

Miguel Azenha

List of Publications by Year in descending order

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123
papers

2,483
citations

218677

26
h-index

243625

44
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130
all docs

130
docs citations

130
times ranked

1973
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal enhancement of plastering mortars with Phase Change Materials: Experimental and numerical approach. <i>Energy and Buildings</i> , 2012, 49, 16-27.	6.7	129
2	Modelling of concrete at early ages: Application to an externally restrained slab. <i>Cement and Concrete Composites</i> , 2006, 28, 572-585.	10.7	121
3	Experimental and numerical studies of hybrid PCM embedded in plastering mortar for enhanced thermal behaviour of buildings. <i>Energy</i> , 2016, 94, 250-261.	8.8	121
4	Alkali-silica reaction in concrete: Mechanisms, mitigation and test methods. <i>Construction and Building Materials</i> , 2019, 222, 903-931.	7.2	121
5	Assessing the feasibility of impregnating phase change materials in lightweight aggregate for development of thermal energy storage systems. <i>Construction and Building Materials</i> , 2015, 89, 48-59.	7.2	92
6	Thermal behavior of cement based plastering mortar containing hybrid microencapsulated phase change materials. <i>Energy and Buildings</i> , 2014, 84, 526-536.	6.7	80
7	Identification of early-age concrete temperatures and strains: Monitoring and numerical simulation. <i>Cement and Concrete Composites</i> , 2009, 31, 369-378.	10.7	78
8	Measurement of concrete E-modulus evolution since casting: A novel method based on ambient vibration. <i>Cement and Concrete Research</i> , 2010, 40, 1096-1105.	11.0	75
9	Internal curing by superabsorbent polymers in alkali-activated slag. <i>Cement and Concrete Research</i> , 2020, 135, 106123.	11.0	71
10	Concrete with fine and coarse recycled aggregates: E-modulus evolution, compressive strength and non-destructive testing at early ages. <i>Construction and Building Materials</i> , 2018, 193, 323-331.	7.2	62
11	Optimal behavior of responsive residential demand considering hybrid phase change materials. <i>Applied Energy</i> , 2016, 163, 81-92.	10.1	52
12	Testing Concrete E-modulus at Very Early Ages Through Several Techniques: An Inter-laboratory Comparison. <i>Strain</i> , 2016, 52, 91-109.	2.4	48
13	Development of sandwich panels combining fibre reinforced concrete layers and fibre reinforced polymer connectors. Part I: Conception and pull-out tests. <i>Composite Structures</i> , 2013, 105, 446-459.	5.8	45
14	Influence of temperature on the curing of an epoxy adhesive and its influence on bond behaviour of NSM-CFRP systems. <i>Composites Part B: Engineering</i> , 2016, 89, 219-229.	12.0	43
15	Temperatures and stresses due to cement hydration on the R/C foundation of a wind tower – A case study. <i>Engineering Structures</i> , 2008, 30, 2392-2400.	5.3	40
16	Influence of temperature in the evolution of compressive strength and in its correlations with UPV in eco-concretes with recycled materials. <i>Construction and Building Materials</i> , 2016, 124, 276-286.	7.2	40
17	Thermo-hygro-mechanical modelling of self-induced stresses during the service life of RC structures. <i>Engineering Structures</i> , 2011, 33, 3442-3453.	5.3	38
18	Measurement of the E-modulus of cement pastes and mortars since casting, using a vibration based technique. <i>Materials and Structures/Materiaux Et Constructions</i> , 2012, 45, 81-92.	3.1	37

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19	Internal curing of alkali-activated slag-fly ash paste with superabsorbent polymers. <i>Construction and Building Materials</i> , 2020, 263, 120985.	7.2	36
20	Experimental analysis of the carbonation and humidity diffusion processes in aerial lime mortar. <i>Construction and Building Materials</i> , 2017, 148, 38-48.	7.2	34
21	Assessment of behaviour and cracking susceptibility of cementitious systems under restrained conditions through ring tests: A critical review. <i>Cement and Concrete Composites</i> , 2019, 95, 137-153.	10.7	32
22	Influence of the cementitious paste composition on the E-modulus and heat of hydration evolutions. <i>Cement and Concrete Research</i> , 2011, 41, 799-807.	11.0	31
23	Continuous monitoring of concrete E-modulus since casting based on modal identification: A case study for in situ application. <i>Cement and Concrete Composites</i> , 2012, 34, 881-890.	10.7	28
24	Early-age behaviour of the concrete surrounding a turbine spiral case: Monitoring and thermo-mechanical modelling. <i>Engineering Structures</i> , 2014, 81, 327-340.	5.3	28
25	Application of air cooled pipes for reduction of early age cracking risk in a massive RC wall. <i>Engineering Structures</i> , 2014, 62-63, 148-163.	5.3	28
26	Viscoelastic response of an epoxy adhesive for construction since its early ages: Experiments and modelling. <i>Composites Part B: Engineering</i> , 2017, 116, 266-277.	12.0	28
27	Influence of shrinkage reducing admixtures on distinct SCC mix compositions. <i>Construction and Building Materials</i> , 2012, 35, 304-312.	7.2	27
28	Development of sandwich panels combining fibre reinforced concrete layers and fibre reinforced polymer connectors. Part II: Evaluation of mechanical behaviour. <i>Composite Structures</i> , 2013, 105, 460-470.	5.8	27
29	Influence of casting condition on the anisotropy of the fracture properties of Steel Fibre Reinforced Self-Compacting Concrete (SFRSCC). <i>Cement and Concrete Composites</i> , 2015, 59, 60-76.	10.7	27
30	Drying induced moisture losses from mortar to the environment. Part I: experimental research. <i>Materials and Structures/Materiaux Et Constructions</i> , 2007, 40, 801-811.	3.1	26
31	Addition of biomass ash in concrete: Effects on E-Modulus, electrical conductivity at early ages and their correlation. <i>Construction and Building Materials</i> , 2017, 157, 1126-1132.	7.2	26
32	Thermography as a technique for monitoring early age temperatures of hardening concrete. <i>Construction and Building Materials</i> , 2011, 25, 4232-4240.	7.2	25
33	Mechanical properties of lime-cement masonry mortars in their early ages. <i>Materials and Structures/Materiaux Et Constructions</i> , 2019, 52, 1.	3.1	24
34	Continuous stiffness assessment of cement-stabilised soils from early age. <i>Geotechnique</i> , 2013, 63, 1419-1432.	4.0	23
35	A systematic review of Prefabricated Enclosure Wall Panel Systems: Focus on technology driven for performance requirements. <i>Sustainable Cities and Society</i> , 2018, 40, 688-703.	10.4	21
36	A meso-scale discrete element method framework to simulate thermo-mechanical failure of concrete subjected to elevated temperatures. <i>Engineering Fracture Mechanics</i> , 2020, 239, 107269.	4.3	21

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37	Development and Demonstration of an HBIM Framework for the Preventive Conservation of Cultural Heritage. <i>International Journal of Architectural Heritage</i> , 2022, 16, 1451-1473.	3.1	20
38	Modelling of cement hydration in concrete structures with hybrid finite elements. <i>Finite Elements in Analysis and Design</i> , 2013, 77, 16-30.	3.2	19
39	Hygrometric Assessment of Internal Relative Humidity in Concrete: Practical Application Issues. <i>Journal of Advanced Concrete Technology</i> , 2014, 12, 250-265.	1.8	19
40	Experimental validation of a framework for hygro-mechanical simulation of self-induced stresses in concrete. <i>Cement and Concrete Composites</i> , 2017, 80, 41-54.	10.7	19
41	COST TU1404 benchmark on macroscopic modelling of concrete and concrete structures at early age: Proof-of-concept stage. <i>Construction and Building Materials</i> , 2018, 174, 173-189.	7.2	19
42	Ageing and air leakage assessment of a nuclear reactor containment mock-up: VERCORS 2nd benchmark. <i>Nuclear Engineering and Design</i> , 2021, 377, 111136.	1.7	19
43	Experiences on early age cracking of wall-on-slab concrete structures. <i>Structures</i> , 2020, 27, 2520-2549.	3.6	18
44	E-modulus evolution and its relation to solids formation of pastes from commercial cements. <i>Cement and Concrete Research</i> , 2012, 42, 928-936.	11.0	17
45	Quantification of impact of lime on mechanical behaviour of lime cement blended mortars for bedding joints in masonry systems. <i>Construction and Building Materials</i> , 2019, 229, 116884.	7.2	17
46	A new test setup for measuring early age coefficient of thermal expansion of concrete. <i>Cement and Concrete Composites</i> , 2019, 98, 14-28.	10.7	17
47	Comparison Between Different Experimental Techniques for Stiffness Monitoring of Cement Pastes. <i>Journal of Advanced Concrete Technology</i> , 2014, 12, 46-61.	1.8	17
48	Influence of the incorporation of phase change materials on temperature development in mortar at early ages: Experiments and numerical simulation. <i>Construction and Building Materials</i> , 2019, 225, 1036-1051.	7.2	16
49	A new method based on equivalent surfaces for simulation of the post-cooling in concrete arch dams during construction. <i>Engineering Structures</i> , 2020, 209, 109976.	5.3	15
50	Enhanced massivity index based on evidence from case studies: Towards a robust pre-design assessment of early-age thermal cracking risk and practical recommendations. <i>Construction and Building Materials</i> , 2021, 271, 121570.	7.2	15
51	Seismic behaviour of precast sandwich wall panels of steel fibre reinforced concrete layers and fibre reinforced polymer connectors. <i>Engineering Structures</i> , 2021, 237, 112149.	5.3	15
52	Early age cracking risk in a massive concrete foundation slab: Comparison of analytical and numerical prediction models with on-site measurements. <i>Construction and Building Materials</i> , 2021, 301, 124135.	7.2	15
53	Simulation of Humidity Fields in Concrete: Experimental Validation and Parameter Estimation. <i>Journal of Advanced Concrete Technology</i> , 2015, 13, 214-229.	1.8	14
54	Monitoring the early stiffness development in epoxy adhesives for structural strengthening. <i>International Journal of Adhesion and Adhesives</i> , 2015, 59, 77-85.	2.9	14

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55	Pull-out behaviour of Glass-Fibre Reinforced Polymer perforated plate connectors embedded in concrete. Part I: Experimental program. <i>Construction and Building Materials</i> , 2018, 162, 155-169.	7.2	14
56	Microstructural simulation and measurement of elastic modulus evolution of hydrating cement pastes. <i>Cement and Concrete Research</i> , 2020, 130, 106007.	11.0	14
57	Towards a robust and versatile method for monitoring E-modulus of concrete since casting: Enhancements and extensions of EMM-ARM. <i>Strain</i> , 2017, 53, e12232.	2.4	14
58	Numerical benchmark campaign of COST Action TU1404 "microstructural modelling. RILEM Technical Letters, 0, 2, 99-107.	0.0	14
59	Drying induced moisture losses from mortar to the environment. Part II: numerical implementation. <i>Materials and Structures/Materiaux Et Constructions</i> , 2007, 40, 813-825.	3.1	13
60	Identification of the percolation threshold in cementitious pastes by monitoring the E-modulus evolution. <i>Cement and Concrete Composites</i> , 2012, 34, 739-745.	10.7	13
61	Microstructure-Based Prediction of the Elastic Behaviour of Hydrating Cement Pastes. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 442.	2.5	13
62	3D numerical simulation of the cracking behaviour of a RC one-way slab under the combined effect of thermal, shrinkage and external loads. <i>Engineering Structures</i> , 2020, 212, 110493.	5.3	13
63	Finite element based micro modelling of masonry walls subjected to fire exposure: Framework validation and structural implications. <i>Engineering Structures</i> , 2020, 213, 110545.	5.3	13
64	Recommendations of RILEM TC 287-CCS: thermo-chemo-mechanical modelling of massive concrete structures towards cracking risk assessment. <i>Materials and Structures/Materiaux Et Constructions</i> , 2021, 54, 1.	3.1	13
65	Continuous monitoring of sand-cement stiffness starting from layer compaction with a resonant frequency-based method: Issues on mould geometry and sampling. <i>Soils and Foundations</i> , 2014, 54, 56-66.	3.1	11
66	Quality control and monitoring of NSM CFRP systems: E-modulus evolution of epoxy adhesive and its relation to the pull-out force. <i>Composites Part B: Engineering</i> , 2015, 75, 95-103.	12.0	11
67	Hygro-mechanical modeling of restrained ring test: COST TU1404 benchmark. <i>Construction and Building Materials</i> , 2019, 229, 116543.	7.2	11
68	Stiffness evolution of natural hydraulic lime mortars at early ages measured through EMM-ARM. <i>Construction and Building Materials</i> , 2019, 216, 405-415.	7.2	11
69	Organic-inorganic hybrid sol-gel materials doped with a fluorescent triarylimidazole derivative. <i>RSC Advances</i> , 2021, 11, 24613-24623.	3.6	11
70	A structural experimental technique to characterize the viscoelastic behavior of concrete under restrained deformations. <i>Strain</i> , 2017, 53, e12216.	2.4	10
71	Intervened URM buildings with RC elements: typological characterisation and associated challenges. <i>Bulletin of Earthquake Engineering</i> , 2019, 17, 4987-5019.	4.1	10
72	Tube-jack testing for irregular masonry walls: Prototype development and testing. <i>NDT and E International</i> , 2013, 58, 24-35.	3.7	9

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73	Estimation of the specific enthalpyâ€“temperature functions for plastering mortars containing hybrid mixes of phase change materials. International Journal of Energy and Environmental Engineering, 2014, 5, 1.	2.5	9
74	Pull-out behaviour of glass-fibre reinforced polymer perforated plate connectors embedded in concrete. Part II: Prediction of load carrying capacity. Construction and Building Materials, 2018, 169, 142-164.	7.2	9
75	PDMS Based Hybrid Sol-Gel Materials for Sensing Applications in Alkaline Environments: Synthesis and Characterization. Polymers, 2020, 12, 371.	4.5	9
76	Displacement-based seismic performance evaluation and vulnerability assessment of buildings: The N2 method revisited. Structures, 2020, 24, 41-49.	3.6	8
77	A Retrospective View of EMM-ARM: Application to Quality Control in Soil-improvement and Complementary Developments. Procedia Engineering, 2016, 143, 339-346.	1.2	7
78	A formulation to reduce mesh dependency in FE analyses of RC structures under imposed deformations. Engineering Structures, 2017, 132, 443-455.	5.3	7
79	Two-staged kinetics of moduli evolution with time of a lime treated soil under different curing temperatures. Transportation Geotechnics, 2018, 17, 133-140.	4.5	7
80	Longitudinal restraining devices for the evaluation of structural behaviour of cementâ€“based materials: The past, present and prospective trends. Strain, 2020, 56, e12343.	2.4	7
81	Experiences and analysis of the construction process of mass foundation slabs aimed at reducing the risk of early age cracks. Journal of Building Engineering, 2021, 44, 102947.	3.4	7
82	Continuous Stiffness Monitoring of Cemented Sand through Resonant Frequency. , 2011, , .		6
83	An integrated framework for multi-criteria optimization of thin concrete shells at early design stages. Advanced Engineering Informatics, 2018, 38, 330-342.	8.0	6
84	On-site Monitoring of Mass Concrete. RILEM State-of-the-Art Reports, 2019, , 307-355.	0.7	6
85	Thermo-chemo-hygro-mechanical simulation of the restrained shrinkage ring test for cement-based materials under distinct drying conditions. Construction and Building Materials, 2021, 294, 123600.	7.2	6
86	Temperature Control. RILEM State-of-the-Art Reports, 2019, , 153-179.	0.7	6
87	Continuous Monitoring of Concrete Mechanical Properties since an Early Age to Support Construction Phasing. , 2015, , .		5
88	Numerical Study on Restraints Effects in Massive Foundation Slabs. Procedia Engineering, 2017, 193, 226-233.	1.2	5
89	Study of Early Age Stiffness Development in Limeâ€“Cement Blended Mortars. RILEM Bookseries, 2019, , 397-404.	0.4	5
90	FEM Applied to Building Physics: Modeling Solar Radiation and Heat Transfer of PCM Enhanced Test Cells. Energies, 2020, 13, 2200.	3.1	5

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91	An innovative approach for temperature control of massive concrete structures at early ages based on post-cooling: Proof of concept. <i>Journal of Building Engineering</i> , 2020, 32, 101832.	3.4	5
92	Automatic Detection of Surface Damage in Round Brick Chimneys by Finite Plane Modelling from Terrestrial Laser Scanning Point Clouds. Case Study of Bragança Dukes' Palace, Guimarães, Portugal. <i>International Journal of Architectural Heritage</i> , 2023, 17, 389-403.	3.1	5
93	Integrating HBIM and Sustainability Certification: A Pilot Study Using GBC Historic Building Certification. <i>International Journal of Architectural Heritage</i> , 2023, 17, 1464-1483.	3.1	5
94	Analysis of the effect of shoring on the behaviour of reinforced concrete slabs. <i>Construction and Building Materials</i> , 2017, 143, 473-489.	7.2	4
95	Analytical assessment of restraint forces and crack widths in end-restrained building slabs. <i>Engineering Structures</i> , 2020, 224, 111218.	5.3	4
96	Energy benefits of cement-based plaster containing hybrid phase-change material. <i>Proceedings of Institution of Civil Engineers: Construction Materials</i> , 2018, 171, 117-125.	1.1	3
97	Consideration of Soil Temperature in the Modeling of Early-Age Mass Concrete Slab. <i>IOP Conference Series: Materials Science and Engineering</i> , 2019, 603, 022095.	0.6	3
98	Thermo-Hygro-Mechanical Simulation of Cracking in Thick Restrained RC Members: Application to a 50 cm Thick Slab. <i>Journal of Advanced Concrete Technology</i> , 2019, 17, 489-505.	1.8	3
99	Experimental analysis of lime putty and pozzolan-based mortar for interventions in archaeological sites. <i>Materials and Structures/Materiaux Et Constructions</i> , 2021, 54, 1.	3.1	3
100	From LiDAR data towards HBIM for energy analysis. , 2017, , 224-241.		3
101	Thermo-Mechanical Analysis of Mass Concrete Foundation Slabs at Early Age – Essential Aspects and Experiences from the FE Modelling. <i>Materials</i> , 2022, 15, 1815.	2.9	3
102	Glycerol resulting from biodiesel production as an admixture for cement-based materials: an experimental study. <i>European Journal of Environmental and Civil Engineering</i> , 2016, , 1-17.	2.1	2
103	Practice on creating a common reference concrete for Round Robin Testing programmes based on the experience from COST Action TU1404. <i>Construction and Building Materials</i> , 2020, 247, 118542.	7.2	2
104	Effect of Expansive Additives on the Early Age Elastic Modulus Development of Cement Paste by Ambient Response Method (ARM). <i>RILEM Bookseries</i> , 2021, , 319-327.	0.4	2
105	Assessing Viscoelastic Properties of Concrete during its Early Ages through Forced Dynamic Excitation of Test Beams. <i>Key Engineering Materials</i> , 0, 711, 103-110.	0.4	1
106	Assessment of the Small Strain Stiffness of a Sand-Cement Mixture by Cyclic and Dynamic Test Methods. , 2016, , .		1
107	The challenges of adopting BIM for setting and infrastructure management of University of Minho. <i>E3S Web of Conferences</i> , 2018, 48, 02002.	0.5	1
108	Thermal Properties. <i>RILEM State-of-the-Art Reports</i> , 2019, , 47-67.	0.7	1

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109	A new test setup for simulation of the combined effect of bending and axial restraint in slab-like specimens. <i>Engineering Structures</i> , 2020, 225, 111251.	5.3	1
110	Modelling macroscopic shrinkage of hardened cement paste considering C-S-H densification. <i>Advances in Cement Research</i> , 2021, 33, 257-284.	1.6	1
111	Elastic Modulus Measurement Through Ambient Response Method. <i>Springer Tracts in Civil Engineering</i> , 2020, , 69-98.	0.5	1
112	Boosting Smart Building Energy Saving Capacity using Phase Change Materials. , 2020, , .		0
113	Early Age Temperature Control in Mass Concrete Through Incorporation of Dispersed Phase Change Materials (PCMs). <i>RILEM Bookseries</i> , 2021, , 13-24.	0.4	0
114	Long-Term Experimental Campaign on RC Shrinkage Cracking: Conceptualization, Planning and Experimental Procedures. <i>RILEM Bookseries</i> , 2021, , 141-153.	0.4	0
115	Validation of Thermo-hygro-Mechanical FEM Analysis of Thick Restrained RC Members by Comparison with Experiments. <i>RILEM Bookseries</i> , 2021, , 291-303.	0.4	0
116	Towards the Understanding the Role of the Mix Design Method in the Mechanical Behaviour of Recycled Aggregate Concrete at Early Ages. <i>RILEM Bookseries</i> , 2021, , 279-288.	0.4	0
117	Numerical simulations of derived URM-RC buildings: Assessment of strengthening interventions with RC. <i>Journal of Building Engineering</i> , 2021, 40, 102304.	3.4	0
118	Performance Requirements, Challenges and Existing Solutions of PCM in Massive Concrete for Temperature Control. <i>RILEM Bookseries</i> , 2021, , 93-103.	0.4	0
119	Evoluo do Processo de Carbonatao em Argamassas de Cal Area. <i>Revista Materia</i> , 2021, 26, .	0.2	0
120	The Use of Continuous System Identification for Evaluation of Concrete E-Modulus Evolution: Laboratory and Field Applications. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2012, , 405-412.	0.5	0
121	Estudo experimental do fluxo de umidade em argamassas de cal area. <i>Revista Materia</i> , 2019, 24, .	0.2	0
122	A multi-physics modelling based on coupled diffusion equations to simulate the carbonation process. <i>Revista IBRACON De Estruturas E Materiais</i> , 2020, 13, .	0.6	0
123	THERMO-MECHANICAL ANALYSIS OF YOUNG CONCRETE. , 2006, , 91-97.		0