

12TH INTERNATIONAL BRICK/BLOCK Masonry CONFERENCE



FINAL REPORT ON THE 12TH IBMAC MADRID 2000

As you will recall, the 12th International Brick/Block Masonry Conference was held from the 25 to 28 June 2000 at the Palacio de Congresos in Madrid.

This 12th IBMAC was a resounding success and the majority of visitors and speakers all agreed that it has been the best conference held to date in terms of its high scientific level and its painstaking organization.

250 experts from all over the world participated in the Conference, speaking on a wide range of subjects, such as:

- Restoration, repair, refurbishing and renovation.
- Restoration of listed buildings
- Test-research methods / laboratory materials
- Numerical simulation
- Bridges
- Durability and detection of defects
- Energy savings
- Sustainability
- Economic housing
- Clay masonry
- New masonry materials
- Reinforced and prestressed masonry
- Expansion and contraction
- Architectural design: brick, block and clay mortars
- New design regulations and standards
- Project management
- Construction and erection
- Innovative masonry
- Earthquakes
- Civil engineering applied to masonry
- Quality control of masonry
- Building instruction



Goals

These prizes have been called to acknowledge all outstanding works in brick, adobe, natural or artificial stone masonry and all other baked material, which have been projected and supervised by an architect, and concluded in between January 1997 and December 1999.

All Projects Will be expressly planned and designed for the 12th. International Brick/Block Masonry Conference, 12th IB2MaC Madrid 2000.

The Thematic Areas will be the following:

A. Building: Housing. Three Separates:

1. Fitting and rehabilitation.
2. Traditional Construction.
3. New Masonry Construction Technologies.

B. Building: Public Building and Monuments. With another three Separates:

1. Fitting-Rehabilitation
2. Traditional Construction.
3. New Masonry Construction Technologies.

C. Project: Earthquake resistant housing for developing countries. Also with Separates:

1. Fitting-Rehabilitation
2. Traditional Construction.
3. New Masonry Construction Technologies.

The Architect or Team of Architects can only submit one Project to each one of the nine Separates.

The Prize Awards will consist of one or two accesits for each of the three Thematic Areas, which make a total of Three Main Prizes and Six Accesits.

Project Submission

All Projects will be submitted and therefore, backed by the corresponding Official Colleges or National Associations for Architects of which the author is a member, or by the Construction Department or attached Departments of the Politechnical Architecture Schools of the Universities.

Formes and other papers

It is compulsory to use the enclosed Form. Each project will consist of a maximum of three one face DIN-A3 sheets, UNE A4 for the literature.

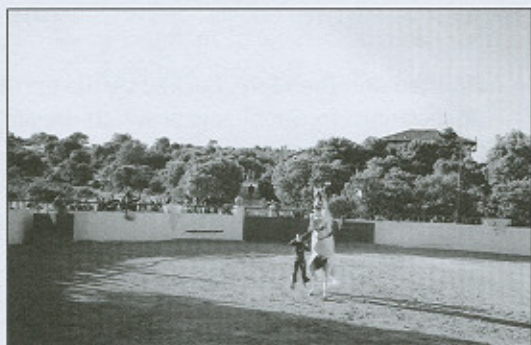
- Technical rules: Title, in bold print and capital letters, and the names in full of the author/s, position, place of work, address, telephone, fax and e-mail number, as well as of the promoter, constructor-contractor and consultant, Also the Final Budget, etc... Enclosed Form
- Methodology
- Results, clearly and precisely presented.
- Conclusions.
- Brief summary of the reasons why the Project is submitted.
- Ground plans, elevation plans, section and side plans, and other construction details.
- Brief photographic report.

The Projects shall also be sent with a backing of film negatives, slides, diskettes or CDR.

The text and other literature must be written in Spanish or English.

A letter from the architect author/s of the Project, with a clear acceptance of the Regulations of the Prize Awards, should be included in the envelope.





Acceptance committee

Will be formed by:

- 2 (two) entitled architects and one deputy from the Spanish Ministry of Public Works.
- 2 (two) entitled architects and one deputy from the Politechnic University of Madrid.
- 1 (one) entitled architect and a deputy appointed by the Main Board of the Spanish Association Architects.

Among the members of this Committee, the President will be elected by vote, and the Secretary, present as full member with vote and voice, shall be the Head of the Architecture Quality Service Department of the Spanish Ministry of Public Works.

The President will have the Casting Vote.

This Committee will study the Projects submitted and shall select five from each one nine Separates. In order to reach a conclusion on the works accepted, the resulting vote will only be valid, if at least four of the members the Committee are present.

If the number of Projects submitted is high enough, the deputy members will automatically become entitled members.

Jury

Will be formed by the following persons:

President of Honour

The Minister of Public Works

Vicepresident of Honour

The Director General of Housing, Architecture and Urban development.

The President of the Main Board of the Spanish Association of Architects

The Director of the Politechnic School of Architecture of Madrid

Executive President

Mr. G. Mingo, Vice-Director General of Architecture of the General Office of Housing, Architecture and Urban development.

Members

Two Spanish architects. J.M. Adell, Professor of the Construction Department of the Politechnic School of Architecture of Madrid and F. Ramos, Professor of the Construction Department of the Politechnic School of Architecture of Catalunya.

Two worldwide known foreign architects: R. Piano, Italy, and C. Mijares, México. The Secretary will be the same as of the Acceptance Committee, with voice with no vote.

The Jury will give a verdict on a maximum of forty five Projects, which have been previously selected by the Acceptance Committee, or any other one which, as an exception, might be considered of interest among all those submitted. The agreement must be reached by majority. In case of tie on the second round, the President will have the casting vote.

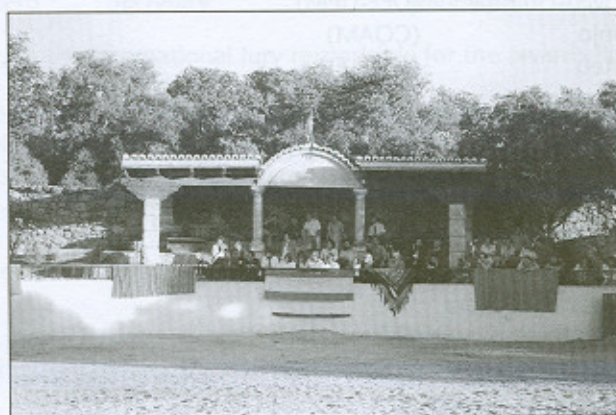
The Awards may be declared void. The verdict of the Jury shall not be open to appeal.

Submittance and deadlines

The Project shall be addressed to the Construction and Architectonic Technology Department. Polotechnic School of Architecture of Madrid, Avda. Juan de Herrea, 4, 28040 Madrid, Spain.

The deadkine will be February 15th, 2000.

The verditv of the Jury shall be March of the ayear 2000, and the authors of the works accepted will be immediately informed. The result will be officially divulged and published.



Awards

The Main Prizes will be awarded with a statue, by the Spanish sculptor Miguel Angel López Calleja, with SPP. 1.000.000.- each. The Accessits will be awarded with a Diploma which shall be handed to the architect/s author/s of the Project or works.

Also, figurative plates will be distributed to the two Building prizewinners, which may be displayed in the buildings.

The Awards will be handed June 27th, 2000 at 18.30 hours, during the Congress, in the Exhibition Room of the Spanish Ministry of Public Works, Paseo de la Castellana, 67, Arquerías, Madrid.

Clausure for rejection

The members of the Acceptance Committee and the Jure are not entitled to submit any Project of which they are authors, as well the full time associates and co-operators of these two bodies.

1. ACKNOWLEDGEMENT TO THE UNIVERSITY (DCTA-UPM) AND ORGANIZING (TILESA) COMMITTEES

Professor Adell, the Chairman of the 12th IBMAC, wishes to express his gratitude to the many people, companies and organizations who have largely contributed to the success of the conference.

The chairman would particularly like to acknowledge the work of the Organizing committee:

Rafael Astudillo	(CNICCP)
Antonio Castrillo	(COGAAT)
Luis de Villanueva	(DCTA-UPM)
Antonio Más-Guindal	(DEE-UPM)
Juan Monjo	(COAM)
Elena Orteu	(CSCAE)
Rafael Salgado	(DGVAU)

Acknowledgements also go out to the Organization's Secretariat for their unstinting work:

Rosa Bustamente
Lucia Calco
M^a Dolores de la Piedra
Carlos de Sebastian
Angeles Ortiz
Leire Salgado

We would also like to mention the invaluable assistance of all the members of the Permanent International Technical Committee for their wide-ranging experience and support.

2. ACKNOWLEDGEMENT TO THE DR. ARCHITECT CARLOS MIJARES

The chairman of the 12th IBMAC would particularly like to express his gratitude to the Mexican architect, Carlos Mijares Bracho, for his original paper:

"El quehacer arquitectónico: del oficio a la poética constructiva" which could loosely be translated as *"Architectural duty: from trade to poetic expression"*

This paper greatly enlightens the future of masonry, and reveals the original and creative nature which overflows in all of author's brickwork.

The 12th IBMAC in Madrid managed to achieve its objective of interrelating and juxtaposing the technical world with the artistic and engineering with architecture in brick building.

3. ACKNOWLEDGEMENTS FOR THE 1ST MASONRY ARCHITECTURE AWARDS

Professor Adell would like to offers his acknowledgements to Sr. Fernando Nasarre, General Director of Architecture at the ministry of Public Works, for the creation of the first *Masonry Architecture Awards* held at the 12th IBMAC.

Acknowledgements are extended to the Selection Committee, formed by:

G. Alcázar	Chairman	Ministry of Public Works
J.L. Arana	Committee Member	ETSAM
M. Casariego	Committee Member	CSCAE
E. Hermoso	Committee Member	ETSAM
E. Larrodera	Committee Member	Ministry of Public Works
E.M. Tercero	Secretary	Ministry of Public Works

and, similarly, to the International Jury responsible for the awards, formed by:

G. Mingo	Chairman	Ministry of Public Works
J. M. Adell	Committee Member	UPM (12 th IBMAC)
C. Mijares	Committee Member	Mexico
E. Orteu	Committee Member	CSCAE
F. Ramos	Committee Member	UPC
E. M. Tercero	Secretary	Ministry of Public Works

The selected projects were exhibited at the Ministry of Public Works Arcade throughout the Conferences and the prizes awarded to the winners at the end of the same.

The chairman of the 12th IBMAC wishes to send warm congratulations to the winners of the First International Awards in the three different sections:

AWARD FOR NEW HOUSING WORK

Detached house in Pozuelo de Alarcón (Madrid)

Architects: Emilio Espinosa Marin, Guadalupe Dominguez and Adame Cobos.

HONOURABLE MENTION - HOUSING RECONSTRUCTION

Reconstruction of houses at the Numancia archaeological site, Garray, Soria

Architect: José Francisco Yusta Bonilla

HONOURABLE MENTION - TRADITIONAL BUILDING

32 dwellings, garages and shops in Zaragoza, Block 12, Estate 51.1

Architects: J. Manuel Castillo Malo and Elena Vallino Gil

AWARD FOR PUBLIC AND MONUMENTAL BUILDING

Music Conservatory/Professional Dance School, Palma Mallorca.

Architect: Jaime Coll Lopez

HONOURABLE MENTION - TRADITIONAL PUBLIC BUILDING

Municipal Warehouse and Trade Centre at Quart de Poblet (Valencia)

Architects: Vicente Berna Oltra and Francisco J. Nieto Edo.

EARTHQUAKE RESISTING HOUSING PROJECT FOR DEVELOPING COUNTRIES

Detached house in Cabañas de Montaña, Miranda State, Venezuela

Architect: Domingo Acosta.

The Jury of the First International Masonry Awards has wished to pay homage to the following renowned architects for their architectural and building impact on 20th century masonry:

Antoni GAUDI	(Spain)
Louis KAHN	(United States)
Alvar AALTO	(Finland)
Eladio DIESTE	(Uruguay)
Rogelio SALMONA	(Colombia)
Mario BOTTA	(Switzerland)

4. ACKNOWLEDGEMENTS

FOR THE CONSTRUCTION OF THE MILLENNIUM ARCH

The "Millennium Arch", built to celebrate the 12th IBMAC Madrid 2000, reveals the original contribution of Spanish research within the international technical and scientific world, and demonstrates that masonry can be capable of "defying" gravity at the dawn of the third millennium.

The "Millennium Arch" opens new horizons for safe and economic housing in both the developed and the developing world, regardless of whether these be set in seismic areas. This design solution requires simple prefabrication or on-site building methods, which can be either machine or man-made.

The chairman of the 12th IBMAC has donated the "Millennium Arch" to the Palacio de Congresos in Madrid, so that this may establish an urban landmark set on the pedestrian approach to the conference centre from the main thoroughfare of the Paseo de la Castellana, and also serve the practical purpose of housing advertising posters for forthcoming events at the conference centre.

The designer of the Millennium Arch and Chairman of this 12th IBMAC, J.M. Adell, particularly wishes to express his gratitude for the support shown by all those people, companies and organizations who have generously and enthusiastically collaborated in the raising of the "Arch" in front of the Palacio de Congresos in Madrid, and which was only made possible by the kind offer of the conference centre management (TURESPAÑA) to house the "arch" within the grounds of the centre.

Architect - Calculator:	Concha del Rio
Collaborating Architect:	Francisco Javier Gimenez
DCTA Labourers:	José and Fabian
Master bricklayers:	Jesus Hernandez and Paco
Building Company:	Construcciones Larrea S.L.
Secretary:	Carlos deSebastian. TILESAS
Technical Consultants:	AIA ARQUITECTURA XXI
Site Management:	ALLWALL SYSTEMS

BRICKS:	Allwall "Flowerbrick" ALFAklinker 285x137x49mm INCECOSA (Grupo ALMIRALL)
MORTAR:	M-80 Premixed MEGAMIX
REINFORCEMENT:	HOOPS AND BARS Ø10 mm stainless steel ACERINOX
TRUSSES:	MURFOR RND 5/S-250 stainless steel trusses BEKAERT

5. OTHER ACKNOWLEDGEMENTS

The chairman of the 12th IBMAC would also like to state that the success of the conference would not have been possible without the invaluable collaboration of the following Organizations and Bodies:

- Arquitectos sin Fronteras. Spain
- Asociación Española de Fabricantes de Ladrillo y Teja de arcilla cocida
- Asociación Mutua de Arquitectos de España
- Asociación Nacional de Derivados del Cemento
- Ayuntamiento de Madrid
- Centro de Estudios Universitarios San Pablo de Madrid
- Centro de Experimentación del Ministerio de Fomento
- Colegio de Ingenieros de caminos, Canales y Puertos
- Colegio de Ingenieros Industriales

Colegio Oficial de Aparejadores y Arquitectos Técnicos de Madrid
Colegio Oficial de Arquitectos de Madrid
Comunidad Autónoma de Madrid
Consejo General de Arquitectura Técnica de España
Consejo Superior de Colegios de Arquitectos de España
Departamento de construcción y Tecnología Arquitectónicas - UPM
Departamento de Estructuras de Edificación de la UPM
Dirección General de Arquitectura, Ministerio de Fomento
Dirección General de Turismo, Ministerio de Economía
Instituto Eduardo Torroja de la Construcción y el Cemento
Instituto Español de Cemento y sus aplicaciones
Instituto Español de Rehabilitación
Ministerio de Fomento
Organizadores Profesionales de Congresos S.S. TILES
Patronato de las Escuelas de la Sagrada Familia de Barcelona
TurEspaña
Universidad de las Palmas
Universidad de Navarra
Universidad Politécnica de Cataluña
Universidad Politécnica de Madrid
Universidad Politécnica de Valencia

6. CONCLUSIONS OF THE 12TH IBMAC AND BEST WISHES FOR THE 13TH IBMAC

By way of conclusion of the 12th IBMAC, a round-table debate was held into the future of masonry, chaired by qualified experts in different fields and with the involvement of the attending public, dealing with matters such as:

Refurbishment of listed buildings
Calculation and simulation theories
Tests, techniques and materials
Housing problems

It was agreed:

- That the relevant international organizations be requested to provide greater funding for the refurbishment and conservation of historic buildings and town areas, which were generally constructed in masonry.
- To present a petition to the relevant authorities to save Gaudi's Sagrada Familia Parish School, by moving and refurbishing the same in accordance with the plan presented by the conference chairman.
- To propose that the relevant United Nations organizations promote the development of Earthquake resisting masonry building systems for the construction of economic and safe housing in developing countries.

Prior to the closing ceremony of the Conference, it was announced that the city of Amsterdam would host the 13th IBMAC in 2004, under the chairmanship of Dr. Architect R.W. Martens, Professor at the Technische Universiteit Eindhoven, The Netherlands. Department of Building and Architecture.

In his conclusion to the 12th IBMAC, the Chairman once again expressed his gratitude to all the participants and collaborators who had made the conference possible, and congratulated the next chairman of the 13th IBMAC, offering his best wishes for the success of the same and establishing that the Second Architecture awards would also be convened in conjunction with Madrid.

Madrid, 2000

Signed: Josep M^a Adell. Dr. Architect
Chairman of the 12th IBMAC.

ABSTRACT

The article includes some of the most relevant images of the construction process employed to raise the Millennium Arch as part of the Research and Development of Madrid, which held the 12th IBMAC.

Figures have been grouped into the following items:

- Components (Figs 1 to 8)
- Foundations (Figs 9 to 13)
- Abutments (Figs 14 to 17)
- Arch (Figs 18 to 22)
- Framework and structure (Figs 23 to 26)
- Finishing (Figs 27 to 31)