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DAFTAR PUSTAKA

Abdel-Gawwad, H.A., dan S.A. Abo-El-Enein. 2014. "A Novel Method to Produce Dry Geopolymer Cement Powder." *HBRC Journal* 12 (1). Housing and Building National Research Center: 13–24. https://doi.org/10.1016/j.hbrcj.2014.06.008. [diakses tanggal 1 Februari 2017]

Avrami, Melvin. 1941. "Granulation, Phase Change, and Microstructure Kinetics of Phase Change. III." *The Journal of Chemical Physics* 9 (2): 177–84. https://doi.org/10.1063/1.1750872. [diakses tanggal 5 Desember 2018]

Badan Perencanaan Pembangunan Nasional. 2012. "Bidang Sarana Dan Prasarana." In *Buku II RKP*.

Belenky, A., dan D. Rittel. 2011. "A Simple Methodology to Measure the Dynamic Flexural Strength of Brittle Materials." *Experimental Mechanics* 51 (8): 1325–34. https://doi.org/10.1007/s11340-010-9453-0. [diakses tanggal 7 Desember 2018]

Brus, Jiri, Sabina Abbrent, Libor Kobera, dan Martina Urbanova. 2016. *Advances in 27 Al MAS NMR Studies of Geopolymers*. *Annual Reports on NMR Spectroscopy*. 1st ed. Elsevier Ltd. https://doi.org/10.1016/bs.arnmr.2015.11.001. [diakses tanggal 24 Maret 2017]

Choo, H., S. Lim, W. Lee, dan C. Lee. 2016. "Compressive Strength of One-Part Alkali Activated Fly Ash Using Red Mud as Alkali Supplier." *Construction and Building Materials* 125. Elsevier Ltd: 21–28. https://doi.org/10.1016/j.conbuildmat.2016.08.015. [diakses tanggal 7 Desember 2018]

Davidovits, Joseph. 1994. "PROPERTIES OF GEOPOLYMER CEMENTS Joseph Davidovits Geopolymer Institute, Cordi-Geopolymère SA, 16 Rue Galilée, 02100 Saint-Quentin, France." *Geopolymer Institute*, 1–19.

Davidovits, Prof Joseph. 2002. "30 Years of Successes and Failures in Geopolymer Applications . Market Trends and Potential Breakthroughs .," 1–16.

ESDM. 2017. "Statistika Ketenagalistikan 2016." *Direktorat Jenderal Ketenagalistrikan* 39 (5): 44. https://www.esdm.go.id/assets/media/content/content-statistik-ketenagalistrikan-tahun-2016-1.pdf. [diakses tanggal 6 Desember 2018]

Hajimohammadi, Ailar, dan Jannie S.J. van Deventer. 2017. "Characterisation of One-Part Geopolymer Binders Made from Fly Ash." *Waste and Biomass Valorization* 8 (1). Springer Netherlands: 225–33. https://doi.org/10.1007/s12649-016-9582-5. [diakses tanggal 5 Maret 2018]

Hajimohammadi, Ailar, John L. Provis, dan Jannie S J Van Deventer. 2008. "One-Part Geopolymer Mixes from Geothermal Silica and Sodium Aluminate." *Industrial and Engineering Chemistry Research* 47 (23): 9396–9405. https://doi.org/10.1021/ie8006825. [diakses tanggal 19 Oktober 2018]

J.W.Christian. 2002. *The Teory of Transformations in Metals and Alloys*. *British Library Cataloguing*. Third. Netherland: Pergamon.

Kamseu, E., L.M. Beleuk à Moungam, M. Cannio, Ndigui Billong, Duangrudee

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Chaysuwan, U. Chinje Melo, and C. Leonelli. 2016. "Substitution of Sodium Silicate with Rice Husk Ash-NaOH Solution in Metakaolin Based Geopolymer Cement Concerning Reduction in Global Warming." *Journal of Cleaner Production* 142: 1–11. https://doi.org/10.1016/j.jclepro.2016.10.164. [diakses tanggal 1 Februari 2017]

Kementerian Energi dan Sumber Daya Mineral. 2016. "Indonesia Electricity Development Plan and Indonesia Coal-Ash Management Implementation." *International Coal Based Power Conferences*. New Delhi.

Khale, Divya, dan Æ Rubina Chaudhary. 2007. "Mechanism of Geopolymerization and Factors Influencing Its Development : A Review," 729–46. https://doi.org/10.1007/s10853-006-0401-4. [diakses tanggal 11 September 2017]

Khawam, Ammar, dan Douglas R Flanagan. 2006. "Solid-State Kinetic Models : Basics and Mathematical Fundamentals" 110 (35): 17315–28. https://doi.org/10.1021/jp062746a. [diakses tanggal 13 Februari 2018]

Komnitsas, Kostas, dan Dimitra Zaharaki. 2007. "Geopolymerisation: A Review and Prospects for the Minerals Industry." *Minerals Engineering* 20 (14): 1261–77. https://doi.org/10.1016/j.mineng.2007.07.011. [diakses tanggal 1 Februari 2017]

Król, M., Minkiewicz, J. and Mozgawa, W. (2016) 'IR spectroscopy studies of zeolites in geopolymeric materials derived from kaolinite', *Journal of Molecular Structure*, 1126, pp. 200–206. doi: 10.1016/j.molstruc.2016.02.027. [diakses tanggal 29 September 2018]

Liew, Yun Ming, Cheng Yong Heah, Long yuan Li, Nur Ain Jaya, Mohd Mustafa Al Bakri Abdullah, Soo Jin Tan, dan Kamarudin Hussin. 2017. "Formation of One-Part-Mixing Geopolymers and Geopolymer Ceramics from Geopolymer Powder." *Construction and Building Materials* 156. Elsevier Ltd: 9–18. https://doi.org/10.1016/j.conbuildmat.2017.08.110. [diakses tanggal 5 Maret 2018]

Liew, Yun Ming, Cheng Yong Heah, Al Bakri Mohd Mustafa, dan Hussin Kamarudin. 2016. "Structure and Properties of Clay-Based Geopolymer Cements: A Review." *Progress in Materials Science* 83. Elsevier Ltd: 595–629. https://doi.org/10.1016/j.pmatsci.2016.08.002. [diakses tanggal 16 Maret 2017]

Luukkonen, Tero, Zahra Abdollahnejad, Juho Yliniemi, Paivo Kinnunen, dan Mirja Illikainen. 2017. "Cement and Concrete Research One-Part Alkali-Activated Materials : A Review," no. October. https://doi.org/10.1016/j.cemconres.2017.10.001. [diakses tanggal 27 Oktober 2018]

———. 2018. "One-Part Alkali-Activated Materials: A Review." *Cement and Concrete Research* 103 (July 2017): 21–34. https://doi.org/10.1016/j.cemconres.2017.10.001. [diakses tanggal 31 Maret 2018]

Matalkah, Faris, Liwei Xu, Wenda Wu, dan Parviz Soroushian. 2017. "Mechanochemical Synthesis of One-Part Alkali Aluminosilicate Hydraulic Cement." *Materials and Structures/Materiaux et Constructions* 50 (1).

UNIVERSITAS
GADJAH MADA
Kinetika Pembentukan Geopolimer Berbahan Baku Fly Ash Batubara dengan Menggunakan Proses Kering
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Springer Netherlands. https://doi.org/10.1617/s11527-016-0968-4. [diakses tanggal 6 Desember 2018]

Matzenbacher, Cristina Araujo, Ana Letícia, Hilario Garcia, Marcela Silva, Dos Santos, Caroline Cardoso Nicolau, Suziane Premoli, dkk. 2017. "DNA Damage Induced by Coal Dust, Fly and Bottom Ash from Coal Combustion Evaluated Using the Micronucleus Test and Comet Assay in Vitro." *Journal of Hazardous Materials* 324. Elsevier B.V.: 781–88. https://doi.org/10.1016/j.jhazmat.2016.11.062. [diakses tanggal 31 Januari 2017]

Mozgawa, W., Król, M. and Barczyk, K. (2011) 'FT-IR studies of zeolites from different structural groups', *Chemik*, 65(7), pp. 671–674. [diakses tanggal 29 September 2018]

National Ready Mixed Concrete Association, NMRCA. 2000. "CIP 16- Flexural Strength Concrete." *The Concrete in Practice Series (CIP)* 102 (1): 2. https://doi.org/10.1017/CBO9781107415324.004. [diakses tanggal 7 Desember 2018]

Olvianas, M., Widiyatmoko, A. and Petrus, H. T. B. M. (2017) 'IR spectral similarity studies of geothermal silica-bentonite based geopolymer', *AIP Conference Proceeding*, 020015, p. 020015. doi: 10.1063/1.5003498. [diakses tanggal 10 September 2017]

Panias, D Dimas Æ I Giannopoulou Æ D. 2009. "Polymerization in Sodium Silicate Solutions : A Fundamental Process in Geopolymerization Technology," 3719–30. https://doi.org/10.1007/s10853-009-3497-5. [diakses tanggal 15 September 2017]

Park, Sungwoo, dan Mohammad Pour-ghaz. 2018. "What Is the Role of Water in the Geopolymerization of Metakaolin ?" *Construction and Building Materials* 182. Elsevier Ltd: 360–70. https://doi.org/10.1016/j.conbuildmat.2018.06.073. [diakses tanggal 15 September 2018]

Peng, Mei Xun, Zheng Hong Wang, Shao Hua Shen, dan Qiu Guo Xiao. 2014. "Synthesis, Characterization and Mechanisms of One-Part Geopolymeric Cement by Calcining Low-Quality Kaolin with Alkali." *Materials and Structures/Materiaux et Constructions* 48 (3): 699–708. https://doi.org/10.1617/s11527-014-0350-3. [diakses tanggal 16 Oktober 2017]

Provis, John L., dan Jannie S.J. van Deventer. 2009. *Geopolymers. Structures, Processing, Properties and Industrial Applications*. *CRC Press, Woodhead Publishing, Great Abington, Cambridge, UK*. https://doi.org/10.1533/9781845696382. [diakses tanggal 27 Oktober 2017]

Provis, John L. 2014. *Alkali Activated Materials*. Vol. 13. https://doi.org/10.1007/978-94-007-7672-2. [diakses tanggal 14 November 2018]

Provis, John L, dan Jannie S J Van Deventer. 2007. "Geopolymerisation Kinetics . 1 . In Situ Energy-Dispersive X-Ray Diffractometry" 62: 2309–17. https://doi.org/10.1016/j.ces.2007.01.027. [diakses tanggal 16 Juli 2017]

PT Semen Indonesia. 2017. "SMGR Presentation."

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Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Schatz, Christine, Monika Strickstrock, Malgorzata Roos, Daniel Edelhoff, Marlis Eichberger, Isabella Maria Zylla, dan Bogna Stawarczyk. 2016. "Influence of Specimen Preparation and Test Methods on the Flexural Strength Results of Monolithic Zirconia Materials." *Materials* 9 (3): 1–13. https://doi.org/10.3390/ma9030180. [diakses tanggal 7 Desember 2018]

Scheetz, Barry E, dan Russell Earle. 1998. "Utilization of Fly Ash." *Solid State and Material Science*, 510–20.

Silva, P. De, K. Sagoe-Crenstil, dan V. Sirivivatnanon. 2007. "Kinetics of Geopolymerization: Role of Al2O3 and SiO2." *Cement and Concrete Research* 37 (4): 512–18. https://doi.org/10.1016/j.cemconres.2007.01.003. [diakses tanggal 1 Februari 2017]

Sinha, I, dan R.K Mandal. 2011. "Avrami Exponent under Transient and Heterogeneous Nucleation Transformation Conditions," 755844–755844. https://doi.org/10.1016/j.jnoncrysol.2010.11.005. [diakses tanggal 30 November 2018]

Siyal, Ahmer Ali, Khairun Azizi Azizli, Zakaria Man, Lukman Ismail, dan Muhammad Irfan Khan. 2016a. "Geopolymerization Kinetics of Fly Ash Based Geopolymers Using JMAK Model." *Ceramics International* 42 (14). Elsevier: 15575–84. https://doi.org/10.1016/j.ceramint.2016.07.006. [diakses tanggal 1 Februari 2017]

Somna, Kiatsuda, Chai Jaturapitakkul, Puangrat Kajitvichyanukul, dan Prinya Chindaprasirt. 2011. "NaOH-Activated Ground Fly Ash Geopolymer Cured at Ambient Temperature." *Fuel* 90 (6). Elsevier Ltd: 2118–24. https://doi.org/10.1016/j.fuel.2011.01.018. [diakses tanggal 16 Desember 2018]

Taylor, Michael, Cecilia Tam, dan Dolf Gielen. 2006. "Energy Efficiency and CO 2 Emissions from the Global Cement Industry." *IEA-WBCSD Workshop*, no. September: 4–5. [diakses tanggal 1 November 2017]

Telschow, Samira. 2012. "Clinker Burning Kinetics and Mechanism."

Wang, Kai tuo, Li qiu Du, Xue sen Lv, Yan He, dan Xue min Cui. 2017. "Preparation of Drying Powder Inorganic Polymer Cement Based on Alkali-Activated Slag Technology." *Powder Technology* 312. Elsevier B.V.: 204–9. https://doi.org/10.1016/j.powtec.2017.02.036. [diakses tanggal 7 Desember 2018]

Wardani, Sri Prabandiyani Retno. 2008. "Pemanfaatan Limbah Batubara (Fly Ash) Untuk Stabilisasi Tanah Maupun Keperluan Teknik Sipil Lainnya Dalam Mengurangi Pencemaran Lingkungan." Semarang. https://doi.org/core.ac.uk/11707666. [diakses tanggal 6 Desember 2018]

Xie, Tianyu, dan Togay Ozbakkaloglu. 2015. "Behavior of Low-Calcium Fly and Bottom Ash-Based Geopolymer Concrete Cured at Ambient Temperature." *Ceramics International* 41 (4). Elsevier: 5945–58. https://doi.org/10.1016/j.ceramint.2015.01.031. [diakses tanggal 30 Januari 2017]

Yao, Xiao, Zuhua Zhang, Huajun Zhu, dan Yue Chen. 2009. "Geopolymerization Process of Alkali-Metakaolinite Characterized by Isothermal Calorimetry." *Thermochimica Acta* 493 (1–2): 49–54.

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https://doi.org/10.1016/j.tca.2009.04.002. [diakses tanggal 1 Februari 2017]

Yu, Xiao, Liang Chen, Sridhar Komarneni, dan Chun Hui. 2016. "Fly Ash-Based Geopolymer : Clean Production , Properties and Applications." *Journal of Cleaner Production* 125. Elsevier Ltd: 253–67. https://doi.org/10.1016/j.jclepro.2016.03.019. [diakses tanggal 27 April 2017]

Zhang, Y. J., Ya Chao Wang, De Long Xu, Sheng Li. 2010. "Mechanical performance and hydration mechanism of geopolymer composite reinforced by resin". *Materials Science and Engineering A*. Elsevier B.V., 527(24–25), pp. 6574–6580. doi: 10.1016/j.msea.2010.06.069.