

Contents

Page

1	Sustainable masonry construction J.J.Roberts	1
2	Masonry in the Third Millennium Giovanni Peirs.	6
3	Experimental data on mechanical behaviour of lime mortar Silvia Briccoli Bati and L.Rovero	9
4	New tests for brick porosity and water absorption A.DeVenny and F.M.Khalaf	13
5	Soil stabilized blocks for low income houses Rubina Noor Skaikh and R. Hanna	16
6	Comparison of draft European and British Standard test methods for AAC masonry units G.Pye and D.J.Harris	18
7	Simple test for the determination of masonry bond strength F.M.Khalaf	23
8	Compressive strength of clay block prisms H.R.Roman and R.J.Mendes	28
9	Testing of various brick/mortar combinations for mortar durability, efflorescence potential and resistance to rain penetration G.K.Bowler and R.H.Sharp	31
10	Internal fracture test for brick strength Liu Hui and R.C.de Vekey	37
11	Anisotropy of elasticity and time-dependent movement of masonry J.J.Brooks and B.H.Abu Bakar	44
12	The effect of rendering on the flexural strength of brickwork Andre P.Eidelwein and Ronaldo Bastos Duarte	48
13	Effect of loading age on creep of sealed clay and concrete masonry J.P.Forth, P.R.Bingel and J.J.Brooks	52
14	Experimental study of the bursting strength of cellular brickwork construction S.W.Garrity	56
15	The structural performance of untied cavity party walls using AAC blockwork G.W.Hickson and R.C.de Vekey	62
16	Test on panels of full sized bricks at different loading angles S.Pollard and B.Hobbs	69
17	An assessment of the new ISO and CEN test methods for beam and block floors W.Sparkes and D.J.Harris	73
18	The application of Electronic Speckle Pattern Interferometry for measurements of masonry/mortar stiffness A.T.Vermeltoort and E. Wijnen	77
19	Experimental data on masonry specimens made with cement:lime mortars A.Canziani, A.Fantucci, V.Galimberti and M.Montruccoli	85
20	Influence of SBR latex additive on the tensile strength of clay brickwork S.W.Garrity	92
21	Compressive strength of mortars under triaxial compression Humberto Ramos Roman and Gihad Mohamad	100

22	Thermal and strength performance of two lightweight mortar products A.W.Stupart, J.S.Skandamoorthy and F.Emerson	103
23	A methodology to evaluate the cracking susceptibility of renders: equipment, tests and criteria. Experimental data. Rosario Veiga	107
24	Evaluation of the effect of mortar type, sand type and brick suction on durability and shrinkage performance of mortar. A.Yool, J.J.Roberts and A.N.Fried	112
25	The influence of fine materials in sand on the rheology of fresh mortar P.F.G.Banfill	119
26	Lime renders in Southern Portugal Maria Goreti Lopes Batista Margalha	125
27	Mathematical programming application to limit analysis of three dimensional masonry structures C.Baggio and P.Trovalusci	131
28	Recent developments of the lattice model for in-plane loading of masonry walls W.J.Beranek and G.J.Hobbelman	135
29	Extended lattice model for in- and out-of-plane loading of masonry walls W.J.Beranek and A.Borgart	142
30	Analysis of cavity walls - the Danish approach Mogens Buhelt	148
31	Elastic-brittle Cosserat continuum model for brick masonry R.Masiani and P.Trovalusci	153
32	A numerical study of masonry tensile bond strength test methods J.R.Riddington, P.Jukes and P.J.B.Morrell	157
33	Strength and deformation capacity of laterally loaded masonry Klavs Feilberg Hansen	165
34	Capacity of vertically sheared unreinforced masonry walls Jan Kubica	170
35	On some indirect methods of analysis of shear walls Jan Kubica	175
36	Eccentrically loaded historic masonry Ahmad Sabha	178
37	A dynamic finite element modelling approach for masonry structures M.Gilbert, T.C.K.Molyneaux and B.Hobbs	182
38	A method to evaluate masonry damage under dynamic loading Vincenzo Laudazi and Adolfo Bacci	188
39	Simplified non-linear seismic analysis of masonry buildings G.Magenes and A. Della Fontana	190
40	Combined horizontal cyclic and compressive load testing of partially reinforced masonry piers G.C.Manos, B.Yasin and J.Thaupta	196
41	The earthquake response of multi-storey r.c. structures with masonry infills. G.C.Manos, B.Yasin and J.Thaupta	202
42	Reinforced masonry walls under blast loading Chr.Mayrhofer	211
43	Influence of panel aspect ratio on the cyclic residual strains of brick masonry M.M.Alshebani and S.N.Sinha	216

44	Collapse load response of a barrel masonry vault model Roberto Capozucca	220
45	Recycled aggregate blocks in beam and block flooring R.Collins, W.Sparkes and D.J.Harris	227
46	The fire performance of insulated cavity walls R.C.de Vekey	229
47	The behaviour of masonry jack arches C.Melbourne and L.Weekes	235
48	Requirements of masonry walls in severe climatic conditions to meet the new Russian Codes of thermal resistance V.M.Gorpinchenko and M.D.Pavlova	239
49	Energy efficient brick houses in the Australian climate Tom McNeilly	241
50	Drying of masonry with exterior insulation Hartwig M.Künzel	245
51	The effect of weathering on the flexural strength of masonry (updated to include 1995 measurements) R.C.de Vekey and G.J.Edgell	251
52	Rain penetration tests - wide cavity walls F.Peake, W.A.Durose and G.J.Edgell	257
53	Erosion testing of compressed earth blocks P.Walker	264
54	Determination of the compressive strength of calcium silicate brickwork using wallettes S.Clarke and D.J.Harris	269
55	Assessing the movements of unreinforced laterally loaded masonry according to European and British practice A.N.Fried	272
56	Comments on the design of masonry bearing walls according to ENV 1996-1-1 A.W.Hendry	275
57	Comparison of buckling safety of masonry walls according to EC6 and the German standard W.Jäger and H.Bergander	279
58	OMNIBLOCK. Technology for progressive housing Mercedes Marrero	284
59	A building brick with interlocking formations R.P.Murphy	287
60	Effects of a high-rise fire on a masonry curtain wall James C.Myers	290
61	Lessons learned from damaging interactions between masonry facades and building structures James C.Myers	294
62	Investigations into the stress/strain relationship of historic lime mortar brickwork Claudia Neuwald-Burg	301
63	Problems of, and solutions for, acoustic testing of masonry Edouard G.Nesvijski and Odilon P.Cavalheiro	310
64	Science of strengthening historic buildings - a possible new discipline Massimo Corradi	314
65	The use of bedjoint reinforcement to improve the performance of historic masonry buildings D.D'Ayala	320

66	The bond strength of supplementary injection anchors in historic masonry Birger Gigla and Fritz Wenzel	327
67	Methods of investigation and repair in old random-rubble filled masonry walls D.M.Lilley and A.V.March	337
68	Elastic properties of tuff masonry columns Giorgio Frunzio and M.Monaco	342
69	The use of acoustic emission testing in the assessment of historic buildings D.I.Ponomarev and A.V.Shampurov	345
70	Repair and strengthening of three-ring brick masonry arch bridges S.K.Sumon	348
71	Some performance characteristics of lime mortars for rendering and repointing ancient buildings Rosario Veiga and Fernanda Carvalho	353
72	Strength of masonry arch bridges repaired using near-surface reinforcement A.F.Ashour and S.W.Garrity	357
73	The codification of prestressed masonry in the United States David T.Biggs and Hans R.Ganz	363
74	Aanchorage bond of reinforcement to mortar or concrete infill in reinforced masonry J.Booth and G.J.Edgell	367
75	Field investigation of the seismic resistance of existing concrete masonry garden walls Koji Yoshimura, Kinji Kikuchi, Tomoyuki Kajimura, Yoichi Morishita, Keiji Eto and Hideko Nonaka	372
76	Dowel action of horizontal and vertical reinforcement embedded in masonry E. Vintzileou and N. Psilla	378
77	Development of AAC masonry units with thin joint mortar for house building in the UK C.A.Fudge and M.Barnard	384
78	Construction with thin joint mortar systems and AAC blockwork M.C.Phillipson, C.A.Fudge, S.L.Garvin and A.W.Stupart	388