

# Digital Concrete: A Review

Cement and Concrete Research

123, 105780

DOI: [10.1016/j.cemconres.2019.105780](https://doi.org/10.1016/j.cemconres.2019.105780)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Feasibility Study of SBR-Modified Cementitious Mixtures for Use as 3D Additive Construction Materials. <i>Polymers</i> , 2019, 11, 1321.	2.0	10
2	The optimal tuning, within carbon limits, of thermal mass in naturally ventilated buildings. <i>Building and Environment</i> , 2019, 165, 106373.	3.0	14
3	Combined application of distributed fibre optical and digital image correlation measurements to structural concrete experiments. <i>Engineering Structures</i> , 2020, 225, 111309.	2.6	58
4	Analysis of Concrete Failure on the Descending Branch of the Load-Displacement Curve. <i>Crystals</i> , 2020, 10, 921.	1.0	10
5	Bond properties of reinforcing bar penetrations in 3D concrete printing. <i>Automation in Construction</i> , 2020, 120, 103394.	4.8	55
6	Evolution of elastic behavior of alite paste at early hydration stages. <i>Journal of the American Ceramic Society</i> , 2020, 103, 6490-6504.	1.9	17
8	Layer-interface properties in 3D printed concrete: Dual hierarchical structure and micromechanical characterization. <i>Cement and Concrete Research</i> , 2020, 138, 106220.	4.6	79
9	3D Concrete Printing for Sustainable Construction. <i>Energies</i> , 2020, 13, 6351.	1.6	31
10	Setting on demand for digital concrete "Principles, measurements, chemistry, validation. <i>Cement and Concrete Research</i> , 2020, 132, 106047.	4.6	124
11	Mechanical Behavior of Printed Strain Hardening Cementitious Composites. <i>Materials</i> , 2020, 13, 2253.	1.3	33
12	A process classification framework for defining and describing Digital Fabrication with Concrete. <i>Cement and Concrete Research</i> , 2020, 134, 106068.	4.6	138
13	Development of 3D-printable ultra-high performance fiber-reinforced concrete for digital construction. <i>Construction and Building Materials</i> , 2020, 257, 119546.	3.2	167
14	Effect of Curing Methods on Shrinkage Development in 3D-Printed Concrete. <i>Materials</i> , 2020, 13, 2590.	1.3	55
15	Extrusion-Based Additive Manufacturing with Carbon Reinforced Concrete: Concept and Feasibility Study. <i>Materials</i> , 2020, 13, 2568.	1.3	61
16	Improving printability of limestone-calcined clay-based cementitious materials by using viscosity-modifying admixture. <i>Cement and Concrete Research</i> , 2020, 132, 106040.	4.6	141
17	Experimental Investigation of the Pumping of a Model-Concrete through Pipes. <i>Materials</i> , 2020, 13, 1161.	1.3	5
18	Early-Age Performance of 3D Printed Carbon Nanofiber and Carbon Microfiber Cement Composites. <i>Transportation Research Record</i> , 2020, 2674, 10-20.	1.0	12
20	Investigation of the properties of alkali-activated slag mixes involving the use of nanoclay and nucleation seeds for 3D printing. <i>Composites Part B: Engineering</i> , 2020, 186, 107826.	5.9	117

#	ARTICLE	IF	CITATIONS
21	On-demand additive manufacturing of functionally graded concrete. Virtual and Physical Prototyping, 2020, 15, 194-210.	5.3	27
22	The Effect of Accelerator Dosage on Fresh Concrete Properties and on Interlayer Strength in Shotcrete 3D Printing. Materials, 2020, 13, 374.	1.3	99
23	3-D printing of concrete: Beyond horizons. Cement and Concrete Research, 2020, 133, 106070.	4.6	116
24	3D-printable lightweight foamed concrete and comparison with classical foamed concrete in terms of fresh state properties and mechanical strength. Construction and Building Materials, 2020, 254, 119271.	3.2	55
25	On the emergence of 3D printable Engineered, Strain Hardening Cementitious Composites (ECC/SHCC). Cement and Concrete Research, 2020, 132, 106038.	4.6	154
26	In situ Resource Utilization and Reconfiguration of Soils Into Construction Materials for the Additive Manufacturing of Buildings. Frontiers in Materials, 2020, 7, .	1.2	26
27	Nailing of Layers: A Promising Way to Reinforce Concrete 3D Printing Structures. Materials, 2020, 13, 1518.	1.3	61
28	Opportunities and challenges for structural engineering of digitally fabricated concrete. Cement and Concrete Research, 2020, 133, 106079.	4.6	117
29	Eggshell: Ultra-Thin Three-Dimensional Printed Formwork for Concrete Structures. 3D Printing and Additive Manufacturing, 2020, 7, 48-59.	1.4	54
30	Effects of redispersible polymer powders on the structural build-up of 3D printing cement paste with and without hydroxypropyl methylcellulose. Construction and Building Materials, 2021, 267, 120551.	3.2	47
31	A compendious review on lack-of-fusion in digital concrete fabrication. Additive Manufacturing, 2021, 37, 101654.	1.7	28
32	VoxelPrint: A Grasshopper plug-in for voxel-based numerical simulation of concrete printing. Automation in Construction, 2021, 122, 103469.	4.8	42
33	A 3D concrete printing prefabrication platform for bespoke columns. Automation in Construction, 2021, 122, 103467.	4.8	102
34	A review of 3D printed concrete: Performance requirements, testing measurements and mix design. Construction and Building Materials, 2021, 273, 121745.	3.2	122
35	Sustainable Materials for Additive Manufacturing: Earth-Based Concrete. , 2021, , 708-716.		3
36	Weak inter-layer bonding in extrusion 3D concrete printing: a comparative analysis of mitigation techniques. IOP Conference Series: Materials Science and Engineering, 0, 1028, 012003.	0.3	0
37	Reinforcing digitally fabricated concrete: A systems approach review. Additive Manufacturing, 2021, 37, 101737.	1.7	11
38	The effects of nano- and micro-sized additives on 3D printable cementitious and alkali-activated composites: a review. Applied Nanoscience (Switzerland), 2022, 12, 805-823.	1.6	39

#	ARTICLE	IF	CITATIONS
39	Biomimicry for 3D concrete printing: A review and perspective. Additive Manufacturing, 2021, 38, 101823.	1.7	29
40	Early age shrinkage phenomena of 3D printed cementitious materials with superabsorbent polymers. Journal of Building Engineering, 2021, 35, 102059.	1.6	14
41	Development of 3D printing sustainable mortars based on a bibliometric analysis. Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications, 2021, 235, 1419-1429.	0.7	6
42	Uniaxial load testing of large-scale 3D-printed concrete wall and finite-element model analysis. Construction and Building Materials, 2021, 275, 122039.	3.2	21
43	Use of magnesium-silicate-hydrate (M-S-H) cement mixes in 3D printing applications. Cement and Concrete Composites, 2021, 117, 103901.	4.6	31
44	Fresh and anisotropic-mechanical properties of 3D printable ultra-high ductile concrete with crumb rubber. Composites Part B: Engineering, 2021, 211, 108639.	5.9	89
45	Recent Advances in Geopolymer Technology. A Potential Eco-Friendly Solution in the Construction Materials Industry: A Review. Journal of Composites Science, 2021, 5, 109.	1.4	31
46	Numerical Simulation of 3D Printing of Infrastructure Materials. , 2021, , .		0
47	A systematic review and analysis of the viability of 3D-printed construction in remote environments. Automation in Construction, 2021, 125, 103642.	4.8	59
48	Integrating reinforcement in digital fabrication with concrete: A review and classification framework. Cement and Concrete Composites, 2021, 119, 103964.	4.6	101
49	An Overview on the Rheology, Mechanical Properties, Durability, 3D Printing, and Microstructural Performance of Nanomaterials in Cementitious Composites. Materials, 2021, 14, 2950.	1.3	10
50	Fresh and Rheological Performances of Air-Entrained 3D Printable Mortars. Materials, 2021, 14, 2409.	1.3	12
51	Foundation Pilesâ€”A New Feature for Concrete 3D Printers. Materials, 2021, 14, 2545.	1.3	11
52	3D-printable engineered cementitious composites (3DP-ECC): Fresh and hardened properties. Cement and Concrete Research, 2021, 143, 106388.	4.6	93
53	3D printing in the construction industry - A systematic review of the thermal performance in buildings. Renewable and Sustainable Energy Reviews, 2021, 141, 110794.	8.2	88
54	Fiber orientation effects on ultra-high performance concrete formed by 3D printing. Cement and Concrete Research, 2021, 143, 106384.	4.6	113
55	Cloud Manufacturing, Internet of Things-Assisted Manufacturing and 3D Printing Technology: Reliable Tools for Sustainable Construction. Sustainability, 2021, 13, 7327.	1.6	50
56	Framework for technical specifications of 3D concrete printers. Automation in Construction, 2021, 127, 103732.	4.8	11

#	ARTICLE	IF	CITATIONS
57	Reinforcement method for 3D concrete printing using paste-coated bar penetrations. Automation in Construction, 2021, 127, 103694.	4.8	23
58	Importance and potential of cellulosic materials and derivatives in extrusion-based 3D concrete printing (3DCP): Prospects and challenges. Construction and Building Materials, 2021, 291, 123281.	3.2	22
59	Harnessing 3D Printing of Plastics in Construction—Opportunities and Limitations. Materials, 2021, 14, 4547.	1.3	16
60	Building Envelope Prefabricated with 3D Printing Technology. Sustainability, 2021, 13, 8923.	1.6	21
61	Eco-Friendly, Set-on-Demand Digital Concrete. 3D Printing and Additive Manufacturing, 2022, 9, 3-11.	1.4	12
62	Materials for 3D Concrete Printing: Approach to Standardization in Russia. Materials Science Forum, 0, 1043, 141-148.	0.3	0
63	Anisotropic mechanical properties of extrusion-based 3D printed layered concrete. Journal of Materials Science, 2021, 56, 16851-16864.	1.7	13
64	Structural behaviour of 3D printed concrete beams with various reinforcement strategies. Engineering Structures, 2021, 240, 112380.	2.6	68
65	Tensile and flexural properties of 3D-printed jackets-reinforced mortar. Construction and Building Materials, 2021, 296, 123639.	3.2	6
66	Applications of Cement-Based Smart Composites to Civil Structural Health Monitoring: A Review. Applied Sciences (Switzerland), 2021, 11, 8530.	1.3	12
67	Cost Analysis of Various Factors for Geopolymer 3D Printing of Construction Products in Factories and on Construction Sites. Recycling, 2021, 6, 60.	2.3	15
68	Prediction of fiber orientation and flexural performance of UHPC based on suspending mortar rheology and casting method. Cement and Concrete Composites, 2021, 122, 104142.	4.6	47
69	Milling a cement-based 3D printable mortar in its green state using a ball-nosed cutter. Cement and Concrete Composites, 2022, 125, 104266.	4.6	9
70	A Bibliometric Analysis on 3D Printed Concrete in Architecture. Springer Tracts in Additive Manufacturing, 2022, , 77-104.	0.2	0
71	Overcoming Environmental Stress Cracking of FDM 3D Printed Formwork for Counter-Pressure Casting of Concrete. 3D Printing and Additive Manufacturing, 2022, 9, 122-131.	1.4	3
72	Dynamic Properties and Fractal Characteristics of 3D Printed Cement Mortar in SHPB Test. Materials, 2021, 14, 5554.	1.3	3
73	Correlation of interlayer properties and rheological behaviors of 3DPC with various printing time intervals. Additive Manufacturing, 2021, 47, 102327.	1.7	5
74	Retardation and bridging effect of anionic polyacrylamide in cement paste and its relationship with early properties. Construction and Building Materials, 2021, 306, 124822.	3.2	23

#	ARTICLE	IF	CITATIONS
75	Accelerated Alkaline Attack of 3D Printing Polymers to Assess Their Durability in Geopolymer-Based Matrices. <i>Journal of Materials in Civil Engineering</i> , 2021, 33, 04021327.	1.3	4
76	3D printing of calcined clay-limestone-based cementitious materials. <i>Cement and Concrete Research</i> , 2021, 149, 106553.	4.6	52
77	Non-linear rheological behavior of superplasticized cementitious suspensions at high shear rates. <i>Construction and Building Materials</i> , 2021, 306, 124825.	3.2	3
78	State of practice of automation in precast concrete production. <i>Journal of Building Engineering</i> , 2021, 43, 102527.	1.6	31
79	Microstructural characterization of 3D printed concrete. <i>Journal of Building Engineering</i> , 2021, 44, 102948.	1.6	31
80	Properties of Composite Modified with Limestone Powder for 3D Concrete Printing. <i>RILEM Bookseries</i> , 2020, , 125-134.	0.2	7
81	Gravity Driven Tests to Assess Mechanical Properties of Printable Cement-Based Materials at Fresh State. <i>RILEM Bookseries</i> , 2020, , 280-289.	0.2	5
82	Penetration Study of Liquid in Powder Bed for 3D Powder-Bed Printing. <i>RILEM Bookseries</i> , 2020, , 379-386.	0.2	2
83	Control of Strand Properties Produced with Shotcrete 3D Printing by Accelerator Dosage and Process Parameters. <i>RILEM Bookseries</i> , 2020, , 42-52.	0.2	8
84	Aligned Interlayer Fibre Reinforcement and Post-tensioning as a Reinforcement Strategy for Digital Fabrication. <i>RILEM Bookseries</i> , 2020, , 622-631.	0.2	9
85	Flexural Behaviour of AR-Glass Textile Reinforced 3D Printed Concrete Beams. <i>RILEM Bookseries</i> , 2020, , 728-737.	0.2	8
86	Aligned Interlayer Fibre Reinforcement for Digital Fabrication with Concrete. <i>RILEM Bookseries</i> , 2021, , 87-98.	0.2	6
87	Influence of process parameters on the interlayer bond strength of concrete elements additive manufactured by Shotcrete 3D Printing (SC3DP). <i>Cement and Concrete Research</i> , 2020, 134, 106078.	4.6	111
88	Automated crack detection and measurement based on digital image correlation. <i>Construction and Building Materials</i> , 2020, 256, 119383.	3.2	133
91	Large Particle 3D Concrete Printing – A Green and Viable Solution. <i>Materials</i> , 2021, 14, 6125.	1.3	17
92	Processing of Set on Demand Solutions for Digital Fabrication in Architecture. <i>RILEM Bookseries</i> , 2020, , 440-447.	0.2	3
93	Drying of 3D Printed Mortar Filaments at Early Age Assessed by X-Ray Computed Tomography. <i>RILEM Bookseries</i> , 2020, , 564-571.	0.2	0
94	Preliminary Productivity Analysis of Conventional, Precast and 3D Printing Production Techniques for Concrete Columns with Simple Geometry. <i>RILEM Bookseries</i> , 2020, , 1031-1050.	0.2	1

#	ARTICLE	IF	CITATIONS
95	Environmental Impacts of 6-Axes Robotic Arm for 3D Concrete Printing. RILEM Bookseries, 2020, , 1023-1030.	0.2	1
96	3D Concrete Printing - Free Form Geometries with Improved Ductility and Strength. RILEM Bookseries, 2020, , 741-756.	0.2	2
97	Quantitative Evaluation of Orientation of Steel Fibers in 3D-Printed Ultra-High Performance Concrete. RILEM Bookseries, 2020, , 389-397.	0.2	1
98	Effect of accelerated curing and layer deformations on structural failure during extrusion-based 3D printing. Cement and Concrete Research, 2022, 151, 106586.	4.6	10
99	Digital fabrication of eco-friendly ultra-high performance fiber-reinforced concrete. Cement and Concrete Composites, 2022, 125, 104281.	4.6	34
100	Prediction of the Yield Stress of Printing Mortar Ink. RILEM Bookseries, 2020, , 360-369.	0.2	1
101	Rheology Evaluation of Cement Paste with Nanoclays, Nanosilica and Polymeric Admixtures for Digital Fabrication. RILEM Bookseries, 2020, , 144-152.	0.2	2
102	Basic fresh-state properties of extrusion-based 3D printed concrete. Građevinski Materijali i Konstrukcije, 2020, 63, 99-117.	0.1	1
103	Architectural Applications and Workflows for Additive Fabrication with Concrete. RILEM Bookseries, 2020, , 946-955.	0.2	4
104	Design of novel nozzles for higher interlayer strength of 3D printed cement paste. Additive Manufacturing, 2021, 48, 102452.	1.7	2
105	Use of Nanoclays and Methylcellulose to Tailor Rheology for Three-Dimensional Concrete Printing. ACI Materials Journal, 2021, , .	0.3	3
106	A review of printing strategies, sustainable cementitious materials and characterization methods in the context of extrusion-based 3D concrete printing. Journal of Building Engineering, 2022, 45, 103599.	1.6	30
107	Analysis of the mechanical performance and damage mechanism for 3D printed concrete based on pore structure. Construction and Building Materials, 2022, 314, 125572.	3.2	29
108	Thermal and Environmental Benefits of 3D Printing on Building Construction. Defect and Diffusion Forum, 0, 412, 99-106.	0.4	0
109	Additive Manufacturing on Building Construction. Defect and Diffusion Forum, 0, 412, 207-216.	0.4	1
110	Real-time toolpath planning and extrusion control (RTPEC) method for variable-width 3D concrete printing. Journal of Building Engineering, 2022, 46, 103716.	1.6	6
111	The effect of silicon-based waterproof agent on the wettability of superhydrophobic concrete and enhanced corrosion resistance. Construction and Building Materials, 2021, 313, 125482.	3.2	19
112	Printability of materials for extrusion 3D printing technologies: a review of material requirements and testin. Materiales De Construccion, 2021, 71, e267.	0.2	4

#	ARTICLE	IF	CITATIONS
113	Recycling of aggregate micro fines as a partial replacement for fly ash in 3D printing cementitious materials. <i>Construction and Building Materials</i> , 2022, 321, 126372.	3.2	9
114	Comparative study of scale effect in concrete fracturing via Lattice Discrete Particle and Finite Discrete Element Models. <i>Engineering Failure Analysis</i> , 2022, 135, 106062.	1.8	7
115	Structural Design and Testing of Digitally Manufactured Concrete Structures. <i>RILEM State-of-the-Art Reports</i> , 2022, , 187-222.	0.3	3
116	Digital Fabrication with Cement-Based Materialsâ€”The Rilem D.F.C. Technical Committee History, Strategy and Achievements. <i>RILEM State-of-the-Art Reports</i> , 2022, , 1-9.	0.3	2
118	3D-Printed Blocks: Thermal Performance Analysis and Opportunities for Insulating Materials. <i>Sustainability</i> , 2022, 14, 1077.	1.6	11
119	3D-printable quaternary cementitious materials towards sustainable development: Mixture design and mechanical properties. <i>Results in Engineering</i> , 2022, 13, 100341.	2.2	12
120	Mechanical anisotropy evolution of 3D-printed alkali-activated materials with different GGBFS/FA combinations. <i>Journal of Building Engineering</i> , 2022, 50, 104126.	1.6	13
121	Materials-oriented integrated design and construction of structures in civil engineeringâ€”A review. <i>Frontiers of Structural and Civil Engineering</i> , 2022, 16, 24-44.	1.2	6
122	Microstructural examination of carbonated 3Dâ€”printed concrete. <i>Journal of Microscopy</i> , 2022, 286, 141-147.	0.8	8
123	A review of formwork systems for modern concrete construction. <i>Structures</i> , 2022, 38, 52-63.	1.7	49
124	Nano-modification in digital manufacturing of cementitious composites. , 2022, , 251-275.		1
126	Digital Transformation of Concrete Technologyâ€”A Review. <i>Frontiers in Built Environment</i> , 2022, 8, .	1.2	3
127	Efficient Use of Graphene Oxide in Layered Cement Mortar. <i>Materials</i> , 2022, 15, 2181.	1.3	3
128	Towards efficient concrete structures with ultra-thin 3D printed formwork: exploring reinforcement strategies and optimisation. <i>Virtual and Physical Prototyping</i> , 2022, 17, 599-616.	5.3	8
130	Enhancing carbonation and strength of MgO cement through 3D printing. <i>Construction and Building Materials</i> , 2022, 328, 126867.	3.2	7
131	Investigation on the effect of alkali-free aluminium sulfate based accelerator on the fresh properties of 3D printable concrete. <i>Cement and Concrete Composites</i> , 2022, 130, 104521.	4.6	16
132	Evaluating the stiffening effect of CSA and sodium carbonate on the printability of OPC mortar. <i>Construction and Building Materials</i> , 2022, 328, 127088.	3.2	3
133	3D printing geopolymers: A review. <i>Cement and Concrete Composites</i> , 2022, 128, 104455.	4.6	48



#	ARTICLE	IF	CITATIONS
134	Some recent developments and testing strategies relating to the passive fire protection of concrete using intumescent coatings: a review. <i>Journal of Structural Fire Engineering</i> , 2022, ahead-of-print, .	0.4	2
135	Probabilistic Assessment of the Dynamic Viscosity of Self-Compacting Steel-Fiber Reinforced Concrete through a Micromechanical Model. <i>Materials</i> , 2022, 15, 2763.	1.3	1
136	A chemical process engineering look at digital concrete processes: critical step design, inline mixing, and scaleup. <i>Cement and Concrete Research</i> , 2022, 155, 106782.	4.6	31
137	Effect of supplementary cementitious materials on properties of 3D printed conventional and alkali-activated concrete: A review. <i>Automation in Construction</i> , 2022, 138, 104215.	4.8	38
138	Comparison between methods for indirect assessment of buildability in fresh 3D printed mortar and concrete. <i>Cement and Concrete Research</i> , 2022, 156, 106764.	4.6	35
139	Capillary imbibition depth in particle-bed 3D printing – Physical frame and one-dimensional experiments. <i>Cement and Concrete Research</i> , 2022, 156, 106740.	4.6	5
140	Dynamic properties of 3D printed cement mortar based on Split Hopkinson Pressure Bar testing. <i>Cement and Concrete Composites</i> , 2022, 130, 104520.	4.6	6
141	Chloride Diffusion by Build Orientation of Cementitious Material-Based Binder Jetting 3D Printing Mortar. <i>Materials</i> , 2021, 14, 7452.	1.3	2
142	The Influence of Polypropylene Fiber on the Working Performance and Mechanical Anisotropy of 3D Printing Concrete. <i>Journal of Advanced Concrete Technology</i> , 2021, 19, 1264-1274.	0.8	8
143	Applicability of existing models for the strength development of 3D-printed thixotropic concretes during hardening. <i>Mechanics of Advanced Materials and Structures</i> , 0, , 1-10.	1.5	0
144	Early-Age Mechanical Properties of 3D-Printed Mortar with Spent Garnet. <i>Materials</i> , 2022, 15, 100.	1.3	5
145	Experimental Study of Hardened Young's Modulus for 3D Printed Mortar. <i>Materials</i> , 2021, 14, 7643.	1.3	3
146	Material Design, Additive Manufacturing, and Performance of Cement-Based Materials. , 2022, , 301-320.		2
147	The effect of using recycled PET aggregates on mechanical and durability properties of 3D printed mortar. <i>Construction and Building Materials</i> , 2022, 335, 127443.	3.2	20
148	Life cycle assessment (LCA) and environmental sustainability of cementitious materials for 3D concrete printing: A systematic literature review. <i>Journal of Building Engineering</i> , 2022, 52, 104456.	1.6	17
151	Rheology control towards 3D printed magnesium potassium phosphate cement composites. <i>Composites Part B: Engineering</i> , 2022, 239, 109963.	5.9	14
152	Anomalous matrix and interlayer pore structure of 3D-printed fiber-reinforced cementitious composites. <i>Cement and Concrete Research</i> , 2022, 157, 106829.	4.6	17
153	Development of composites for 3D printing with reduced cement consumption. <i>Construction and Building Materials</i> , 2022, 341, 127775.	3.2	10

#	ARTICLE	IF	CITATIONS
155	On sustainability and digital fabrication with concrete. Cement and Concrete Research, 2022, 158, 106837.	4.6	38
156	Performance Evaluation of Reinforced Concrete Beam with 3d-Printed Permanent Formwork. SSRN Electronic Journal, 0, , .	0.4	0
157	An elasticâ€inelastic model and embedded bounceâ€back control for layered printing with cementitious materials. International Journal for Numerical Methods in Engineering, 2022, 123, 5098-5125.	1.5	2
158	Tensile performance of 3D-printed Strain-Hardening Cementitious Composites (SHCC) considering material parameters, nozzle size and printing pattern. Cement and Concrete Composites, 2022, 132, 104601.	4.6	18
159	Optimization of 3D printing concrete with coarse aggregate via proper mix design and printing process. Journal of Building Engineering, 2022, 56, 104745.	1.6	11
160	Fundamental Study on Automated Interlayer Reinforcing System with Metal Fiber Insertion for 3D Concrete Printer. RILEM Bookseries, 2022, , 411-416.	0.2	1
161	A 3D Printing Platform for Reinforced Printed-Sprayed Concrete Composites. RILEM Bookseries, 2022, , 249-254.	0.2	1
162	Pre-installed Reinforcement for 3D Concrete Printing. RILEM Bookseries, 2022, , 430-435.	0.2	2
163	Feasibility of Using Ultra-High Ductile Concrete to Print Self-reinforced Hollow Structures. RILEM Bookseries, 2022, , 133-138.	0.2	1
164	The StriatuS bridge. Architecture, Structures and Construction, 2022, 2, 521-543.	0.7	17
165	Hardened properties of 3D printed concrete with recycled coarse aggregate. Cement and Concrete Research, 2022, 159, 106868.	4.6	49
166	Hydration Products, Pore Structure, and Compressive Strength of Extrusion-Based 3d Printed Cement Pastes Containing Nano Calcium Carbonate. SSRN Electronic Journal, 0, , .	0.4	0
167	Characterizing the Bond Properties of Automatically Placed Helical Reinforcement in 3d Printed Concrete. SSRN Electronic Journal, 0, , .	0.4	0
168	Grading Material Properties in 3D Printed Concrete Structures. Nordic Concrete Research, 2022, 66, 73-89.	0.3	0
169	Circular economy in wood construction â€“ Additive manufacturing of fully recyclable walls made from renewables: Proof of concept and preliminary data. Construction and Building Materials, 2022, 344, 128219.	3.2	24
170	A review of largescale 3DCP: Material characteristics, mix design, printing process, and reinforcement strategies. Structures, 2022, 43, 508-532.	1.7	17
171	Impact of robotic 3D printing process parameters on interlayer bond strength. Automation in Construction, 2022, 142, 104478.	4.8	11
172	Utilization potential of steel fibers in 3D printed functionally graded cementitious composite: An experimental approach. Materials Letters, 2022, 324, 132765.	1.3	6

#	ARTICLE	IF	CITATIONS
173	Inter-laboratory study on the influence of 3D concrete printing set-ups on the bond behaviour of various reinforcements. <i>Cement and Concrete Composites</i> , 2022, 133, 104660.	4.6	13
174	Long-term durability assessment of 3D printed concrete. <i>Journal of Adhesion Science and Technology</i> , 2023, 37, 1921-1936.	1.4	3
176	Digital Fabrication and Mechanical Properties of 3D-printing Concrete. , 0, 10, 61-69.		0
177	Design of cement-based materials with robust viscosity: from polymer solution scale to concrete scale. <i>Materials and Structures/Materiaux Et Constructions</i> , 2022, 55, .	1.3	0
178	A comparative evaluation of sepiolite and nano-montmorillonite on the rheology of cementitious materials for 3D printing. <i>Construction and Building Materials</i> , 2022, 350, 128935.	3.2	12
179	Time-dependent fresh properties characterization of 3D printing engineered cementitious composites (3DP-ECC): On the evaluation of buildability. <i>Cement and Concrete Composites</i> , 2022, 133, 104704.	4.6	12
180	3D printing concrete with recycled coarse aggregates: The influence of pore structure on interlayer adhesion. <i>Cement and Concrete Composites</i> , 2022, 134, 104742.	4.6	22
181	Unraveling pore structure alternations in 3D-printed geopolymer concrete and corresponding impacts on macro-properties. <i>Additive Manufacturing</i> , 2022, 59, 103137.	1.7	2
182	Characterizing the bond properties of automatically placed helical reinforcement in 3D printed concrete. <i>Construction and Building Materials</i> , 2022, 355, 129228.	3.2	9
183	Increasing the interlayer strength of 3D printed concrete with tooth-like interface: An experimental and theoretical investigation. <i>Materials and Design</i> , 2022, 223, 111117.	3.3	7
184	Fostering innovative and sustainable mass-market construction using digital fabrication with concrete. <i>Cement and Concrete Research</i> , 2022, 161, 106948.	4.6	18
185	Analytical Predictions of Concrete Pumping: Extending the Khatib-Khayat Model to Herschel-Bulkley and Modified Bingham Fluids. <i>SSRN Electronic Journal</i> , 0, , .	0.4	0
186	Experimental investigation of ribbing pattern effect on the bonding qualities of water jet cut steel reinforcement. <i>Architecture, Structures and Construction</i> , 2022, 2, 455-463.	0.7	2
187	Rheology and printability of Portland cement based materials: a review. <i>Journal of Sustainable Cement-Based Materials</i> , 2023, 12, 789-807.	1.7	6
188	Geometric Feedback System for Robotic Spraying. <i>PFG - Journal of Photogrammetry, Remote Sensing and Geoinformation Science</i> , 0, , .	0.7	0
189	3D printed geopolymer composites: A review. <i>Materials Today Sustainability</i> , 2022, 20, 100240.	1.9	21
190	Hydration products, pore structure, and compressive strength of extrusion-based 3D printed cement pastes containing nano calcium carbonate. <i>Case Studies in Construction Materials</i> , 2022, 17, e01590.	0.8	1
191	3D printing lightweight aggregate concrete prepared with shell-packing-aggregate method - Printability, mechanical properties and pore structure. <i>Journal of Building Engineering</i> , 2022, 62, 105404.	1.6	4

#	ARTICLE	IF	CITATIONS
192	Experimental and numerical investigation of 3D-printed mortar walls under uniform axial compression. <i>Construction and Building Materials</i> , 2022, 360, 129552.	3.2	6
193	Rheological characterization of ultra-high performance concrete for 3D printing. <i>Cement and Concrete Composites</i> , 2023, 136, 104854.	4.6	12
194	Hardened fracture characteristics of printed concrete using acoustic emission monitoring technique. <i>Construction and Building Materials</i> , 2022, 361, 129684.	3.2	2
195	A road map to find in 3D printing a new design plasticity for construction â€œ The state of art. <i>Frontiers of Architectural Research</i> , 2023, 12, 337-360.	1.3	9
196	Analytical predictions of concrete pumping: Extending the Khatibâ€™Khayat model to Herschelâ€™Bulkley and modified Bingham fluids. <i>Cement and Concrete Research</i> , 2023, 163, 107035.	4.6	9
197	Enhancement of 3D printed cementitious composite by short fibers: A review. <i>Construction and Building Materials</i> , 2023, 362, 129763.	3.2	19
198	The use of rice husk particles to adjust the rheological properties of 3D printable cementitious composites through water sorption. <i>Construction and Building Materials</i> , 2023, 365, 130046.	3.2	7
199	Mechanical Performance Optimization in Spray-Based Three-Dimensional-Printed Mortar Using Carbon Fiber. <i>Journal of Materials in Civil Engineering</i> , 2023, 35, .	1.3	2
200	Multiscale structural characteristics and Heatâ€™Moisture properties of 3D printed building Walls: A review. <i>Construction and Building Materials</i> , 2023, 365, 130102.	3.2	3
201	Investigation of physical, chemical, mechanical, and microstructural properties of cement-less concrete â€œ state-of-the-art review. <i>Construction and Building Materials</i> , 2023, 365, 130020.	3.2	30
202	Nozzle criteria for enhancing extrudability, buildability and interlayer bonding in 3D printing concrete. <i>Automation in Construction</i> , 2023, 146, 104671.	4.8	21
203	Improved chloride binding capacity and corrosion protection of cement-based materials by incorporating alumina nano particles. <i>Cement and Concrete Composites</i> , 2023, 136, 104898.	4.6	10
204	Topology optimization of ribbed slabs and shells. <i>Engineering Structures</i> , 2023, 277, 115454.	2.6	5
205	Digitally fabricated weak interfaces to reduce minimum reinforcement in concrete structures. <i>Structural Concrete</i> , 2023, 24, 1835-1855.	1.5	3
206	Application and Development of Autonomous Robots in Concrete Construction: Challenges and Opportunities. <i>Drones</i> , 2022, 6, 424.	2.7	8
207	Tensile strain-hardening cementitious composites and its practical exploration without reinforcement: A review. <i>Frontiers in Materials</i> , 0, 9, .	1.2	1
208	Effects of Nozzle Details on Print Quality and Hardened Properties of Underwater 3D Printed Concrete. <i>Materials</i> , 2023, 16, 34.	1.3	1
209	Overview of 3D construction printing and future perspectives: a review of technology, companies and research progression. <i>Architectural Science Review</i> , 2024, 67, 1-22.	1.1	4

#	ARTICLE	IF	CITATIONS
210	Advances in Organic Rheology-Modifiers (Chemical Admixtures) and Their Effects on the Rheological Properties of Cement-Based Materials. <i>Materials</i> , 2022, 15, 8730.	1.3	2
211	Printability, Thermal and Compressive Strength Properties of Cementitious Materials: A Comparative Study with Silica Fume and Limestone. <i>Materials</i> , 2022, 15, 8607.	1.3	10
212	An attempt to apply laser combustion to palm waste. <i>Journal of the European Optical Society-Rapid Publications</i> , 2023, 19, 5.	0.9	1
213	Nanomechanical characterization of 3D printed cement pastes. <i>Journal of Building Engineering</i> , 2023, 66, 105874.	1.6	0
214	Elevated temperature effects on 3D printed ultra-high performance concrete. <i>Construction and Building Materials</i> , 2023, 367, 130241.	3.2	5
215	Controlling ettringite precipitation and rheological behavior in ordinary Portland cement paste by hydration control agent, temperature and mixing. <i>Cement and Concrete Research</i> , 2023, 166, 107095.	4.6	18
216	Effects of composite cementation system on rheological and working performances of fresh 3D-printable engineered cementitious composites. <i>Journal of Building Engineering</i> , 2023, 65, 105801.	1.6	0
217	Novel Compressive Constitutive Model for 3D Printed Concrete. <i>RILEM Bookseries</i> , 2023, , 461-468.	0.2	0
218	Effects of fiber volume fraction, fiber length, water-binder ratio, and nanoclay addition on the 3D printability of strain-hardening cementitious composites (SHCC). <i>Cement and Concrete Composites</i> , 2023, 139, 105066.	4.6	6
219	A multiscale model for quantifying fiber orientation effects on the tensile properties of 3D printed Engineered Cementitious Composites (3DP-ECC). <i>Journal of Building Engineering</i> , 2023, 68, 106090.	1.6	1
220	Influence of limestone calcined clay cement on properties of 3D printed concrete for sustainable construction. <i>Journal of Building Engineering</i> , 2023, 69, 106186.	1.6	3
221	3D printing concrete with recycled sand: The influence mechanism of extruded pore defects on constitutive relationship. <i>Journal of Building Engineering</i> , 2023, 68, 106169.	1.6	1
222	Experimental exploration of digitally fabricated connections for structural concrete. <i>Engineering Structures</i> , 2023, 285, 115994.	2.6	2
223	Using Fibre recovered from face mask waste to improve printability in 3D concrete printing. <i>Cement and Concrete Composites</i> , 2023, 139, 105047.	4.6	8
225	Optimisation of Mix Proportion of 3D Printable Mortar Based on Rheological Properties and Material Strength Using Factorial Design of Experiment. <i>Materials</i> , 2023, 16, 1748.	1.3	1
226	Research status and prospect of machine learning in construction 3D printing. <i>Case Studies in Construction Materials</i> , 2023, 18, e01952.	0.8	4
227	Using micro-XRF to characterize chloride ingress through cold joints in 3D printed concrete. <i>Materials and Structures/Materiaux Et Constructions</i> , 2023, 56, .	1.3	1
228	Investigation on the microstructure of a 3D-printed mortar through a novel leaching-subsidary tomography. <i>Journal of Sustainable Cement-Based Materials</i> , 2023, 12, 818-831.	1.7	0

#	ARTICLE	IF	CITATIONS
229	3D Construction Printing Standing for Sustainability and Circularity: Material-Level Opportunities. <i>Materials</i> , 2023, 16, 2458.	1.3	3
230	Workability and hardened properties of 3D printed engineered cementitious composites incorporating recycled sand and PE fibers. <i>Journal of Building Engineering</i> , 2023, 71, 106477.	1.6	2
231	Development of low-carbon materials from GGBS and clay brick powder for 3D concrete printing. <i>Construction and Building Materials</i> , 2023, 383, 131232.	3.2	9
232	3D printing of limestone-calcined clay cement: A review of its potential implementation in the construction industry. <i>Results in Engineering</i> , 2023, 18, 101115.	2.2	7
239	Rheological Behavior of 3D Printable Bio-Concretes Produced with Rice Husk. <i>RILEM Bookseries</i> , 2023, , 1288-1296.	0.2	0
253	Macrocell Significance in Reinforced Concrete Slabs Exposed to a Marine Environment. <i>Lecture Notes in Civil Engineering</i> , 2023, , 57-79.	0.3	0
262	Thermal optimization of 3D-printed block “ Hot Box and heat flow meter experimental analysis. , 2023, , .		0
280	Contribution to the Formulation of a Material Based on Marble Waste for Its Use in 3D Printing in Civil Engineering. <i>Lecture Notes in Mechanical Engineering</i> , 2024, , 159-169.	0.3	0
290	Variation of the Adhesion Between Concrete Printed Layers in a 3D Concrete Printed Structure. <i>Lecture Notes in Civil Engineering</i> , 2024, , 971-978.	0.3	0
295	Circular Robotic Construction. , 2024, , 151-170.		0