small tubes that allow the passage of air and other conventional. At the moment both were closed, you could hear a noise and realize that ventilation occurred due to the movement of small ribbons stuck inside the tubes of the first window. However, after the second window be opened, the noise becomes deafening, demonstrating that the first window provides ventilation and noise reduction.

Excited by the results, the businessman did an appeal to those present. 'Now we need partners who want to develop this project with us. To create it, we study scientific research from around the world, but this will be a totally Brazilian solution to a serious problem and is an alternative that fits in the pocket', he said.

Claro also spoke about numbers of a research that shows the most of population willing to have an acoustic and thermal window, and not only in the rooms, but also in the living room. 'Consumers want the product but do not want to pay much. Regardless of the material, the window that has better performance takes advantage in the marketplace', he said.

PERFORMANCE LABELS

The labeling systems used in different countries was also one of the topics discussed in VidroSom 2013. The responsible for explain the issue was the French engineer Bruno Mauvernay, International Market Manager of Saint Gobain Glass, a company that is represented in Brazil by Cebrace. 'To improve the energy performance of a building it is necessary the largest possible number of windows, and the choose of best solution involves the labeling system', said Mauvernay, indicating that the performance label is the ideal alternative to promote products with best performance. 'It is possible to greatly reduce energy consumption by using efficient options and, in this scenario, windows can play a significant role', he added.

The engineer presented the label template adopted two years ago in the UK, where the minimum performance level of a window is the 'C'. And soon, all products will have to reach the requirements of level 'B'. 'Due to success, the French association of windows wants to adopt the same system', he said. In addition to the British standard, Mauvernay presented the model of the U.S. label that indicates only the minimal performance but does not divide the product by class. The Australian model, who presents ratings for the heat and for the cold. And the Spanish model, which indicates the product performance in summer and in winter. 'For Brazil, and more specifically for the tropical climate, thermal comfort will predominate using the new Brazilian labeling', said the Frenchman.

Engineer Bruno Mauvernay

ACOUSTICS OF FACADES

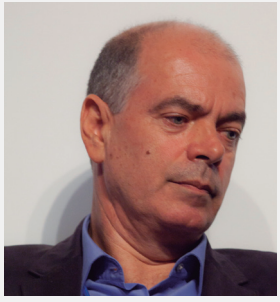
Architect Marcos Holtz

Another speaker of the event was the architect Marcos Holtz, managing partner at Harmonia Acústica, who began his presentation stating that the city has to be taken into consideration when designing the building. 'You need to know the type of sound that will be insulated for specify the right solution. No use trying to increase the size of the glass without improving the frames in the same proportion', he said. Another difficulty is the great difference between the construction systems used in Brazil, which does not happen in Europe and the United States, for example.

NOISE POLLUTION AND MY LIFE

Estefany Daniela Yunes Pimentel and Evandro Evair Condori Colque, 9 years old, and Leonardo Soares Santos, 10 years old, elementary students from state school Oswaldo Cruz, São Paulo, were the winners of the 5th edition of the competition 'The noise and my life ', promoted by VidroSom and had the support of companies Divinal, Inox-par and Fise. The competition had the participation of elementary students, with a total of 350 inscriptions. 45 works were selected and exposed to the congressmen. The authors of the three best designs received a notebook and also educational toys offered by the sponsors Attenuates Sound and Cebrace.

Winners of the contest receive awards



Edison Claro de Moraes - Businessman graduated in Economics with specialization in Materials Management from Fundação Getúlio Vargas. Postgraduate in Marketing from ESPM-SP. With 30 years' experience in acoustic solutions for frames, is director of Atenua Som. Actively participates in international congresses and fairs. Leads the development of unique methodologies for leveraging applied studies in acoustic solutions.

Bruno Mauvernay – Graduated in 2007 at the University of Toulouse, in France. Held in the same institution his PhD in Materials Science. Upon completion of his doctorate entered in Saint Gobain, where worked for three years as a researcher of solar control glazing with high performance and, in 2011, joined the staff of International Marketing. He currently serves as manager of International Markets, responsible for the residential market in southern Europe.

Marcos Holtz - Graduated in architecture in Fundação Armando Alvares Penteado (FAAP-SP). He worked as an architect, developing projects of houses, commercial and residential buildings, hotels and airports. He researched the acoustics of buildings and joined at Harmonia Acústica, office of Acoustic Design and Consulting.

Bruno Mauvernay was honored by the president of AFEAL, Lucínio dos Santos Abrantes

Antonio Antunes, AFEAL treasurer, handed homage to architect Marcos Holtz

Edison Claro received a tribute from the hands of ex-president of AFEAL, Luiz Lucena

Works that were selected as finalists in the competition 'Noise pollution and my life' were exposed in Congress

The 'Human Sustainability' project, supported by AFEAL, also took her place in the Congress AFEAL'30. In the exhibition area was the portico 'A Window for the Peace' and all present were invited to touch a button that turns on a light on top of the structure. This window has a switch that counts all the votes of those who accept to give a chance to the peace

Quality and acoustics of

The first debate of the second day of the Congress AFEAL'30 addressed the importance of reach the standard of ABNT NBR 15.575 to improving the quality of frames industry, acoustic comfort and the role of the consumer as inspection agent. Participated in the round of discussion the engineer Fabiola Rago, AFEAL's consultant, Antonio Cardoso, frames consultant, Carlos Henrique Mattar, Marketing Manager of Cebrace, and the speakers Mark Holtz, Edison Claro de Moraes and Bruno Mauvernay.

Cardoso said the industry is already moving and improving the quality of frames that are offered to the consumer. 'And the acoustics is one of the primary requirements when it comes to frames. According to the room - bedroom, living room, kitchen - the height of the apartment, in the case of buildings, the location and surroundings, the noise level changes and interferes directly in acoustic environments. All this must be taken into account when specifying a window', said the consultant.

Homebuilders, according to engineer Fabiola Rago, have begun to question the frame manufacturers about the acoustic performance. 'Those who followed the development of ABNT NBR 15.575 knows the struggle that was to introduce the subject of acoustics. And since the rule went into effect in July of this year, has greatly increased the number of SindusCons in Brazil who applied for lectures, to talk about how the market should start demanding a better service and how frames are prepared to meet the new requirements'. And reiterated: 'The industry needs to mobilize and improve the quality not only of the products of a high standard but also the simplest, such as those offered for the program Minha Casa Minha Vida'.

'And how will this be monitored?', asked the audience. Fabiola explained that there is no regulatory body. The consumer will begin to realize the excessive noise in your dorm, which prevents him from sleeping, and begin to demand their rights, complaining to the builder and using the Code of Consumer Protection. 'In Europe, all manufacturers are monitored in questions of performance,' added Bruno Mauvernay.

For Edison de Moraes, compliance with the standard is the will of all. 'The standard will bring to civil construction sector a qualitative leap and, therefore, it is necessary to

make it public. The new rules need to be published for all to know their rights and demand them'. He also stressed the importance of the consumer to know what are buying, what is the performance of the product they are bringing to home.

Marcos Holtz warned those present about what happens in Brazil. 'It's a very unfair competition. There are builders who invest in engineering and labor, hiring great professionals - engineers and consultants. While other enterprises have poorly prepared engineers, which are poorly paid, and sell their products at the same price. And what happens is that, in most cases, the consumer cannot tell the difference when visit the model apartment. He will just realize the various problems only when are already living in the new house'

While the Brazilian market will appropriating the recent standardization to ensure the performance of new buildings, in European countries, for example, there are already rules for reforms too. Moraes said that people buy performance and often only realize the cost of bad choice years later. 'The reform market is very bustling, just look at Sao Paulo. But we have no standard for reform yet and when that happens, I believe the market will take another leap', he said.

Engineer Fabiola Rago, AFEAL's consultant

Antonio Cardoso, frames consultant

Edison Claro de Moraes, owner of Atenua Som

Engineer Bruno Mauvernay

Architect Marcos Holtz

Carlos Henrique Mattar, mediator of the debate

Trip by Loeb's architecture

One of the top names of Brazilian architecture presented the portfolio of works signed by her office

The architect Roberto Loeb, holder of the office Loeb Capote Architecture and Urbanism, began his lecture at the Congress AFEAL'30 commenting that the one of the main issues surrounding the work of the architect is dealing with light, heat, cold and winds. 'There is a large range of possibilities for the use of aluminum frames. The frame is a structural element that holds the glass in the facade and has to withstand factors such as sunlight and temperature variations. In some projects we study the behavior of aluminum for closure of large areas', said the architect.

To illustrate his work, Loeb presented some cases. The first was the Eco Commercial Building (ECB), which functions as a space for events and meetings for employees of Bayer. 'The goal was to develop a standard building, where they were represented in its structure all products of Bayer that are used in the construction. The building is in a wooded area and, therefore, was designed to integrate with the landscape', he explained. Different elements were employed to ensure the sustainability of the building, with the goal of gaining LEED Platinum certification.

'Among the solutions adopted are the water mirror that stores rainwater and works to keep the rates of temperature and humidity nice, translucent polycarbonate panels that let in natural light and sealants with low emission of volatile organic compounds', detailed the architect, noting that another feature of the work was the local traffic. 'We realized that the building did not have access to the opposite side of the Guarapiranga dam. So, it was proposed to build a movable bridge with six feet wide supported on two islands in the lily pad format', he explained.

Loeb also presented the project of the Data Center of the bank Santander, a work of 120,000 m2 that was built with the possibility of future expansion. 'The building is a box with fully isolated sides for safety guarantee. The structure has a slab with almost 50cm thick supported on concrete cones', said the architect, emphasizing that all positioning work of equipment and pipeline crossings in indoor environments was very hard. 'This difficulty was due to the problems of coordinating different designers', he said.

Architect Roberto Loeb

The headquarters of the Knorr-Bremse was another project discussed during the lecture. With 35,000 m2, the factory was designed following the concept of full transparency and visual contact between administrative and production areas. 'The facades are composed by perforated aluminum, which allow the attenuation of direct contact with sunlight and a good view of the internal environment to the outside, so typical of the Brazilian colonial architecture', said the architect, commenting that the concept of this project was 'a boat moored at the pier, where employees of the administrative sector has contact with the sea-works'.

The distribution center of Natura, opened in 2001, now is going through an expansion and has as one of the concerns the use of environmentally friendly materials, however Loeb said the biggest benefit of sustainability is a human issue. 'We seek architectural solutions that benefit the employees of the factory', he said. Also was presented the project of the Center for Jewish Culture, which has the particularity a gain of up to 3°C in its interior through different angles of the brises installed on the facade. The exhibition space Itaú Cultural and the building of company Sicpa were the last projects presented by the architect during the lecture.

Auditorium packed to accompany the presentation of the architect Roberto Loeb

Loeb was honored by the chief secretary of AFEAL, José Sabioni de Lima

Loeb detailed works of his office

Roberto Loeb - Graduated in Architecture and Urbanism at the Mackenzie Presbyterian University, and later, was professor of projects in the same college. Participated in the 'Gegran - Executive Group of Greater São Paulo', team which sets the parameters and specifications for the characterization of the metropolitan region of São Paulo and the implementation of 'PDDI - Integrated Development Plan'. He created for the Government of the State of São Paulo the model of Poupatempo. He received in October 2003, the award 'Arquiteto do Bem', offered by the Municipality of São Paulo.

Design solutions

The Italian architect Luca Bertacchi exhibited alarming information about the squandering of the planet by construction

Architect Luca Bertacchi

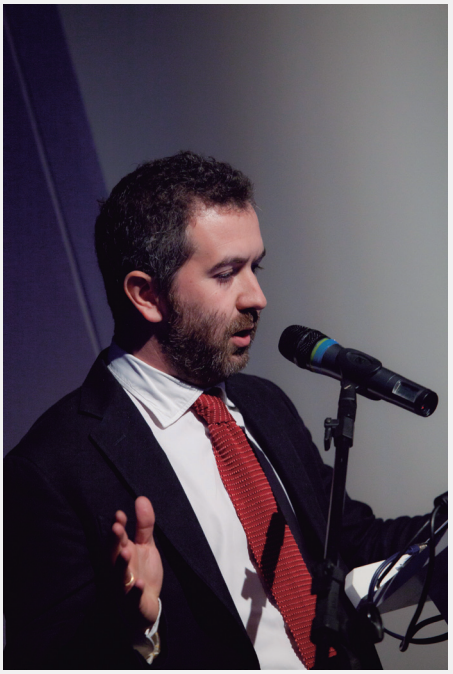
To prove the urgency of sustainable architecture, the Italian architect Luca Bertacchi, representative of the office Mario Cucinella Architects, impressed the audience with numbers: the earth, he said, has 145 billion m2 of buildings that impact the environment with emissions of 15 gigatons CO2, equivalent to 47% of total emissions. More: in 2030 this number will be increased by more 73 billion m2 of buildings, when the planet will reach the most critical point of no return, and the temperature may rise to 2°C, reaching 6°C in 2050.

'This scenario has solution. It is easy, but requires a change of perspective', said Luca, referring to the architectural design and the steps to construct buildings energy efficient. That's what made the MCA office in Ghana, to design the first building to receive LEED certification in western Africa - work that will be completed in October 2014. The path chosen by the team was to protect the facades of 20,000 m² of offices, with a study of the impact of light and sunshine. 'Inspired by the local homes of clay, we imagine something very simple. We create 124 columns with different angles and eaves that allowed protection up to 50% against insolation of 2,000 m² of aluminum and glass facades. Furthermore, we obtained 48% cost reduction. The facades were designed using only building materials available in the country. When the windows are open, the air circulation in the central atrium of the building occurs, collaborating with the thermal comfort of indoor environments', explained the architect.

To design a building in Algiers, Algeria, region of hot and dry weather, the MCA was to seek lessons from Islamic architecture. The parametric tools were used to close the intersection of extracted forms of local architecture. With this, the new headquarters of telecommunications agency ARTP was inspired in the format of dunes and desert landscape. 'We designed more form or less form, depending on the sunlight falling on the concrete structure', added Bertacchi. The iconic construct was designed from the bioclimatic architecture through natural cooling techniques. Its aerodynamic shape, convex in the north to divert hot at noon and concave to capture the cool night breeze winds, promotes natural ventilation of the building.

The 3M building, in Milan, has the ideal construction form and orientation that enables efficient environmental control. The north, east and west facades are designed with special glazing and shading systems. 'In the facades we used anodized aluminum with different positions, protecting the environments of sunlight. The building seems to have no definite shape, the design guaranteed 66% reduction of direct solar radiation', explained the architect. The south face was drawn with a series of terraces that create shaded areas and can also act as a protecting barrier against extreme weather changes in summer and winter. 'The context analysis led to the choice of active solutions in the roof, where are installed photovoltaic panels that, in addition to producing energy, give the building an technological aspect', he added.

Another project presented by the architect was the multifunctional center for the residents of the village of Um al Nasser, located in Gaza. The complex houses 150 children from the local Bedouin community and was developed by the partnership between the MCA and the ArCò. The multifunctional structure is inspired in the Bedouin camps, wherein the tent was replaced by a broad coverage that folds on itself. The horizontal lines of the typical fabric of the region are represented by brise soleil of wood that permits control of solar radiation. The building technique predicted in the walls the use of a wood structure allied to sandbags, which allowed the use of local labor. The school also has a photovoltaic system that allows the operation of the facilities independent way from the power grid.



Arquiteto alertou sobre problemas ambientais...

...and showed how the architecture can be more sustainable

Bertacchi received tribute from the hands of ex-president of AFEAL, Roberto Papaiz

Luca Bertacchi - Italian architect representative of the Mario Cucinella Office Architects (MCA), which is based in Bologna. With over 20 years of professional practice, the MCA has developed extensive experience in the design of architecture and urban planning, with special attention to energy issues and environmental impact of buildings.

Technology, sustainability

The second round of discussions at the last day of the Congress AFEAL'30 counted with the participation of José Sabioni, director secretary of AFEAL, of Luiz Carlos Santos, Technical Director of CDA Metals, and of the architect Luca Bertacchi, representative of Italian office MCA and speaker of the event. The mediation was made by the architect Mario Biselli. Between the topics that were discussed, highlighting for the sustainability issues.

For Bertacchi, parametric design enables to control aspects of architectural design which was not possible before, such as variables and performance, finding the best solutions. The parametric design can also be applied to environmental issues. But he warns: 'The use of technology in architecture is a plus which works but does not replace the principles of good design. It is a contemporary instrument that actually increases the quality of the projects, but it is necessary to know how to use it to achieve the best outcome for both the construction and the environment'. He added that the technology does not replace the design of the architect: 'It should be used only as an additional tool in the workplace, facilitating and improving the results you want to achieve'.

José Sabioni, chief secretary of AFEAL

Luiz Carlos Santos, representative of CDA Metais

and quality of facades

Architect Luca Bertacchi

Architect Mario Biselli, mediator of the debate

Sabioni added, noting that it is a yearning of user to have maximum comfort in the environment. 'Sustainability is of paramount importance, especially when prioritizes the welfare of human beings', he said. According to him, there is a concern of the input market to meet the existing demand and quality. 'The supply of metal in Brazil can meet demand. The greatest difficulty in the sector at this time, perhaps is the to answer to deadlines, which are becoming shorter and are linked to major events such as the works for the World Cup in Brazil and then the Olympic Games in 2016, headquartered in the city of Rio de Janeiro', he noted.

Sabioni commented that Brazil is building large projects, objects of international investors and with a global profile in relation to architectural form and performance. 'What is being done, and it is no longer today, is that manufacturers of frames and facades participating in these projects are empowering to care not only of inputs but also of knowledge. There was a very strong growth of new projects facades, consultancies and specifications, which have greatly improved the quality of the sector. All this coupled with technological exchange of international partners. We are in sync with what is best in the world', he added.

Debate between sector entity

After a series of lectures commanded by professionals from the construction sector, the participants of Congress AFEAL'30 could follow the debate between representatives of various sector entity construction. In the 'Split of Responsibilities', last attraction of the event, were discussed the responsibilities of each link in the constructive process. Were present at the meeting Lucínio Abrantes dos Santos, president of AFEAL, Mauricio Bianchi, vice president of SindusCon-SP, Waldir Abreu, Director of Economic Affairs of Anamaco, Paulo Magalhães, vice president of ABAL, Eduardo Castro Mello, director of Sinaenco, Henrique Cambiaghi, chairman of AsBEA, Nelson Firmino, frame's consultant, Jose Carlos Noronha, coordinator of ABAL's Construction Committee, and Erivan Boff, coordinator of the Committee ABAL Extrusion. The mediation was made by the General Manager of AFEAL, Fernando Rosa.

On her first question, the moderator asked for the participants about the effects of ABNT NBR 15.575. Henrique Cambiaghi began his speech by stating that windows with three leaves should be banned. 'I hope that now, with the Performance Standard, decrease the specification of this typology. Up because the price of integrated window is only 0.5% higher than the sliding frame on the total cost of the construction. It's too little!', he said. He argued that the execution of the construction shall be assumed by the architect specified, saying that 'we need frame's consultants, as well as acoustic professionals, it is not correct to impute the architect responsible for something that is not a specialist'. He reminded that it is still difficult for the architect to use a BIM as regards frames, since their specifications are not cataloged in the program.

José Carlos Noronha reported that Belmetal initiated a national program of lectures about the Performance Standard and its relation to ABNT NBR 10.821, rule for External Casing for Buildings. 'I understand that most of the frames produced in the country reaches the threshold of sound isolation provided by the standard', he said, adding that it is possible to have in the future product offerings for the segment of MCMV - Minha Casa Minha Vida - in the same conditions produced for the medium and high standard. Erivam Boff added, saying the industry today, while addressing compliance with technical standards, speaks at PSQ - Sector Program of Quality Aluminium Frames. 'It's up to us to move forward as quickly as possible, in order to comply the standards', he said. He was accompanied by Lucínio Santos, that called on manufacturers to begin immediate to producing acoustic windows , as provided in section 4 of the standard due to come into force in early 2014.

For Mauricio Bianchi, 'not lack capacity or technical knowledge to produce with quality and in accordance with standards'. According to him, the Performance Standard arrived late, but came true. 'No matter how many decibels will be reduced, we need to sleep, regardless of social class', he said. In critical tone continued saying that the windows of MCMV not cut any sound. He proposed that the federal government, specifically the Ministry of Cities, should define materials and design for the developments of the program, according to ABNT NBR 15.575.

Then, the mediator released another question: 'What is missing so that the non-conforming products are banned from the market?'. Bianchi said the SindusCon-SP fights for years against the non-compliance materials and supports any initiative to ban these items. He suggested: 'Constructions that use materials outside of the standard should not get financing'. Cambiaghi added, proposing that it should occur when the execution of the construction disrespects what it was designed.

Lucínio Santos reported that AFEAL initiated a series of actions against non-compliance, including the issuance of a letter to members for encouraging the participation of

ends the AFEAL'30 Congress

From left to right: José Carlos Noronha, Paulo Magalhães, Nelson Firmino, Waldir Abreu, Mauricio Bianchi, Henrique Cambiaghi, Eduardo Castro Mello, Erivan Boff, Lucínio Abrantes dos Santos and Fernando Rosa

companies in the PSQ and their qualification, under penalty of exclusion from membership. 'Officials from the technical area of the association fulfill a program of visits to construction materials stores, guiding the sales department and handing the book 'Buy Right! To Sell Quality'. The aim is to enlighten for the professionals on the importance of informing consumers to buy only qualified frames with the PBQP-H', he said.

Given these initiatives, Paulo Magalhães reminded that ABAL is engaged and supporting AFEAL in their actions, and suggested holding national consumer awareness campaigns. 'As the shopkeeper does not manufacture anything or is expert, they use the argument that did not know that the product was out of standard. This output, common in the market, must be eliminated', suggested Valdir Abreu, translating the policy of Anamaco and adding that the Consumer Protection Code establishes responsibility between manufacturers and retailers. 'Who is buying and always is duped are the consumers with lower financial condition', he said.

Segundo ele, não são todas as lojas que podem ter em exposição os vários modelos de esquadrias de alumínio. O consumidor compra pelo catálogo e, quando instala, descobre que a janela vibra, entra água, não corre. 'Vamos acabar com a hipocrisia e tirar esses produtos das lojas, fechar fábricas', propôs o diretor da Anamaco.

Nelson Firmino pointed out that compliance is legal issue. 'The knowledge of technical standards have to reach everyone, including the consumer', he said, adding that architects should use the knowledge of the consultants, since many problems can be solved in the design phase and then in testing labs as ITEC, IPT and Falcão Bauer. He reported the case where the facade of one of the buildings of Petrobras, a large, ended up being tested in the United States for lack of proper camera in Brazil. 'The ITEC currently have several chambers for testing the facades, different situation from that moment', he said.

When Mauricio Bianchi was asked about the criteria used by builders for choosing suppliers, responded that Sindus-Con-SP and AFEAL could put together a list of qualified companies in aluminum frames. 'The builders are unaware about the potential which aluminum frames can offer us', he said. Near closing, Fernando Rosa lamented the end of the debate, saying it would be possible to maintain the pace of the conversation for a long time. Among the topics that could be discussed, the moderator mentioned the qualification of skilled labor, highlighting some of the actions undertaken by AFEAL.

President praises content

Satisfied with the knowledge transmitted, Lucínio Abrantes dos Santos used the closure of the Congress for thank the participation of all

After two days of intense debates and lots of information, came to an end AFEAL'30 Congress. At the closing ceremony, president Lucínio Abrantes dos Santos highlighted that were presented by Brazilian and foreign 's, the most current architectural solutions in steel frames and aluminum facades. 'We take these teachings to our drawing boards, to the factory floor, to the construction site, knowing that we will be producing the best', he said.

According Lucínio, the main beneficiaries with the event were the architecture of the country and the energy efficiency of buildings. 'Winning also consumers and users, who can enjoy environments with greater thermal and acoustic comfort. I conclude by thanking the 's and participants of this conference, highlight of the celebrations of the 30 anniversary of the AFEAL. I also thank the sponsors and those who contributed to the success of the event. Declare terminated the International Congress of Constructive Solutions and Architectural Aluminum Frames', he added.

Lucínio Abrantes dos Santos, AFEAL president

AFEAL 30

CONGRESSO INTERNACIONAL DE SOLUÇÕES ARQUITETÔNICAS E CONSTRUTIVAS EM ESQUADRIAS DE ALUMÍNIO

News in evidence

Innovations in the industry are featured at the Bureau of Technology, an exhibition which was part of Congress AFEAL'30

An exhibition of the main novelties of the sector occurred in parallel with the International Congress of Architectural and Constructive Solutions Carpentry Aluminum - AFEAL'30. The Bureau of Technology, Space reserved for sponsors and supporters of the event companies disclose their innovations and information, attracted the attention of those present during the two-day Congress.

Always packed in the pause periods between lectures, the space served as a showcase trends in the aluminum frame market. Much of what was discussed in their presentations by professionals in the auditorium can be seen in the exhibition. Besides other source of knowledge which the participants could enjoy, the Bureau of Technology also served as stage for entrepreneurs to do business.

Award 'Destaque AFEAL 2013' is given to the prefecture of Atibaia

Municipality located 50 km from São Paulo will host the new headquarters of ITEC

Lívio Giosa receives the trophy 'Destaque AFEAL' from president Lucínio Abrantes dos Santos

The city of Atibaia, a municipality located 35 minutes from São Paulo, was one of the institutions chosen to receive the Award 'Destaque AFEAL 2013'. The Secretary for Economic Development of the city, Livio Giosa, represented the mayor Saulo Pedroso at the event. The effort of the government of Atibaia to received the headquarter the new ITEC - Technological Institute of Construction - justified the award. Throughout the year, several meetings defined the transfer of lab from São Paulo to Atibaia. The bill provides for the transfer of a plot of 28,000 m² by the prefecture, where will be built the new structure of ITEC.

'Given the increasing scope and high demand required by the construction, the facilities of the institute needed expansion. The AFEAL and ITEC contacted the town of Atibaia, who readily accepted the request and released a concession of the area', said Livio. The president of ITEC, Harry Nelson Wottrich, explains that Atibaia was chosen to house the laboratory by its geographical position in relation to the access roads and the commitment of local government to receive technological entity. The land is located in Jardim Imperial neighborhood on the fringes of Fernão Dias highway. Access is made easier for businesses in the state and the Vale do Paraíba by Dutra and Don Pedro. The region does not have vehicular caster and restrictions on truck traffic, which facilitates the entry and exit of materials for testing.

For the Atibaia's mayor, Saulo Pedroso, all the work of the government is justified by the benefits that the organization will add to the municipality. 'With the arrival of ITEC, we put the city at a high level for discussion and action. Atibaia grown and developed a lot in the construction sector, which attracted many investors to the region. Bring to the municipality an institute credibility and that directly affects these investors is a very large gain. Not to mention the supply of skilled labor', said the mayor, adding that the main advantage is that the laboratory will encourage the economic development. 'The frequency of the companies that need and seek ITEC is a factor that interests us, because these industries may eventually settling in Atibaia and thus create more jobs and income for the city', explains.

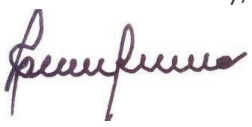
Currently, ITEC conducts tests on window frames, facades, railings and corrosion in components. 'The new facilities of the institute in Atibaia will allow the extension of the scope of testing to other areas of construction, such as concrete and glass, among others. Today, the physical space in which we operate prevents the construction of new cameras', says Wottrich.

Dear,

I thank on behalf of AFEAL, the sponsors of the event by confidence in our International Congress of Architectural and Constructive Solutions Aluminum Frames. The collaboration of these companies was key to the completion and success of the meeting. The association is honored to count on partners: ***Alcoa, CDA, Sapa, Schuco, CBA, Cebrace, Olga Color, Projetoal, Sika, Belmetal, Dow Corning, Alpex, Divinal, Prodec, Selta Metals*** *and* ***Somfy****. We hope to continue this partnership in future opportunities.*

Also take this opportunity to acknowledge the presence of the professionals who attended the event, either as 's or who were to attend the presentations. The participation of all was of paramount importance to achieve the main objective outlined in initial planning of the Congress, the exchange of knowledge and information.

Cordially,



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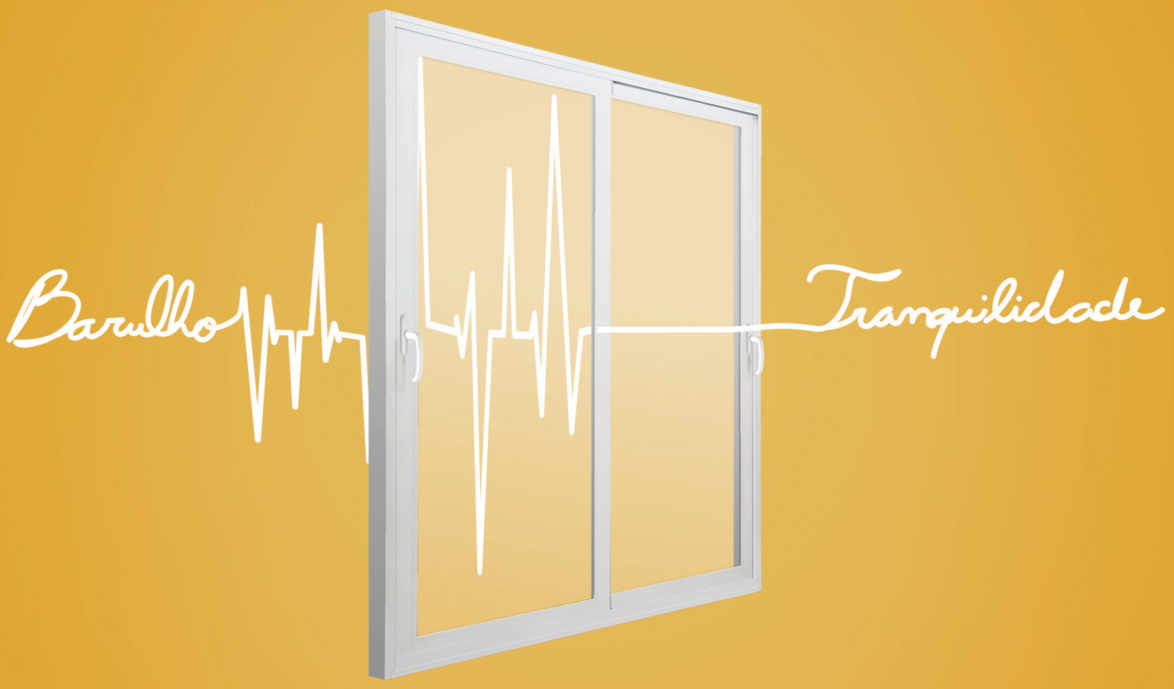

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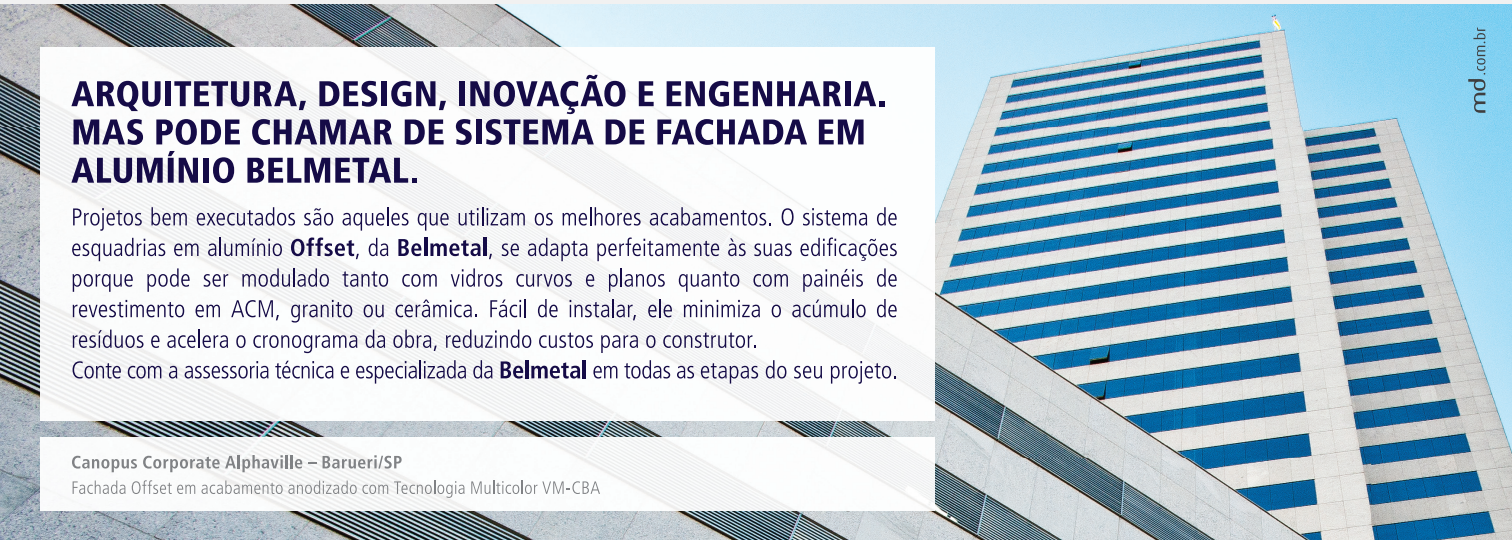

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