Influence of carbonation on the properties of reactive magnesia cement-based pressed masonry units

DOI: 10.1680/adcr.2008.20.2.53
Advances in Cement Research, 2008, 20, 53-64.

#	Paper	IF	Citations
96	Ultra-green construction: reactive magnesia masonry products. *Proceedings of Institution of Civil Engineers: Waste and Resource Management*, **2009**, 162, 185-196	0.5	31
95	Recent advances in the field of cement hydration and microstructure analysis. *Cement and Concrete Research*, **2011**, 41, 666-678	10.3	122
94	Scaled-up commercial production of reactive magnesium cement pressed masonry units. Part I: Production. *Proceedings of Institution of Civil Engineers: Construction Materials*, **2012**, 165, 211-223	0.8	31
93	Performance of magnesia cements in porous blocks in acid and magnesium environments. *Advances in Cement Research*, **2012**, 24, 221-232	1.8	46
92	Effects of accelerated carbonation on the microstructure of Portland cement pastes containing reactive MgO. *Cement and Concrete Research*, **2012**, 42, 769-777	10.3	148
91	Carbonating magnesia for soil stabilization. *Canadian Geotechnical Journal*, **2013**, 50, 899-905	3.2	69
90	Evaluation on Hydration Reactivity of Reactive Magnesium Oxide Prepared by Calcining Magnesite at Lower Temperatures. *Industrial & Engineering Chemistry Research*, **2013**, 52, 6430-6437	3.9	14
89	Properties of binary and ternary reactive MgO mortar blends subjected to CO2 curing. *Cement and Concrete Composites*, **2013**, 38, 40-49	8.6	59
88	Impact of hydrated magnesium carbonate additives on the carbonation of reactive MgO cements. *Cement and Concrete Research*, **2013**, 54, 87-97	10.3	153
87	Effects of Reactive Magnesia on Microstructure and Frost Durability of Portland Cement-Based Binders. *Journal of Materials in Civil Engineering*, **2013**, 25, 1941-1950	3	18
86	Reactive magnesia cement. **2013**, 523-543		24
85	Enhancing the carbonation of MgO cement porous blocks through improved curing conditions. *Cement and Concrete Research*, **2014**, 59, 55-65	10.3	134
84	Strength and deformation characteristics of carbonated reactive magnesia treated silt soil. *Journal of Central South University*, **2015**, 22, 1859-1868	2.1	33
83	Physical properties, electrical resistivity, and strength characteristics of carbonated silty soil admixed with reactive magnesia. *Canadian Geotechnical Journal*, **2015**, 52, 1699-1713	3.2	50
82	Effects of carbonation treatment on the properties of hydrated fly ash-MgO-Portland cement blends. *Construction and Building Materials*, **2015**, 96, 147-154	6.7	51
81	Experimental study on mechanical and acid-alkali properties of reactive magnesia carbonated-stabilized soil. *Japanese Geotechnical Society Special Publication*, **2016**, 2, 317-320	0.2	0
80	Effectiveness of using CO 2 pressure to enhance the carbonation of Portland cement-fly ash-MgO mortars. *Cement and Concrete Composites*, **2016**, 70, 78-85	8.6	33

79	Investigation of carbonation depth and its influence on the performance and microstructure of MgO cement and PC mixes. *Construction and Building Materials*, **2016**, 120, 349-363	6.7	50
78	Magnesia-Based Cements: A Journey of 150 Years, and Cements for the Future?. *Chemical Reviews*, **2016**, 116, 4170-204	68.1	326
77	Property changes of reactive magnesia-stabilized soil subjected to forced carbonation. *Canadian Geotechnical Journal*, **2016**, 53, 314-325	3.2	33
76	Development of low-carbon cementitious materials via carbonating Portland cement-fly ash-magnesia blends under various curing scenarios: a comparative study. *Journal of Cleaner Production*, **2017**, 163, 252-261	10.3	37
75	Influence of supplementary cementitious materials on the performance and environmental impacts of reactive magnesia cement concrete. *Journal of Cleaner Production*, **2017**, 159, 62-73	10.3	66
74	Investigation on Mg content in calcite when magnesium calcite and nesquehonite co-precipitate in hardened cement paste. *Thermochimica Acta*, **2017**, 654, 203-215	2.9	20
73	Effect of air entrainment on the performance of reactive MgO and PC mixes. *Construction and Building Materials*, **2017**, 142, 221-232	6.7	25
72	Recycling and reuse of reactive MgO cements: A feasibility study. *Construction and Building Materials*, **2017**, 157, 172-181	6.7	25
71	Performance and microstructural development of MgO-SiO2 binders under different curing conditions. *Construction and Building Materials*, **2017**, 154, 945-955	6.7	28
70	Investigation of the performance and thermal decomposition of MgO and MgO-SiO2 formulations. *Thermochimica Acta*, **2017**, 655, 251-261	2.9	18
69	Investigation of the accelerated carbonation of a MgO-based binder used to treat contaminated sediment. *Environmental Earth Sciences*, **2017**, 76, 1	2.9	4
68	New approach to calculate water film thickness and the correlation to the rheology of mortar and concrete containing reactive MgO. *Construction and Building Materials*, **2017**, 150, 892-902	6.7	33
67	Influences of Activity Index on Mechanical and Microstructural Characteristics of Carbonated Reactive Magnesia-Admixed Silty Soil. *Journal of Materials in Civil Engineering*, **2017**, 29, 04016285	3	10
66	Performance and Microstructure of Calcined Dolomite and Reactive Magnesia-Based Concrete Samples. *Journal of Materials in Civil Engineering*, **2017**, 29, 04017236	3	26
65	Water absorption of carbonated reactive MgO concrete and its correlation with the pore structure. *Journal of CO2 Utilization*, **2018**, 24, 350-360	7.6	33
64	Alternative cement clinkers. *Cement and Concrete Research*, **2018**, 114, 27-39	10.3	158
63	Improving the Carbonation of Reactive MgO Cement Concrete via the Use of NaHCO3 and NaCl. *Journal of Materials in Civil Engineering*, **2018**, 30, 04018320	3	17
62	Combined impact of silicate-amorphicity and MgO-reactivity on the performance of Mg-silicate cement. *Construction and Building Materials*, **2018**, 189, 78-85	6.7	26

61	The Evaluation of Damage Effects on MgO Added Concrete with Slag Cement Exposed to Calcium Chloride Deicing Salt. *Materials*, **2018**, 11,	3.5	11
60	Performance and microstructure of MgO-SiO2 concrete under different environments. *Construction and Building Materials*, **2018**, 184, 549-564	6.7	21
59	Study on effect of the activated magnesia carbonized building blocks based on the content of fly ash. *Construction and Building Materials*, **2018**, 185, 609-616	6.7	6
58	Carbon dioxide sequestration in magnesium-based binders. **2018**, 129-173		8
57	Effect of MgO Activity Index on Physicochemical, Electrical and Mechanical Properties of Carbonated MgO-admixed Silt. *KSCE Journal of Civil Engineering*, **2019**, 23, 3807-3817	1.9	10
56	Formation of carbonate phases and their effect on the performance of reactive MgO cement formulations. *Cement and Concrete Research*, **2019**, 125, 105894	10.3	30
55	Recent Progress in Green Cement Technology Utilizing Low-Carbon Emission Fuels and Raw Materials: A Review. *Sustainability*, **2019**, 11, 537	3.6	88
54	Stabilization/solidification of lead- and zinc-contaminated soils using MgO and CO2. *Journal of CO2 Utilization*, **2019**, 33, 215-221	7.6	24
53	Special Cements. **2019**, 585-640		3
52	Performance of reactive MgO concrete under increased CO2 dissolution. *Cement and Concrete Research*, **2019**, 118, 92-101	10.3	27
51	Comparison of reactive magnesia, quick lime, and ordinary Portland cement for stabilization/solidification of heavy metal-contaminated soils. *Science of the Total Environment*, **2019**, 671, 741-753	10.2	62
50	Influence of drying-wetting cycles on engineering properties of carbonated silt admixed with reactive MgO. *Construction and Building Materials*, **2019**, 204, 84-93	6.7	27
49	CO2 carbonation-induced improvement in strength and microstructure of reactive MgO-CaO-fly ash-solidified soils. *Construction and Building Materials*, **2019**, 229, 116914	6.7	28
48	Further studies of the hydration of MgO-hydromagnesite blends. *Cement and Concrete Research*, **2019**, 126, 105912	10.3	16
47	Development of magnesium-silicate-hydrate (M-S-H) cement with rice husk ash. *Journal of Cleaner Production*, **2019**, 211, 787-803	10.3	27
46	Performance and Microstructure of Carbonated MgO Samples under High Temperatures. *Journal of Materials in Civil Engineering*, **2019**, 31, 04019003	3	3
45	Influence of soil type on strength and microstructure of carbonated reactive magnesia-treated soil. *European Journal of Environmental and Civil Engineering*, **2020**, 24, 248-266	1.5	15
44	Influence of accelerated hydration and carbonation on the performance of reactive magnesium oxide concrete. *Advances in Cement Research*, **2020**, 32, 78-90	1.8	5

43	Performance of reactive magnesia cement formulations containing fly ash and ground granulated blast-furnace slag. *Construction and Building Materials*, **2020**, 232, 117275	6.7	12
42	Effect of forced carbonation on the behaviour of a magnesia-stabilised clay soil. *International Journal of Pavement Engineering*, **2020**, 1-15	2.6	0
41	Assessment of different agents for stabilisation of a clay soil. *International Journal of Pavement Engineering*, **2020**, 1-11	2.6	5
40	Hydraulic conductivity characteristics of carbonated reactive magnesia-treated silt. *Bulletin of Engineering Geology and the Environment*, **2020**, 79, 3033-3047	4	9
39	Performance of MgO and MgOSiO2 systems containing seeds under different curing conditions. *Cement and Concrete Composites*, **2020**, 108, 103543	8.6	13
38	Field investigation of shallow soft-soil highway subgrade treated by mass carbonation technology. *Canadian Geotechnical Journal*, **2021**, 58, 97-113	3.2	1
37	The past and future of sustainable concrete: A critical review and new strategies on cement-based materials. *Journal of Cleaner Production*, **2021**, 281, 123558	10.3	58
36	Influence of CO2 concentration on the performance of MgO cement mixes. *Cement and Concrete Composites*, **2021**, 115, 103826	8.6	19
35	Mechanical and microstructural changes in reactive magnesium oxide cement-based concrete mixes subjected to high temperatures. *Cement and Concrete Composites*, **2021**, 118, 103955	8.6	9
34	Strain hardening magnesium-silicate-hydrate composites (SHMSHC) reinforced with short and randomly oriented polyvinyl alcohol microfibers. *Cement and Concrete Research*, **2021**, 142, 106354	10.3	6
33	Investigation of chloride penetration in carbonated reactive magnesia cement mixes exposed to cyclic wettingdrying. *Construction and Building Materials*, **2021**, 284, 122837	6.7	4
32	Carbonation curing influencing factors of Carbonated Reactive Magnesia Cements (CRMC) A review. *Journal of Cleaner Production*, **2021**, 305, 127210	10.3	7
31	Using the Biocarbonization of Reactive Magnesia to Cure Electrolytic Manganese Residue. *Geomicrobiology Journal*, **2021**, 38, 709-718	2.5	5
30	Effect of hydrated magnesium carbonate grown in situ on the property of MgO-activated reactive SiO2 mortars. *Journal of Sustainable Cement-Based Materials*, 1-16	3.6	
29	Advances in the hydration of reactive MgO cement blends incorporating different magnesium carbonates. *Construction and Building Materials*, **2021**, 294, 123573	6.7	2
28	Mechanical behavior of carbonated MgO-based Engineered Cementitious Composite (ECC) after high temperatures exposure. *Cement and Concrete Composites*, **2021**, 124, 104255	8.6	3
27	Principles of Low-Carbon Cement. *Structural Integrity*, **2021**, 43-77	0.2	
26	Bottom-Up Design of a Cement for Nuclear Waste Encapsulation. *Ceramic Engineering and Science Proceedings*, 41-49	0.1	5

25	Application Research of New Cementitious Composite Materials in Saline Soil Subgrade Aseismic Strengthening. *Advances in Civil Engineering*, **2020**, 2020, 1-18	1.3	1
24	Preliminary Laboratory-Scale Model Auger Installation and Testing of Carbonated Soil-MgO Columns. *Geotechnical Testing Journal*, **2013**, 36, 20120052	1.3	32
23	Accelerated Carbonation Technology of Reactive MgO-Stabilized Soil for Possible CO2 Sequestration. *Environmental Science and Engineering*, **2019**, 73-80	0.2	
22	Influence of reactive magnesia content on loess solidification using biocarbonization of reactive magnesia. *Arabian Journal of Geosciences*, **2021**, 14, 1	1.8	0
21	Recent Advances in Magnesia Blended Cement Studies for Geotechnical Well Construction—A Review. *Frontiers in Materials*, **2021**, 8,	4	1
20	Properties of Magnesium Oxychloride and Magnesium Oxysulphate Cement Composites. *Key Engineering Materials*, 903, 208-213	0.4	
19	Potential additives for magnesia-based concrete with enhanced performance and propensity for CO2 sequestration. *Journal of CO2 Utilization*, **2022**, 56, 101834	7.6	1
18	Performance of magnesium silicate hydrate cement modified with dipotassium hydrogen phosphate. *Construction and Building Materials*, **2022**, 323, 126389	6.7	0
17	Feasibility for co-utilisation of Carbonated Reactive Magnesia Cement (CRMC) and industrial wastes in circular economy and CO2 mineralisation. *Construction and Building Materials*, **2022**, 323, 126488	6.7	0
16	Low CO2 reactive magnesia cements and their applications via nano-modification. **2022**, 407-458		1
15	Effect of Magnesia on Stabilization of Contaminated Clay Soil. *ACI Materials Journal*, **2022**,	0.9	
14	Reactive MgO-based self-healing slag-cement-bentonite slurry walls. *Cement and Concrete Composites*, **2022**, 131, 104565	8.6	0
13	Remediation of a clay soil contaminated with phenanthrene with MgO and forced carbonation. *Journal of Chemical Technology and Biotechnology*,	3.5	1
12	New frontiers in sustainable cements: Improving the performance of carbonated reactive MgO concrete via microbial carbonation process. **2022**, 356, 129243		0
11	The state of the art of carbonation technology in geotechnical engineering: A comprehensive review. **2023**, 171, 112986		2
10	The role of biomass bottom ash in Carbonated Reactive Magnesia Cement (CRMC) for CO2 mineralisation. **2022**, 380, 135092		0
9	Proportioning, Carbonation, Performance Assessment, and Application of Reactive Magnesium Oxide Cement‐Based Composites with Superplasticizers. **2023**, 35,		0
8	An efficient microbial sealing of rock weathering cracks using bio-carbonation of reactive magnesia cement. **2023**, 366, 130038		0

7	An experimental study of mitigating coastal dune erosion by using bio-carbonization of reactive magnesia cement. 1-15	0
6	Hydration and durability of low-heat cementitious composites for dam concrete: Thermodynamic modeling and experiments. 10,	0
5	Performance buildup of reactive magnesia cement (RMC) formulation via using CO2-strengthened recycled concrete aggregates (RCA). **2023**, 65, 105779	0
4	Self-healing soil mix cut-off wall materials incorporating reactive magnesium oxide pellets. 1-12	0
3	Recent advances in magnesium-based materials: CO2 sequestration and utilization, mechanical properties and environmental impact. **2023**, 138, 104983	0
2	Stabilization and Solidification of a Clay Soil Contaminated with MTBE by Using MgO and Hydrated Lime. 1-20	0
1	Evaluation of the Collapse Potential Magnitude of Untreated and Treated Collapsible Gypseous Soil A New Procedure.	0