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Brick and Block Masonry
Trends, Innovations and Challenges

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Table of contents

Preface                                           xxiii
Organisation                                      xxv
Sponsors                                          xxvii

Keynotes

Modern and ancient masonry: Nature and role of the binder
G. Artioli & M. Secco                               3

Multi-scale analysis of masonry structures based on discrete element method
X.L. Gu, H. Zhang, J.Y. Jia, X. Li & G.L. Chen        11

Green building programs in the USA and sustainable design strategies utilizing masonry
C.A. Subasic                                        25

Some considerations on testing and experimental simulation of seismic behaviour of masonry walls and buildings
M. Tomažević                                        37

Analysis of masonry structures

Probability of occurrence of slip failure along head joints in masonry subjected to in-plane loading
M. Asenov, N. Mojsilović & T. Mićić                  57

Backbone model for displacement-based seismic design of reinforced masonry shear wall buildings
A. Ashour & W. El-Dakhakhni                           65

Determination the capacity reduction factor of masonry walls under buckling—a numerical procedure based on the transfer matrix method
T. Bakeer & W. Jäger                                   71

Critical remarks on the use of partial safety factors in non-linear analysis of vertically loaded masonry walls
T. Bakeer & W. Jäger                                    79

Comparative seismic assessment of masonry towers through nonlinear analysis: The RiSEM experience
G. Bartoli, M. Betti & S. Monchetti                   87

Closed form homogenization model for masonry in-plane loaded
E. Bertolesi & G. Milani                               95

Some remarks on the dynamic characterization of historical architectural complexes in the context of seismic performance assessment
D. Brigante, C. Rainieri & G. Fabbrocino                103

Rocking resonance of a rigid free standing block
C. Casapulla                                          111

The relevance of frictional resistances in out-of-plane mechanisms of block masonry structures
C. Casapulla, L.U. Argiento, F. da Porto & D. Bonaldo  119
Dynamic identification analysis for the FE model updating of masonry buildings
S. Churilov, K. Milkova & E. Dumova-Jovanoska

Strength reduction factor for out-of-plane failure mechanisms of masonry walls
S. Coccia, F. Di Carlo & S. Imperatore

In-plane strength under seismic forces of multi-storey masonry walls reinforced by steel ties
S. Coccia, M. Como & F. Di Carlo

Strength of cracked masonry buttresses under horizontal loads
S. Coccia, F. Di Carlo & G. Forino

Cross curves of stability for drystone retaining wall design

A study of masonry walls by boundary element formulation using homogenization procedure
L. de Oliveira Neto, F.B. Mangueira & M.J. Masta

Discrete modelling of masonry structures under dynamic loading
R. Dimitri & G. Zavarise

Quasi-static cyclic testing of partially grouted masonry walls with openings—preliminary results
E.S. Fortes, M.R. Silva, G.A. Parsekian, F.S. Fonseca & N.G. Shrive

Influence of connections in the seismic behaviour of trilithic large blocks masonry structures
D. Foti, V. Vacca & S. Ivorra

Finite element modelling of a hybrid un-reinforced masonry-reinforced concrete wall
F. Frederickx, B. Vandoren & H. Degée

Finite element analysis on un-reinforced masonry walls with openings under lateral loads
Y.J. Hou, X.L. Gu & X. Li

Stochastic spatial modelling of material properties and structural strength of un-reinforced masonry in two-way bending
J. Li, M.J. Masta & M.G. Stewart

Seismic assessment of stone masonry using distinct element method
B. Lipo, A. Genoese, A. Genoese & G. de Felice

Nonlinear macroelement modelling of experimental tests on masonry buildings with rigid diaphragms
M. Mandirola, A. Galasco, A. Penna & G. Magenes

The earthquake performance of stone-masonry basilica churches in Kefalonia-Greece including wall detachment and soil-foundation deformability
G.C. Manos, E. Kozikopoulos, L. Kotoulas & O. Felekidou

New method for determining spacing of movement joints in solid un-reinforced veneer walls
D.R.W. Martens

Comparison of equivalent beam models and refined approaches for the modelling of masonry portal frames
C. Mordant, H. Degée & B. Vandoren

Is Modal Pushover Analysis accurate in estimating seismic demands for unreinforced masonry buildings with flexible diaphragms?
Y. Nakamura, H. Derakhshan, M.C. Griffith & G. Magenes

Comparison of seismic behaviour of façades of colonial churches with and without bell towers
F. Peña, C.E. Cruz & N. García

Seismic assessment of innovative AAC masonry solutions
A. Penna, G. Magenes, A. Rosti, M. Mandirola & M. Rota
Analysis of reinforced masonry structures: Equivalent frame approach with Force-Based Elements
M. Peruch, E. Spacone & P.B. Shing

Evaluation of masonry block structures subjected to foundation settlements using limit equilibrium analysis
F. Portioli, L. Cascini & R. Landolfo

Modelling crushing failure in 3D limit analysis of masonry block structures by mathematical programming
F. Portioli, L. Cascini, C. Casapulla & R. Landolfo

Modelling the mechanical behaviour of vegetable fiber reinforced concrete blocks
M.A. Ramalho & A. Taliercio

Static and dynamic analysis of masonry buildings using a new macroelement within the equivalent frame method
G. Rinaldin & C. Amadio

Application of crude Monte Carlo and adaptive importance sampling in reliability assessment of URM shear walls
H. Salehi, M. Montazerolghaem & W. Jäger

Effect of pier-spandrel geometry on the in-plane response of masonry structures
S. Saloustros, L. Pelà, M. Cervera, P. Roca & D. D’Ayala

Simulating masonry failure using continuous and discontinuous damage models
B. Vandoren

Bond of composites to masonry

Bond characteristics of fibre reinforced mortar in masonry using image analysis
D. Alterman, A.W. Page & J. Kubica

On site composites-to-masonry bond evaluation in presence of rising damp and salt crystallization
G. Cardani, L. Binda, M.R. Valluzzi, P. Girardello, M. Panizza, E. Garbin & P. Casadei

In situ pull-out tests of steel and GFRP injected anchors in masonry walls
F. Ceroni, R. Cuzzilla & M.R. Pecce

Experimental characterization of mortar-based reinforcements with carbon fabrics
S. De Santis, F. Roscini & G. de Felice

On the mechanical behaviour of anchored CFRP-to-masonry reinforcements
M. Fagone & G. Ranocchiai

Testing of bond solutions for UHTS steel strand composites applied to extruded bricks
E. Garbin, M. Panizza, A. Kwiecien, B. Zajac, F. Nardon & M.R. Valluzzi

Influence of mortar coating type on the shear resistance of a GFRP based strengthening technique for brick masonry walls
N. Gattesco & I. Boem

Long-term environmental effects on FRP-masonry bond
W. Lucas, P. Visintin & M.C. Griffith

Durability of FRP-strengthening masonry bricks under hygrothermal conditions
H. Maljaee, B. Ghiassi, P.B. Lourenço & D.V. Oliveira

Bond behaviour between textile and mortar for masonry strengthening
D. Saenger & W. Brameshuber

A study of the debonding mechanism in steel and basalt FRCM-masonry joints
M. Santandrea, I.A.O. Inomached, C. Carlioni, C. Mazzotti, S. de Miranda & F. Ubertini
Study on local effects of aggressive environmental conditions on masonry strengthened with FRCM

C. Tedeschi, S. Perego & M.R. Valluzzi

Building physics & durability

How to recognize the impact of masonry components on housing thermal performance

D. Alterman, A.W. Page, C. Zhang & B. Moghtaderi

The importance of internal thermal mass to the thermal performance of housing

D. Alterman, A.W. Page, C. Zhang & B. Moghtaderi

Experimental investigations on the influence of thermal elements on the structural stability of modern masonry walls

M. Deyazada, B. Vandoren & H. Degée

Methodology for the detection and quantification of the moisture content in ceramic masonry structures

L.D. Domenech, G.P. Cetrangolo, G. Moltini & A.A. Morquio

Creating comfortable conditions in buildings

G.J. Edgell

Probabilistic modelling of the damage induced by salt crystallization in fiber reinforced clay brick masonry

E. Garavaglia, C. Tedeschi, S. Perego & M.R. Valluzzi

Influence of the suction behaviour of calcium silicate units on the properties of masonry under compressive load

M. Graubohm & W. Brameshuber

Retrofitting vapour permeable insulation to traditional brick and stone masonry walls, observations from 15 in situ trials

M. Jenkins

Long term monitoring of water content in a brick masonry wall using a dielectric probe

P.K. Larsen

Influence of the salt crystallization in the durability of granites used in vernacular masonry buildings

M.L. Martins, G. Vasconcelos, P.B. Lourenço & C. Palha

Innovative masonry elements with thermal performance

C.L. Matei

Influence of water saturation on the strength and deformability of brick masonry under compression

P. Matysek & M. Witkowski

Corrosion of bed joint reinforcement in faced single-leaf brick facades—field survey

M. Molnár & O. Larsson

Freeze-thaw durability of cement-lime-sand mortars

A.S. Smith

Influence of enclosure masonry walls on energy consumption of buildings

H. Sousa, R. Sousa & L. Sousa

Influence of nitrates salts on chosen properties of ceramic brick

T. Stryszewska

Experimental investigation of thermal insulation properties of Semi Interlocking Masonry (SIM) Walls

Y. Totoev, R. Forghani, S. Kanjanabootra & D. Alterman
Efflorescence formation on external masonry walls—a long-term exposure study
M. Wesołowska & A. Kaczmarek

Influence of selected mortars on the integrity of facing walls
M. Wesołowska

Investigation of the temporal development of carbonation mechanisms of autoclaved aerated concrete
B. Winkels & W. Brameshuber

Case studies
Post-tensioned concrete masonry roof panels: A case study
D. Biggs

Military masonry structures: Characteristics of the XVI century coastal watchtowers of the Pontifical States
R. Cacciotti & J. Kunecký

Critical issues in the assessment of seismic vulnerability of historical masonry buildings: A study case
B. Calderoni, E.A. Cordasco, G. Pacella & V. Onotri

A 20-storey high masonry building in Brazil—design problems and adopted strategies
M.R.S. Correa

BIM schema for masonry units and walls
T.R. Gentry, S. Sharif, A. Cavieres & D. Biggs

Indicators of the design for producing non-loadbearing masonry
A.C. Lordsleem Jr. & V. Silva

Structural characterization and performance assessment of the Villa d’Este Palace in Tivoli
A. Marra, D. Brigante, C. Rainieri & G. Fabbrocino

Gaudí’s La Pedrera, sustainable masonry building from the beginning of the 20th century
C. Salas, C. Bedoya & J. Adell

The identification of horizontal wooden beams in the walls of historic buildings in Safed: First stages in research
Y. Schaffer, A. Levy, M. Ronen & A. Hilman

The untold story of the masonry industry in the United States
J.G. Tawresey

Codes & standards
Empirical estimation of the load bearing capacity of masonry under buckling—critical remarks and a proposal for a new approach
T. Bakeer & W. Jäger

Analysis of Nationally Determined Parameters of EN 1996-1-1
C-A. Graubner & B. Koob

Practical design of masonry subjected to horizontal loads based on Eurocode 6 shear model
A. Jäger & M. Gams

Next generation of Eurocode 8, masonry chapter

The role of a systematic analysis of building codes to support an assessment methodology for built heritage
C. Ornelas, J.M. Guedes & I. Breda-Vázquez
Adoption and implementation of Eurocode 6 in Sri Lanka context
J.A. Thamboo

Conservation of historic buildings
Experimental analysis of masonry ring beams reinforced with composite materials
A. Borri, R. Sisti, M. Corradi & A. Giannantoni

Seismic vulnerability of “ancient” masonry buildings and strengthening intervention strategies
B. Calderoni, A. Prota, E.A. Cordasco & A. Sandoli

Origin and transformation of the Portico Lungo in Carpi: Analysing the brickwork façade
C. Di Biase, L. Balboni & P. Corradini

Experimental studies of brick masonry in the Auschwitz II—Birkenau former death camp buildings
P. Matyszek, T. Stryszewska & S. Kanika

Seismic strengthening of a theatre masonry building by using active FRP wires
F. Micelli, A. Cascardi & M. Marsano

The brick masonry of Pietrasanta bell tower in Naples. Knowledge and conservation of an iconic medieval building
R. Picone & S. Borea

The uniqueness of the Salt Warehouse in Mantua: Analysis of the structure complexity from the Roman Wall to present
A. Saisi, S. Terenzoni & L. Valsasnini

Use of polymer grid for structural reinforcement in a brick masonry church in Peru
D. Torrealva & W. Torres

Knowledge-based data warehouse of interventions for the protection of masonry historical heritage

The preservation problems of masonry houses in Başpinar rural settlement
H. Yıldız

Earthen constructions
Mechanical testing in adobe bricks and earthen mortar from the archaeological complex of Huaca de la Luna in Perú
R. Aguilar, M. Montesinos, E. Ramírez, S. Uceda & R. Morales

Geomatics’ procedures and dynamic identification for the structural survey of the church of ‘San Juan Bautista de Huaro’ in Perú
R. Aguilar, M.F. Noel, C. Briceño, D. Arce, B. Castañeda & L.F. Ramos

Adobe in Sardinia. Static and dynamic behaviour of the earthen material and of adobe constructions
D. Asprone, F. Parisi, A. Prota, L. Fenu & V. Colasanti

Recycled-plastic reinforced earthen masonry prototype for tornado-resistant dwellings
M.C. Cuéllar-Azcárate & F. Matta

Assessment of the seismic vulnerability of traditional Bhutanese buildings
T. Ilharco, A.A. Costa, J.M. Guedes, B. Quelhas da Silva, V. Lopes, J.L. Vasconcelos & G. Vasconcelos

Bonding capacity of jute fabric reinforcements of earthen structural elements. An experimental analysis
F. Loccarini, M. Fagone, G. Ranocchiat, J.A. García Manrique & J.R. Ruiz Checa

Modern earth construction techniques—an overview
D. Maskell, B.V.V. Reddy, P. Walker & A. Heath

Calibration of partial safety factors for Earth Block Masonry under compression loading
P. Müller, L. Miccoli, P. Fontana & C. Ziegert
Mechanical performance of compressed earth block masonry using granitic residual soils
D.V. Oliveira, T.F. Miranda, L.F. Ramos, R.A. Silva, E. Soares & D. Leitão
865

Static and dynamic testing for validating the polymer grid as external reinforcement in earthen
buildings
D. Torrealva
873

Eco-materials & sustainability

Ability to resist different weathering actions of eco-friendly wood fiber masonry blocks
Z.K. Aljaberi, A.A. Gheni, J.J. Myers & M.E. ElGawady
883

Developments in construction details using masonry in the UK
C.A. Fudge
889

Energy efficiency and thermal characterization of eco-friendly wood fiber masonry blocks
A.A. Gheni, Z.K. Aljaberi, M.E. ElGawady & J.J. Myers
895

Quality factors for the evaluation of sustainable redevelopment of masonry buildings
A. Ohler
903

Resource efficiency by demountable slab construction using masonry units
S. Ortlepp, R. Masou, W. Jäger & R. Ortlepp
911

Masonry in Australia—meeting the challenges of the 21st century
A.W. Page & E. McIntyre
917

Innovative mix design with bionatural aggregates for precast vibro compressed units
M. Sassu, L. Giresini, E. Bonannini & R. Cecconi
925

Lime carbonation, environmental footprint of seven mortars placed on the European market
T. Schlegel & A. Shtiza
931

Characterization and blowing application tests of a new geopolymer loose-fill material for the
insulation of cavity walls
A. Smits, D. Nicaise, F. de Barquin, K. Hariri & J. Bosnjak
937

Effect and durability of sisal fibers in concrete blocks
I.I. Soto & M.A. Ramalho
947

Fire resistance, blasts & impacts

Probabilistic risk assessment of masonry buildings exposed to improvised explosive devices
M. Campidelli, W.W. El-Dakhakhni, M.J. Tait & W. Mekky
959

Risk–driven fragility evaluation of reinforced concrete block walls subjected to blast hazard
M. Campidelli, W.W. El-Dakhakhni, M.J. Tait & W. Mekky
967

Modelling of masonry walls rendered with auxetic foam layers against vehicular impacts
M. Dhanasekar, D.P. Thambiratnam, T.H.T. Chan, S. Noor-E-Khuda & T. Zahra
977

Extended application of fire test results with clay unit masonry according to EN 15080-12
U. Meyer & T. Mittmann
985

Out-of-plane blast capacity of load-bearing masonry walls
F. Parisi, C. Balestrieri & D. Asprone
991

Numeric research on the mechanical properties of different masonry units during and after fire
S. Russo & F. Sciarretta
999

Resilience-based design of reinforced masonry wall buildings under blast loading
S. Salem, W. El-Dakhakhni & M. Tait
1007

Numerical analysis of the structural response of RC-framed buildings subjected to internal
explosions
1015
Masonry bridges, arches & vaults

3D Limit Analysis of Roman groin vaults
C. Baggio & P. Trovalusci
1023

Influence of environmental degradation on dynamic properties of masonry bridges
A. Benedetti, J. Nichols & A. Tomor
1029

Fiber-reinforcement of masonry arches and barrel vaults through topology optimization
M. Bruggi & A. Taliercio
1037

Operating conditions of an ancient Roman bridge: Inspections and vibration analysis
M. Caldon, F. Lorenzoni, C. Modena, R. Deiana & M.R. Valluzzi
1045

Modeling unknown variables and degradation effects in the assessment of stone arch bridges
C. Citto & D.B. Woodham
1055

The analysis of the main spire reversed arches of the Cathedral of Milan
D. Coronelli, G. Cardani & G. Angjelia
1063

Experimental and numerical modal analysis of a historical masonry bridge
L. Dezi, F. Gara, D. Roia & G. Leoni
1071

Experimental and numerical analyses of a masonry arch under base impulse excitation
A. Gaetani, G. Monti, M. Moroni & P.B. Lourenço
1079

Small scale tests to verify the admissible spreading of the support of an arched masonry construction for a historic bridge intervention
B. Gigla & T. Janßen
1089

Methodology of static analysis, strengthening and monitoring of brick vaults and pillars in St. James basilica in Nysa (Poland)
J. Jasieńko, Ł.J. Bednarz, W. Misztal, K. Raszczuk & T.P. Nowak
1097

“Reinforced Arch Method” in the consolidation of masonry arches and vaults: Experimental results
L. Jurina
1105

Effects of FRP-strengthening on thrusts of arches and vaulted masonry structures
A. La Tegola & W. Mera
1113

Plywood extrados retaining structures for the retrofit of single-leaf vaults
A. Marini, E. Giuriani, A. Belleri, M. Preti & L. Ferrario
1121

Simplified model for collapse analysis of masonry barrel vaults
G. Ramaglia, G.P. Lignola & A. Prota
1129

Structural analysis of a large stone dome in Granada (Spain)
J. Suárez & C. Madero
1137

Masonry infill walls & RC frames

Out-of-plane response of masonry infilled RC frames: Effect of workmanship and opening
F. Akhoundi, G. Vasconcelos, P. Lourenco & L. Silva
1147

Innovative systems for masonry infill walls based on the use of rubber joints: Finite element modelling and comparison with in-plane tests
A. Calabria, G. Guidi, F. da Porto & C. Modena
1155

A simplified assessment model of masonry infill piers
T.C. Chiou, S.J. Hwang, Y.H. Tu & Y.S. Tu
1163

The INSYSME project: Innovative construction systems for earthquake resistant masonry infill walls
F. da Porto, N. Verlato, G. Guidi & C. Modena
1173

Numerical analysis of the out-of-plane response of two systems for masonry infills
A. Drougkas, C.-E. Adamis, E. Vintzileou & V. Palieraki
1179
Numerical analysis of a masonry infill (divided into smaller wallettes) under in-plane cyclic loading
A. Drougkas, C.-E. Adamis, E. Vintzileou & V. Palieraki

In-plane cyclic tests on hollow clay brick masonry infills retrofitted by glass fiber mesh reinforced mortar coating
L. Facconi, F. Minelli & E. Giuriani

Experimental study of the out-of-plane behaviour of masonry infill walls with and without previous in-plane damage
A. Furtado, A. Arêde, H. Varum & H. Rodrigues

Simplified evaluation of drifts for RC buildings with masonry infills
S. Hak, P. Morandi & G. Magenes

Numerical investigation of masonry infilled R.C. frames
T. Kubalski, M. Marinković & C. Butenweg

A masonry infill wall model with in-plane—out-of-plane interaction applied to pushover analysis of RC frames
F. Longo, G. Granello, G. Tecchio, F. da Porto & C. Modena

Seismic response history analysis including out-of-plane collapse of unreinforced masonry infill walls in RC frame structures
F. Longo, L. Wiebe, F. da Porto & C. Modena

In-plane performance of RC infilled frames under seismic actions: Experimental versus code provision values
A. Masi, V. Manfredi & G. Cetraro

Numerical simulation of the non-linear behaviour of masonry infills within multi-story RC framed structures
G.C. Manos & V. Soulis

Innovative seismic solution for clay masonry infills with sliding joints: Experimental tests
R.R. Milanesi, P. Morandi & G. Magenes

Innovative seismic solution for clay masonry infills with sliding joints: Principles and details
P. Morandi, R.R. Milanesi & G. Magenes

Behaviour of masonry infills subjected to out of plane seismic actions. Part 1: Theoretical analysis
M. Moșoarcă, C. Petruș, V. Stoian & A. Anastasiadis

Behaviour of masonry infills subjected to out of plane seismic actions. Part 2: Experimental testing
M. Moșoarcă, C. Petruș, V. Stoian & A. Anastasiadis

Experimental study of the effect of interfacial gaps on the in-plane behaviour of masonry infilled RC frames
E. Nasiri & Y. Liu

In-plane—out-of-plane interaction in the seismic response of masonry infills in RC frames
M. Oliace & G. Magenes

Design of masonry infill walls with sliding joints for earthquake structural damage control
M. Preti, V. Bolis & A. Stavridis

Prediction of the out-of-plane response of infilled frames under seismic loads by a new fiber-section macro-model
P.B. Shing, L. Cavaleri & F. Di Trapani

Experimental evaluation of a constructive system for earthquake resisting masonry enclosure walls
L. Silva, G. Vasconcelos, P. Lourenço & F. Akhoundi

Lateral load experiment and comparison with analytical model for in-filled masonry panels with openings in an RC frame
Y.H. Tu, Y.F. Chao & T.C. Chiou
Experimental tests on masonry infilled gravity- and seismic-load designed RC frames
G.M. Verderame, P. Ricci, C. Del Gaudio & M.T. De Risì

Innovative systems for masonry infill walls based on the use of deformable joints: Combined in-plane/out-of-plane tests
N. Verlato, G. Guidì, F. da Porto & C. Modena

In-plane and out-of-plane response of a masonry infill divided into smaller wallettes
E. Vintzileou, C.E. Adami & V. Palieraki

Non-linear static analysis of multi-storey steel frame with semi-interlocking masonry infill panels
Z. Wang, Y. Totoev & K. Lin

Contribution of masonry cladding for robustness enhancement of multi-storey buildings under sudden column loss
F.B. Xavier, L. Macorini & B.A. Izzuddin

Masonry materials & testing

Integrated geomatic methodologies for the 3-D survey of “Ex Stazione Frigorifera Specializzata” (Magazzini Generali of Verona, Italy)
V. Achilli, M. Fabris, A. Menin & M. Monego

Experimental testing of unreinforced masonry walls with openings subject to cyclic in-plane shear
C. Allen, M.J. Masia, A.W. Page, M.C. Griffith, H. Derakhshan & N. Mojsilovic

Compressive behavior of hollow block masonry prism plastered with steel fiber reinforced mortar with microsilica and nanosilica
M. Alshugaa, M.K. Rahman, M.H. Balsch, M. Al-Osta & A. Sadoon

Laser shearography NDE of masonry and concrete structures
A.M. Amde, R. Livingston & J.W. Newman

Sustainable self-consolidating grout
C.V. Baltimore, J. Mwangi & K. Siggard

Microstructural characterization of phases and interfaces of Portland cement mortar
M.F.O. Barreto & P.R.G. Brandão

Nanostructural characterization of phases and interfaces of Portland cement mortar
M.F.O. Barreto & P.R.G. Brandão

Effect of static and kinematic boundary conditions on the out-of-plane response of brick masonry walls
K. Beyer & F. Luca

Mechanical characterization of particular masonry panels in Tuscany
S. Boschi, C. Bernardini, A. Borghini, A. Ciavattone, E. Del Monte, S. Giordano, A. Vignoli & N. Signorini

The improvement of spandrels in existing masonry buildings in order to avoid brittle failure: Experimental campaign on reinforced specimens
B. Calderoni, E.A. Cordasco & G. Pacella

The diagnostic investigations plan for historic masonry buildings: The role of sonic tests and other minor destructive techniques
L. Cantini

The analysis and the diagnostic investigation of tuff masonry structures of a historic villa in Naples
L. Cantini, M.A. Parisi, C. Tardini & G. Cardani

Analysis and evaluations of flat jack test on a wide existing masonry buildings sample
E. Cescatti, M. Dalla Benetta, C. Modena & F. Casarin

Out-of-plane loading test of perforated concrete brick walls confined by floor slabs
L.F. Chen, X. Li & X.L. Gu
Double punch tests on new and salt-decayed lime mortar joints
C. Colla & E. Gabrielli

On-site diagnosis of masonry structures via sonic tomography: The case of the ex-church of San Barbaziano
C. Colla & E. Gabrielli

Probabilistically based model error for the assessment of in-plane lateral resistance of unreinforced masonry blockwork
P. Cottic, M. Krzan & V. Bosiljko

Flexural behaviour of FRP strengthened brick cavity walls
H. Derakhshan, W. Lucas & M.C. Griffith

The influence of the type of mortar on the compressive behaviour of walls made of Autoclaved Aerated Concrete (AAC)
L. Drobiec, R. Jasiński & T. Rybarczyk

Shear strength of dry-stack masonry walls
J.G. Eixenberger & F.S. Fonseca

Flexural strength of vertically perforated thermal insulating clay unit masonry
E. Fehling, M. Ismail, U. Meyer & S. Samaan

In-situ diagonal compression and shear-compression destructive tests on masonry panels from rural buildings in Emilia Romagna region
F. Ferretti, C. Mazzotti, B. Ferracuti & A.R. Tilocca

Use of EC6-like equations to estimate the compressive strength of masonry made of solid clay bricks and lime mortar
D. Ferretti, E. Coïsson, D. Ugolotti & E. Lenticchia

The influence of block geometry on the compressive strength of clay masonry

Creep behavior of a building stone from the South of Italy
D. Fotti, V. Vacca, S. Ivorra, V. Brotóns & R. Tomás

In-plane behaviour of a masonry stone wall with hexagonal blocks
D. Fotti, S. Ivorra & V. Vacca

Seismic behaviour of URM walls: Analysis of a database
M. Gams, P. Triller, M. Lutman & J. Snoj

Prompt structural assessment of historic towers
C. Gentile & A. Saiati

Loadbearing capacity of masonry walls under predominant bending due to wind loads
C-A. Graubner & M. Schmitt

Experimental characterisation of calcium-silicate brick masonry for seismic assessment
F. Graziotti, A. Rossi, M. Mandirola, A. Penna & G. Magenes

Thermal insulating lime plaster
H. Hansen, A. Ethesham, T. Bech-Petersen & M.S. Moesgaard

Friction on mortar-less joints in semi interlocking masonry
M.A. Hossain, Y.Z. Totoev & M.J. Masia

The evaluation of masonry shear strength by means of different experimental techniques: A comparison between full-scale and laboratory tests
A. Incerti, V. Rinaldini & C. Mazzotti

Distribution of compression stress in historical three-leaf stone masonry walls after interal injection
J. Jasienko, L. Bednarz, W. Misztal & K. Raszczuk
Comparison research of kind of mortar influence and bed joints reinforcement on shear parameters of AAC masonry walls
R. Jasiński, A. Piekarczyk & L. Misiewicz

Analysis of behaviour of cyclic loaded clay block walls using the FEM model
J.K. Klouda

Shear tests on monolithic external clay unit masonry walls with reduced support length
T. Kranzler

Unreinforced clay brick masonry wallettes sheared perpendicular or parallel to bed joints—a comparative study
J. Kubica

Superficial strengthening of AAC block masonry using GFRP strips—diagonal compression tests of small wallettes
J. Kubica & I. Galman

Evaluation of mortar strength in existing masonry structures through a Minor Destructive Technique
D. Marastoni, A. Benedetti & L. Pelà

Comparison between in situ experimental data and Italian code standard values
G. Marghella, A. Marzo, B. Carpani, M. Indirli & A. Formisano

Estimation of unreinforced tuff masonry compressive strength based on mortar and unit mechanical parameters
A. Marotta, D. Liberatore & L. Sorrentino

Experimental study on the mechanical performance of steel ties for brick masonry veneers
A. Martins, G. Vasconcelos & A. Campos Costa

Flexural strength of stack bonded masonry in one way horizontal bending: Influence of bed joint reinforcement
M.J. Masia, G. Simundic & A.W. Page

Compressive strength of brick masonry in existing buildings—research on samples cut from the structures
P. Matysek

Testing mechanical behavior of earthen mortar masonry: Studies on Palazzo Raimondi in Cremona
G. Mirabella Roberti, A.G. Landi & C. Tiraboschi

In-plane test campaign on different load-bearing URM typologies with thin shell and web clay units
P. Morandi, L. Albanesi & G. Magenes

Seismic behaviour of L- and T-shaped unreinforced masonry shear walls
C. Mordant, V. Denoël & H. Degée

Compressive strength behaviour of hollow clay block prims filled with bed joint mortar
M.R. Nascimento, I.R. Gomes & H.R. Roman

Mechanical characteristics of traditional type bricks used in repair interventions of byzantine monuments
I. Papayianni & M. Stefanidou

Shear strength of concrete block beams: Assessment of international codes and influence of shear span and longitudinal reinforcement
R.D. Pasquantonio, G.A. Parsekian, P.R.N. Soudais & J.S. Camacho

Complete experimental characterization of lime mortar and clay brick masonry
L. Pelà, E. Canella, K. Kasioumi, P. Roca & D. Marastoni

Static-cyclic tests on I-shaped masonry wallettes with soft-layer bed joint
M. Petrović, B. Stojadinović & N. Mojsilović

Distortions and the way of damaging masonry walls supported on deflected structural elements
A. Piekarczyk & R. Jasiński
Experimental study on flexural properties of perforated concrete brick masonry materials
C.L. Pu, X. Li & X.L. Gu

Research on the full range stress-strain curve of autoclaved aerated concrete block masonry
S. Qin, X. Yang, J. Lu & T. Pi

Comparison of compressive strength of concrete block masonry prisms and solid concrete prisms
S. Rizaei, M.D. Hagel, P. Kaheh & N. Shrive

Effects of in-plane loading on the out-of-plane stability of slender reinforced concrete masonry shear walls

Requirements for execution classes
J.J. Roberts

Behavior of masonry wall with steel-fiber reinforced mortar for joints and plaster
A. Sadoon, M.K. Rahman, M.H. Baluch, M. Al-Osta & M. Alshugaa

Effect of vertical stresses on lateral in-plane response of brick masonry walls

Reliability analysis of methods for utilization of partial factors in flexural failure mode of masonry shear walls
H. Salehi, M. Montazerolghaem & W. Jäger

Test set-up and proposed testing procedure for the determination of masonry walls under in-plane shear loadings
D.C. Schermer

Characterization of lime-stabilized earthen mortars from historic masonry structures
M. Secco, A. Addis & G. Artioli

A review of research and experimental findings on the effects of hydrated (air) lime addition to cement-based masonry mortars on the properties of the mortars and associated masonry
A.S. Smith & R. Givens

Development of a masonry mortar freeze-thaw laboratory test method and the performance of CEM II mortar masonry panels
A.S. Smith & G.J. Edgell

Development of a new flatjack for hollow block masonry
M.O. Soriani, E.R. Sanches, G.A. Parsekian & M.P. Schuller

Statistical tests for the goodness of fit of mortar compressive strength distributions
L. Sorrentino, P. Infantino & D. Liberatore

A comparative study of the compression behaviour of thin layer mortared and conventional masonry
J.A. Thambboo & M. Dhanasekar

Out-of-plane shaking table tests on URM cavity walls
U. Tomassetti, F. Graziotti, A. Penna & G. Magenes

Seismic behaviour of multistorey plain masonry shear walls with openings: An experimental study
P. Triller, M. Tomazević & M. Gams

A practical design method for flexural elements of dry-stacked post-tensioned masonry system
H. Urrego-Giraldo, R. Bonett-Díaz & J. Restrepo

Compression behaviour of structural clay block prisms with different shell and web thickness

Compression and shear properties of masonry cut from walls, three to ninety-five years old, compared with laboratory made masonry
A.T. Vermeltfoort & D.R.W. Martens

Characterisation of historical fired clay bricks with small angle neutron scattering
A. Viani, K. Sotiriadis, P. Šašek, R. Ševčík & A. Len
In-situ mechanical characterization of existing masonry typologies: A research project in Italy finalized to update the structural codes
A. Vignoli, S. Boschi, C. Modena & E. Cescatti
1983

Effective stiffness of unreinforced brick masonry walls
B.V. Wilding & K. Beyer
1993

Experimental investigation of dry joint surface and closure characteristics of interlocking blocks under compression
T. Zahra, Z. Yin & M. Dhanasekar
2003

*Masonry repair & strengthening*

Effectiveness of inorganic matrix–grid composites for strengthening masonry walls
A. Balsamo, D. Asprone, I. Iovinella, G. Maddaloni, C. Menna, A. Prota,
F. Ceroni & A. Zinno
2013

Use of FRP fabrics and stainless steel grids for strengthening brick masonry columns
G. Campione, L. Cavalieri, L. La Mendola & M. Papia
2021

Effect of transversal steel connectors on the behavior of rubble stone-masonry walls: Two case studies in Italy
M. Candela, A. Borri, M. Corradi & L. Righetti
2029

Investigation on multiple-leaf brickwork masonry walls under compression and shear
R. Capozucca & G. Pace
2039

Experimental investigation on pre-cracked masonry specimens repaired by bed joints structural repointing
S. Casacci, A. Di Tommaso & C. Gentilini
2047

The effect of different strengthening systems on the cracking of spandrel walls made of calcium silicate units
L. Drobiec
2055

Retrofitting URM cavity walls for out-of-plane composite behaviour
M. Giaretton, K. Walsh, D. Dizhur, F. da Porto & J. Ingham
2063

Influence of the water absorption on the performance of supplementary injection anchors inside masonry
B. Gigla
2073

Core fill materials for the in-plane strengthening of concrete block shear walls
R.T. Harris & S.L. Lissel
2081

Experimental in-plane cyclic response of unreinforced masonry walls versus strengthened walls using jacketing
M. Hrasnica, N. Adamović, S. Medić & F. Biberkić
2091

Pull out testing of self-screwing retrofit wall to diaphragm anchorage system
N. Ismail & H. El-Hassan
2099

Effects of eco-friendly ductile cementitious composites (EDCC) on dynamic characteristics of hollow concrete masonry walls
P. Kaheh & N. Shrive
2109

Influence of eco-friendly ductile cementitious composites (EDCC) on in-plane behaviour of hollow concrete masonry walls
P. Kaheh, N. Shrive, S. Soleiman-Dashtaki & N. Banthia
2117

Modelling of tuff masonry walls retrofitted with inorganic matrix–grid composites
G.P. Lignola, C. D’Ambra, A. Prota & F. Ceroni
2127

Shear behaviour of Fiber Reinforced Mortar strengthened masonry walls built with limestone blocks and hydraulic mortar
F. Micelli, M.S. Sciolti, M. Leone, M.A. Aiello & A. Dudine
2137
Structural performances of masonry beam strengthening with FRP sheets
P. Munjal, S.B. Singh & N. Thammishetti
2147

Aramid fibres for conservative intervention on masonry structures
E. Pinotti, C. Casalegno, R. Ceravolo & C. Surace
2153

Use of superficial reinforcement for reducing the seismic vulnerability of unreinforced masonry houses in Peru
D. Torrealva & A. Alza
2161

The strengthening of masonry structures through the combined use of the joint resealing and Fabric Reinforced Cementitious Matrix (FRCM) systems: The case study of the Abbazia di San Paolo Fuori le Mura in Rome
A. Trimbo, G. Montegazza, M. Tommasini & E. Cerasi
2167

Experimental and numerical investigation on collar-jointed masonry walls
C. Wang, J.P. Forth, N. Nikitas & V. Sarhosis
2175

New construction techniques/technologies

Innovative insulation technique for reducing heat loss in veneer masonry walls
E. Alkhateeb, H. Youssef & W. Jaeger
2185

How modularity, block size and thin layer mortar can lead to higher productivity and sustainable constructions
O. Arce, H. Vekemans & F. de Bever
2193

Prefabricated thin layers of mortar for masonry
W. Brameshuber, M. Grauhohm & D. Saenger
2201

Seismic isolation in masonry buildings: Technological and economic issues
P. Clemente, F. Bontempi & A. Boccamazzo
2207

The influence of a thin mortar layer on a mortarless masonry wall system
F.S. Fonseca & J.G. Eixenberger
2217

Design of basement walls under lateral earth pressure
V. Förster & C-A. Graubner
2225

Fastening of windows in vertically perforated thermal insulating clay unit masonry
2231

Out-of-plane behavior of an interlocking masonry unit
C.B. Thomson, B.D. Weldon & S. Biadora
2239

Research progress and low-carbon property of reinforced concrete block masonry structures in China
F.L. Wang, X.C. Zhang & F. Zhu
2247

Reinforced & confined masonry

Application of Strut-and-Tie Model for seismic design of confined masonry shear walls
S. Brzev & J.J. Pérez Gavilán
2257

Comparative assessment of externally rendered and internally grouted reinforced hollow concrete dry stacked masonry walls subject to out-of-plane bending
R. Dhanasekar & M. Ferokhan
2265

System-level seismic performance assessment of an asymmetrical reinforced concrete block building with boundary elements
M. Ezzeldin, W. El-Dakhakhni & L. Wiebe
2271

Out-of-plane behaviour of slender reinforced masonry walls for tall single storey buildings: Design procedure
B. Ferracuti, L. Bacci & M. Savoia
2277
Influence of lap splice termination in concrete block masonry

C. Galliot & L.R. Feldman

Experimental analysis of in-plane shear strength of reinforced concrete masonry walls and its seismic behavior


Research of bed joints reinforced masonry walls with openings made of calcium silicate units horizontally sheared

R. Jasiński

Design of special reinforced masonry shear walls in the U.S.

G.R. Kingsley, T. Gangel & P.B. Shing

Experimental investigation of confined masonry infill walls


Reconstruction of a rural building damaged by 2012 Emilia earthquake using tall reinforced masonry walls designed accounting for p-Δ effects

F. Mosele, L. Barbieri & F. Botti

Shear strength of confined masonry walls with transverse reinforcement

J.J. Pérez Gavilán E. & A.I. Cruz O.

Applied equations for reinforced masonry elements subject to seismic bending plus compression

J.G. Tawresey & F.S. Dill

Bed joint reinforcement and the load bearing capacity of masonry beams

A.T. Vermeltfoort

**Seismic performance & vulnerability assessment**

Seismic demand, deformability and damage of masonry buildings

D.P. Abrams

Experimental research on the seismic behaviour of contemporary masonry chimney systems

V. Bosiljkov, D. Antolinc, G. Steinecker & S. Plaskan

Seismic vulnerability analysis for masonry hospital structures: Expeditious and detailed methods

A. Ciavattone, A. Vignoli & H.G. Matthies

Shake table testing of retrofitted clay brick masonry chimneys

D. Dizhur, J. Ingham & M. Giarettion

Performance of unreinforced masonry and infilled RC buildings during the 2015 Gorkha, Nepal earthquake sequence

D. Dizhur, J. Ingham, M. Griffith, D. Biggs & A. Schultz

Seismic vulnerability assessment of existing masonry buildings by nonlinear static analyses and fragility curves

M. Fava, M. Munari, F. da Porto & C. Modena

Dynamic deformability evaluated by series of shaking table tests of full-scale models of masonry houses

T. Hanazato, H. Seno, Y. Niitsu, H. Imai, T. Narafu, T. Mikoshiba & C. Minowa

Damage detection of an unreinforced stone masonry two storeys building based on damping estimate

L.A.S. Kouris, A. Penna & G. Magenes

Assessment of seismic behaviour of masonry minarets by discrete element method

Ö. Saygılı & E. Çaktı

Study of compressive strength of historical masonry structures for reliability assessment

S. Seyedain Boroujeni & N.G. Shrive

Proposed multivariate predictive approach of masonry wall seismic performance

A.S. Siam, W.M. Hussein & W.W. El-Dakhakhni
### Damage and vulnerability assessment of URM buildings after the 2012 Northern Italy earthquakes

*S. Taffarel, M. Giaretton, F. da Porto & C. Modena*

Page 2455

### Seismic vulnerability assessment of clustered historical centers: Fragility curves based on local collapse mechanisms analyses

*S. Taffarel, M. Caliman, M.R. Valluzzi, F. da Porto & C. Modena*

Page 2463

### Seismic vulnerability assessment on a territorial scale based on a Bayesian approach

*S. Taffarel, G.P. Campostrini, L. Rosato, F. da Porto & C. Modena*

Page 2471

### Seismic retrofit system for single leaf masonry buildings in Groningen

*Ö.S. Türkmen, A.T. Vermeltfoort & D.R.W. Martens*

Page 2479

### Probabilistic seismic response analysis of existing masonry structures

*M. Vailati, G. Monti, M.J. Khazna, R. Realfonzo & M. De Iulis*

Page 2489

### Seismic vulnerability assessment of corner buildings in the historical centre of Timisoara

*C. Valotto, S. Taffarel, C. Marson, M. Munari, F. da Porto & C. Modena*

Page 2499

### Structural assessment of existing buildings subjected to induced earthquakes in the Netherlands

*A. van den Bos & A. Garofano*

Page 2507

### The infilled RC structures performance in the 25th April, 2015 Gorkha Nepal earthquake: Observations and dynamic characterization tests

*H. Varum, N. Vila-Pouca, A. Furtado, J. Oliveira, A. Arêde & H. Rodrigues*

Page 2517

### Author index

Page 2525
Preface

In an ever-changing world, in which innovations are rapidly implemented but soon surpassed, the challenge for masonry, the oldest and most traditional building material, demonstrates that it can meet the increasingly pressing requirements of quality of living, safety, and sustainability.

In the past four decades, the successful series of IB²MAC Conferences has provided a valuable opportunity to share knowledge, experience and information in the field of masonry among researchers and practitioners, masonry industries and building management authorities, construction professionals and educators. This conference will thus represent a unique platform for discussion, networking, sharing new ideas and gaining insights into trends, innovations and challenges related to masonry, in both research and building practice.

The first IB²MAC Conference was held in 1967 in Austin, Texas, USA. Since then, it has been fruitfully organized every three or four years in the USA, England, Germany, Belgium, Italy, Australia, Ireland, Canada, China, Spain, The Netherlands and Brazil.

The 16th edition of the Conference is held in Padova, Italy (June 26–30, 2016) in a country where the exceptional concentration of historic buildings raises the question of how to re-use existing masonry buildings, and where research and practice in the development of novel masonry construction systems have been active for decades. This is definitely the perfect location in which to discuss and disseminate the latest advances in the use of this essential material.

This Book of Abstracts and its USB device contain the full texts of lectures and papers presented at the 16th IB²MAC. The Conference Proceedings include 4 keynote lectures and more than 300 technical papers received from over 40 countries, demonstrating the worldwide interest of the scientific community on the proposed topics. During the conference, some special sessions have been organized on important problems of earthen masonry, bond of composites to masonry, lime mortars, masonry infill walls and RC frames, and results dissemination of INSYSME FP7 European research project.

The submitted papers represent an up-to-date overview and significant novel contributions to the material, testing, analysis, design and verification issues of masonry structures. The topics cover major aspects of eco-materials and sustainability, new construction techniques and technologies, masonry materials and testing, analysis of masonry structures, seismic performance and vulnerability assessment, conservation of historic buildings, masonry repair and strengthening, fire resistance/blast/impacts, building physics and durability, codes and standards, reinforced and confined masonry, masonry bridges, arches and vaults, masonry infill walls and RC frames, bond of composites to masonry, earthen constructions and case studies.

The editors would like to express their thanks to all the authors, keynote speakers, organizers of special sessions and participants for their contributions, the members of the International Scientific Committee and the Review Panellists for their dedicated work, and the Conference Secretariat for their dedicated teamwork. Lastly, but no less importantly, we would like to thank to all the sponsors and supporters of IB²MAC 2016.

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