Elke Gruyaert

List of Publications by Year
in descending order

56 papers	3,240 citations	186209 28 h-index	161767 54 g-index
58 all docs	58 docs citations	58 times ranked	2104 citing authors

#	Article	IF	Citations
1	Self-Healing Concrete Research in the European Projects SARCOS and SMARTINCS. RILEM Bookseries, 2022, , 303-307.	0.2	2
2	Report of RILEM TC 281-CCC: outcomes of a round robin on the resistance to accelerated carbonation of Portland, Portland-fly ash and blast-furnace blended cements. Materials and Structures/Materiaux Et Constructions, 2022, 55, 99.	1.3	10
3	Carbonation of cement paste with GGBFS: Effect of curing duration, replacement level and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e816" altimg="si5.svg"><mml:msub><mml:mrow><mml:mi mathvariant="normal">CO</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> concentration on the reaction products and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e826" altimg="si5.svg"><mml:	4.6	12
4	Valorization of secondary copper slag as aggregate and cement replacement in ultra-high performance concrete. Journal of Building Engineering, 2022, 54, 104567.	1.6	5
5	Effect of healing agents on the rheological properties of cement paste and compatibility with superplasticizer. MATEC Web of Conferences, 2022, 361, 05008.	0.1	1
6	Comparative study on modelling concrete properties using physical and mechanical properties of recycled coarse aggregate. Construction and Building Materials, 2022, 345, 128249.	3.2	9
7	Treatment with nano-silica and bacteria to restore the reduced bond strength between concrete and repair mortar caused by aggressive removal techniques. Cement and Concrete Composites, 2021, 120, 104064.	4.6	11
8	Implementation and validation of Dewarâ€™s particle packing model for recycled concrete aggregates. Construction and Building Materials, 2021, 294, 123429.	3.2	6
9	Reactivity Assessment of Modified Ferro Silicate Slag by R3 Method. Applied Sciences (Switzerland), 2021, 11, 366.	1.3	19
10	Modelling the effect of coarse recycled concrete aggregate on compressive strength of Portland cement concrete using volume fraction-based approach. Construction and Building Materials, 2021, 309, 125159.	3.2	16
11	Understanding the Impacts of Healing Agents on the Properties of Fresh and Hardened Self-Healing Concrete: A Review. Processes, 2021, 9, 2206.	1.3	18
12	Bond strength between concrete and repair mortar and its relation with concrete removal techniques and substrate composition. Construction and Building Materials, 2020, 230, 116900.	3.2	33
13	Understanding the carbonation of concrete with supplementary cementitious materials: a critical review by RILEM TC 281-CCC. Materials and Structures/Materiaux Et Constructions, 2020, 53, 1.	1.3	123
14	Addressing the need for standardization of test methods for self-healing concrete: an inter-laboratory study on concrete with macrocapsules. Science and Technology of Advanced Materials, 2020, 21, 661-682.	2.8	50
15	First Large Scale Application with Self-Healing Concrete in Belgium: Analysis of the Laboratory Control Tests. Materials, 2020, 13, 997.	1.3	58
16	How concrete removal techniques affect the bonding between concrete and repair mortar. MATEC Web of Conferences, 2019, 289, 02008.	0.1	1
17	Novel active crack width control technique to reduce the variation on water permeability results for self-healing concrete. Construction and Building Materials, 2019, 203, 541-551.	3.2	56
18	Quantitative analysis on porosity of reactive powder concrete based on automated analysis of back-scattered-electron images. Cement and Concrete Composites, 2019, 96, 1-10.	4.6	27

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19	Reactivity of modified iron silicate slag as sustainable alternative binder. , 2019, , .		5
20	Poly(methyl methacrylate) capsules as an alternative to the â€˜â€™proof-of-conceptâ€™â€™ glass capsules used in self-healing concrete. Cement and Concrete Composites, 2018, 89, 260-271.	4.6	66
21	Ground Granulated Blast-Furnace Slag. RILEM State-of-the-Art Reports, 2018, , 1-53.	0.3	25
22	Recommendation of RILEM TC 238-SCM: determination of the degree of reaction of siliceous fly ash and slag in hydrated cement paste by the selective dissolution method. Materials and Structures/Materiaux Et Constructions, 2018, 51, 1.	1.3	21
23	Development of an improved cracking method to reduce the variability in testing the healing efficiency of self-healing mortar containing encapsulated polymers. MATEC Web of Conferences, 2018, 199, 02017.	0.1	7
24	A Review of Selfâ€Healing Concrete for Damage Management of Structures. Advanced Materials Interfaces, 2018, 5, 1800074.	1.9	412
25	Effect of Polyurethane Viscosity on Self-Healing Efficiency of Cementitious Materials Exposed to High Temperatures from Sun Radiation. Journal of Materials in Civil Engineering, 2018, 30, .	1.3	12
26	Influence of Vacuum Mixing on the Carbonation Resistance and Microstructure of Reactive Powder Concrete Containing Secondary Copper Slag as Supplementary Cementitious Material (SCM). Procedia Engineering, 2017, 171, 534-542.	1.2	8
27	Outcomes of the RILEM round robin on degree of reaction of slag and fly ash in blended cements. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	1.3	101
28	Calibrated quantitative thermogravimetric analysis for the determination of portlandite and calcite content in hydrated cementitious systems. Materials and Structures/Materiaux Et Constructions, 2017, 50, 1.	1.3	34
29	Influence of intensive vacuum mixing and heat treatment on compressive strength and microstructure of reactive powder concrete incorporating secondary copper slag as supplementary cementitious material. Construction and Building Materials, 2017, 155, 400-412.	3.2	50
30	Application of encapsulated superabsorbent polymers in cementitious materials for stimulated autogenous healing. Smart Materials and Structures, 2017, 26, 105043.	1.8	37
31	Monitoring crack movement in polymer-based self-healing concrete through digital image correlation, acoustic emission analysis and SEM in-situ loading. Materials and Design, 2017, 115, 238-246.	3.3	61
32	Design and testing of tubular polymeric capsules for self-healing of concrete. IOP Conference Series: Materials Science and Engineering, 2017, 251, 012003.	0.3	4
33	Simulation-Aided Design of Tubular Polymeric Capsules for Self-Healing Concrete. Materials, 2017, 10, 10.	1.3	36
34	Self-healing mortar with pH-sensitive superabsorbent polymers: testing of the sealing efficiency by water flow tests. Smart Materials and Structures, 2016, 25, 084007.	1.8	73
35	Effect of secondary copper slag as cementitious material in ultra-high performance mortar. Construction and Building Materials, 2016, 119, 31-44.	3.2	86
36	Comparison of different approaches for self-healing concrete in a large-scale lab test. Construction and Building Materials, 2016, 107, 125-137.	3.2	171

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37	Self-healing of moving cracks in concrete by means of encapsulated polymer precursors. Construction and Building Materials, 2016, 102, 671-678.	3.2	71
38	Influence of Intensive Vacuum Mixing on the Compressive Strength of RPC Containing Secondary Slag as Cementitious Material. , 2016, , .		2
39	Capsules with evolving brittleness to resist the preparation of self-healing concrete. Materiales De Construccion, 2016, 66, e092.	0.2	17
40	Self-protected nitrate reducing culture for intrinsic repair of concrete cracks. Frontiers in Microbiology, 2015, 6, 1228.	1.5	75
41	Selfâ€repair of thermal cracks in concrete sandwich panels. Structural Concrete, 2015, 16, 273-288.	1.5	11
42	TC 238-SCM: hydration and microstructure of concrete with SCMs. Materials and Structures/Materiaux Et Constructions, 2015, 48, 835-862.	1.3	189
43	Purdocement: application of alkali-activated slag cement in Belgium in the 1950s. Materials and Structures/Materiaux Et Constructions, 2015, 48, 501-511.	1.3	38
44	Design of polymeric capsules for self-healing concrete. Cement and Concrete Composites, 2015, 55, 298-307.	4.6	172
45	Activation of Pozzolanic and Latent-Hydraulic Reactions by Alkalis in Order to Repair Concrete Cracks. Journal of Materials in Civil Engineering, 2015, 27, .	1.3	16
46	Resistance of concrete with blast-furnace slag against chlorides, investigated by comparing chloride profiles after migration and diffusion. Materials and Structures/Materiaux Et Constructions, 2013, 46, 89-103.	1.3	48
47	Carbonation of slag concrete: Effect of the cement replacement level and curing on the carbonation coefficient â€" Effect of carbonation on the pore structure. Cement and Concrete Composites, 2013, 35, 39-48.	4.6	155
48	Performance of BFS concrete: k-Value concept versus equivalent performance concept. Construction and Building Materials, 2013, 47, 441-455.	3.2	27
49	Full probabilistic service life prediction and life cycle assessment of concrete with fly ash and blast-furnace slag in a submerged marine environment: a parameter study. International Journal of Environment and Sustainable Development, 2012, 11, 32.	0.2	19
50	Influence of mix composition on the extent of autogenous crack healing by continued hydration or calcium carbonate formation. Construction and Building Materials, 2012, 37, 349-359.	3.2	232
51	Investigation of the influence of blast-furnace slag on the resistance of concrete against organic acid or sulphate attack by means of accelerated degradation tests. Cement and Concrete Research, 2012, 42, 173-185.	4.6	120
52	Study of the hydration of Portland cement blended with blast-furnace slag by calorimetry and thermogravimetry. Journal of Thermal Analysis and Calorimetry, 2010, 102, 941-951.	2.0	147
53	Transport properties of high-volume fly ash concrete: Capillary water sorption, water sorption under vacuum and gas permeability. Cement and Concrete Composites, 2010, 32, 749-756.	4.6	65
54	Monitoring the setting of concrete containing blast-furnace slag by measuring the ultrasonic p-wave velocity. Cement and Concrete Research, 2008, 38, 1169-1176.	4.6	156

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55	Pressures and deformations of bunker silo walls. Biosystems Engineering, 2007, 97, 61-74.	1.9	2
56	Ultrasonic and calorimetric measurements on fresh concrete with blast-furnace slag. , 2007, , 497-504.		1