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[http://dx.doi.org/10.1016/j.conbuildmat.2021.125787]
- [128] N.C. Demiral, M. Ozkan Ekinci, O. Sahin, H. Ilcan, A. Kul, G. Yildirim, and M. Sahmaran, "Mechanical anisotropy evaluation and bonding properties of 3D-printable construction and demolition waste-based geopolymer mortars", *Cement Concr. Compos.*, vol. 134, p. 104814, 2022.  
[http://dx.doi.org/10.1016/j.cemconcomp.2022.104814]
- [129] Y. Chen, C. Liu, R. Cao, C. Chen, V. Mechtcherine, and Y. Zhang, "Systematical investigation of rheological performance regarding 3D printing process for alkali-activated materials: Effect of precursor nature", *Cement Concr. Compos.*, vol. 128, p. 104450, 2022.  
[http://dx.doi.org/10.1016/j.cemconcomp.2022.104450]
- [130] Q. Yuan, C. Gao, T. Huang, S. Zuo, H. Yao, K. Zhang, Y. Huang, and J. Liu, "Factors influencing the properties of extrusion-based 3D-printed alkali-activated fly ash-slag mortar", *Materials*, vol. 15, no. 5, p. 1969, 2022.  
[http://dx.doi.org/10.3390/ma15051969]
- [131] K. Pasupathy, S. Ramakrishnan, and J. Sanjayan, "3D concrete printing of eco-friendly geopolymer containing brick waste", *Cem. Concr. Compos.*, vol. 138, p. 104943, 2023.  
[http://dx.doi.org/10.1016/j.cemconcomp.2023.104943]
- [132] S. Muthukrishnan, S. Ramakrishnan, and J. Sanjayan, "In-line activation of geopolymer slurry for concrete 3D printing", *Cement Concr. Res.*, vol. 162, p. 107008, 2022.  
[http://dx.doi.org/10.1016/j.cemconres.2022.107008]
- [133] Y. Chen, L. Jia, C. Liu, Z. Zhang, L. Ma, C. Chen, N. Banthia, and Y. Zhang, "Mechanical anisotropy evolution of 3D-printed alkali-activated materials with different GGBFS/FA combinations", *J. Build. Eng.*, vol. 50, p. 104126, 2022.  
[http://dx.doi.org/10.1016/j.jobe.2022.104126]
- [134] M. Chougan, S. Hamidreza Ghaffar, B. Nematollahi, P. Sikora, T. Dorn, D. Stephan, A. Albar, and M.J. Al-Kheetan, "Effect of natural and calcined halloysite clay minerals as low-cost additives on the performance of 3D-printed alkali-activated materials", *Mater. Des.*, vol. 223, p. 111183, 2022.  
[http://dx.doi.org/10.1016/j.matdes.2022.111183]
- [135] P.S. Deb, P. Nath, and P.K. Sarker, "The effects of ground granulated blast-furnace slag blending with fly ash and activator content on the workability and strength properties of geopolymer concrete cured at ambient temperature", *Mater. Des.*, vol. 62, pp. 32-39, 2014.  
[http://dx.doi.org/10.1016/j.matdes.2014.05.001]
- [136] C. Ziejewska, J. Marczyk, K. Korniejenko, S. Bednarz, P. Sroczyk, M. Łach, J. Mikuła, B. Figiela, S.M. Hebda, and M. Hebda, "3D printing of concrete-geopolymer hybrids", *Materials*, vol. 15, no. 8, p. 2819, 2022.  
[http://dx.doi.org/10.3390/ma15082819]
- [137] A. Kashani, J.L. Provis, G.G. Qiao, and J.S.J. van Deventer, "The interrelationship between surface chemistry and rheology in alkali activated slag paste", *Constr. Build. Mater.*, vol. 65, pp. 583-591, 2014.  
[http://dx.doi.org/10.1016/j.conbuildmat.2014.04.127]
- [138] K. Kondepudi, and K.V.L. Subramaniam, "Formulation of alkali-activated fly ash-slag binders for 3D concrete printing", *Cement Concr. Compos.*, vol. 119, p. 103983, 2021.  
[http://dx.doi.org/10.1016/j.cemconcomp.2021.103983]
- [139] M. Chougan, S.H. Ghaffar, P. Sikora, S-Y. Chung, T. Rucinska, D. Stephan, A. Albar, and M.R. Swash, "Investigation of additive incorporation on rheological, microstructural and mechanical properties of 3D printable alkali-activated materials", *Mater. Des.*, vol. 202, p. 109574, 2021.  
[http://dx.doi.org/10.1016/j.matdes.2021.109574]
- [140] H. Alghamdi, S.A.O. Nair, and N. Neithalath, "Insights into material design, extrusion rheology, and properties of 3D-printable alkali-activated fly ash-based binders", *Mater. Des.*, vol. 167, p. 107634, 2019.  
[http://dx.doi.org/10.1016/j.matdes.2019.107634]
- [141] A. Palomo, M.W. Grutzeck, and M.T. Blanco, "Alkali-activated fly ashes", *Cement Concr. Res.*, vol. 29, no. 8, pp. 1323-1329, 1999.  
[http://dx.doi.org/10.1016/S0008-8846(98)00243-9]
- [142] J.G.S. van Jaarsveld, J.S.J. van Deventer, and G.C. Lukey, "The effect of composition and temperature on the properties of fly ash- and kaolinite-based geopolymers", *Chem. Eng. J.*, vol. 89, no. 1-3, pp. 63-73, 2002.  
[http://dx.doi.org/10.1016/S1385-8947(02)00025-6]
- [143] D. Hardjito, S.E. Wallah, D.M. Sumajouw, and B.V. Rangan, "On the development of fly ash-based geopolymer concrete", *ACI Mater. J.*, vol. 101, no. 6, pp. 467-472, 2004.
- [144] N.K. Lee, J.G. Jang, and H.K. Lee, "Shrinkage characteristics of alkali-activated fly ash/slag paste and mortar at early ages", *Cement Concr. Compos.*, vol. 53, pp. 239-248, 2014.  
[http://dx.doi.org/10.1016/j.cemconcomp.2014.07.007]
- [145] H. Ye, and A. Radlińska, "Shrinkage mechanisms of alkali-activated slag", *Cement Concr. Res.*, vol. 88, pp. 126-135, 2016.  
[http://dx.doi.org/10.1016/j.cemconres.2016.07.001]
- [146] H.S. Gökçe, O. Güngör, and N. Öksüzler, "A novel internal curing method for 3D-printed geopolymer structures reinforced with a steel cable: Electro-heating", *Mater. Lett.*, vol. 309, p. 131364, 2022.  
[http://dx.doi.org/10.1016/j.matlet.2021.131364]
- [147] B. Lu, Y. Weng, M. Li, Y. Qian, K.F. Leong, M.J. Tan, and S. Qian, "A systematical review of 3D printable cementitious materials", *Constr. Build. Mater.*, vol. 207, pp. 477-490, 2019.  
[http://dx.doi.org/10.1016/j.conbuildmat.2019.02.144]
- [148] B. Nematollahi, M. Xia, J. Sanjayan, and P. Vijay, "Effect of type of fiber on inter-layer bond and flexural strengths of extrusion-based 3D printed geopolymer", *Mater. Sci. Forum*, vol. 939, pp. 155-162, 2018.  
[http://dx.doi.org/10.4028/www.scientific.net/MSF.939.155]
- [149] Y. Chen, Y. Zhang, Y. Xie, Z. Zhang, and N. Banthia, "Unraveling pore structure alternations in 3D-printed geopolymer concrete and corresponding impacts on macro-properties", *Addit. Manuf.*, vol. 59, p. 103137, 2022.  
[http://dx.doi.org/10.1016/j.addma.2022.103137]
- [150] B. Nematollahi, J. Sanjayan, J. Qiu, and E.H. Yang, "Micromechanics-based investigation of a sustainable ambient temperature cured one-part strain hardening geopolymer composite", *Constr. Build. Mater.*, vol. 131, pp. 552-563, 2017.  
[http://dx.doi.org/10.1016/j.conbuildmat.2016.11.117]
- [151] B. Nematollahi, J. Sanjayan, J. Qiu, and E.H. Yang, "High ductile behavior of a polyethylene fiber-reinforced one-part geopolymer composite: A micromechanics-based investigation", *Arch. Civ. Mech. Eng.*, vol. 17, no. 3, pp. 555-563, 2017.  
[http://dx.doi.org/10.1016/j.acme.2016.12.005]
- [152] B. Zhu, J. Pan, B. Nematollahi, Z. Zhou, Y. Zhang, and J. Sanjayan, "Development of 3D printable engineered cementitious composites with ultra-high tensile ductility for digital construction", *Mater. Des.*, vol. 181, p. 108088, 2019.  
[http://dx.doi.org/10.1016/j.matdes.2019.108088]
- [153] F. Xu, X. Deng, C. Peng, J. Zhu, and J. Chen, "Mix design and flexural toughness of PVA fiber reinforced fly ash-geopolymer composites", *Constr. Build. Mater.*, vol. 150, pp. 179-189, 2017.  
[http://dx.doi.org/10.1016/j.conbuildmat.2017.05.172]
- [154] S. Ma, H. Yang, S. Zhao, P. He, Z. Zhang, X. Duan, Z. Yang, D. Jia, and Y. Zhou, "3D-printing of architected short carbon fiber-geopolymer composite", *Compos. Part B Eng.*, vol. 226, p. 109348, 2021.  
[http://dx.doi.org/10.1016/j.compositesb.2021.109348]
- [155] A. Bhutta, P.H.R. Borges, C. Zanotti, M. Farooq, and N. Banthia, "Flexural behavior of geopolymer composites reinforced with steel and polypropylene macro fibers", *Cement Concr. Compos.*, vol. 80, pp. 31-40, 2017.  
[http://dx.doi.org/10.1016/j.cemconcomp.2016.11.014]