



## DAFTAR PUSTAKA

- Agan, C., 2016, A Preliminary Study on The Conservation and Polishing Performance of Sanliurfa Limestones as a Traditional Building Material, *Bull Eng.Geol. Environ.*, 75(1), 13–25.
- Agustina, M., 2016, Sintesis Litium Silikat untuk Konsolidasi Batu Andesit di Balai Konservasi Borobudur, *Skripsi*, Departemen Kimia Universitas Islam Indonesia, Yogyakarta.
- Alemi, A., Khademinia, S., & Sertkol, M. (2014). Lithium disilicate (Li<sub>2</sub>Si<sub>2</sub>O<sub>5</sub>): Mild Condition Hydrothermal Synthesis, Characterization, and Optical Properties. *Journal of Nanostructure*, 4, 407–412.
- Amanda, B., dan Warmada, I. W., 2016, Petrogenesis dan Pelapukan Batuan Penyusun Candi Ijo, Kecamatan Prambanan, Kabupaten Sleman, Daerah Istimewa Yogyakarta, *Proceeding Seminar Nasional Kebumihan Ke-9*, 6-7 Oktober 2016, Yogyakarta.
- Asniar, N., Purwana, Y.M., dan Surjandari, N. S., 2019, Tuff as Rock and Soil: Review of the Literature on Tuff Geotechnical, Chemical and Mineralogical Properties around the World and in Indonesia, *AIP Conference Proceedings*, 26 Juni 2019, Surakarta.
- Ceryan, S., Zorlu, K., Gokceoglu, C., dan Temel, A., 2008, The Use of Cation Packing Index for Characterizing the Weathering Degree of Granitic Rocks, *Eng. Geol.*, 98, 60-74.
- Depkes RI, (1995, Farmakope Indonesia, Edisi Keempat, Departemen Kesehatan Republik Indonesia, Jakarta.
- Ekholm, P. et al., 2003, The Effect of Phytic Acid and Some Natural Chelating Agents on The Solubility of Mineral Elements in Oat Bran. *Food Chem.*, 80(2), 165–170.
- Farida, Cahyandaru, N., dan Nuryono., 2018, Penggunaan Litium Silikat sebagai Konsolidan Anorganik pada Batu Tuff melalui Uji Pembuatan Mortar, *Jurnal Konservasi Cagar Budaya Borobudur*, 1, 12, 24-28.
- Fuller, W. dan Thompson, S., 1907, The Laws of Proportioning Concrete, *ASCE*, 59, 67-143.
- Gupta, S.P., 2011, Chemical Conservation of Chamunda Devi With Ethyl Silicates Stone Consolidant, *Int. J. Chem. Sci.*, 9 (4), 1987-1992.
- Haldoko, L.A., Muhammad, R., dan Purwoko, W., 2014, Karakteristik Batu Penyusun Candi Borobudur, *Jurnal Konservasi Cagar Budaya Borobudur*, 8(1), 38-47.
- Hanaor, D. A. ., Kolb, M, H, H., Gan, Y., Kamlah, M., & Knitter, R. (2014). Solution Based Synthesis of Mixed-phase Materials in the Li<sub>2</sub>TiO<sub>3</sub>-Li<sub>4</sub>SiO<sub>4</sub> System. *Journal of Nuclear Materials*, 456, 151–161.
- Hatmadji, T., 2004, *Pelapukan Batu Candi Siwa Prambanan dan Upaya Penanganannya*, Balai Pelestarian Peninggalan Purbakala, Yogyakarta.
- Hermann, A., Ashcroft, N. W., and Hoffman, R., 2014, Lithium hydroxide, LiOH, at Elevated Densities, *J. Chem. Phys.*, 141, 1.
- Irfan, T. Y., 1996, Mineralogy Fabric Properties and Classification of Weathered Granites in Hong Kong, *Q. J. Eng. Geol. Hydrogeol*, 29, 5-35.



- Irfan, T. Y., 1999, Characterization of Weathered Volcanic Rocks in Hong Kong, *Q. J. Eng. Geol. Hydrogeol*, 32, 317-348.
- Ioannou, I., Andreou, A., Tsikouras, B. dan Hatzipanagiotou, K., 2009, Application of the Sharp Front Model to Capillary Absorption in a Vuggy Limestone, *Eng. Geol*, 105, 20–23.
- Issa, A. ., & Luyt, A. (2019). Kinetics of Alkoxysilanes and Organoalkoxysilanes Pelymerization: A Review. *Polymers*, 11, 537.
- Lide dan David, R., 2006, Crc Handbook of Chem and Physics, 87<sup>th</sup>, CRC Press, Boca Raton.
- Lucolano, F., Colella, A., Liguori, B. dan Calcaterra, D, 2019, Suitability of Silica Nanoparticles for Tuff Consolidation, *Constr. Build. Mater.*, 202, 73-81.
- Manahan, S.E., 2006, *Green Chemistry and The Ten Commandments of Sustainability*, 2<sup>nd</sup> Ed., ChemChar Research, Inc., Columbia.
- Martinez, P., Soto, M., Zunino, F., Stuckrath, C., and Lopez, M., 2016, Effectiveness of Tetra-Ethyl-Ortho-Silicate (TEOS) Consolidation of Fired-Clay Bricks Manufactured with Different Calcination Temperatures, *Constr. Build.Mater.*, 106, 209–217.
- Muhammad, Rony, Cahyandaru, N. dan Yulianto, H., 2010, *Evaluasi Penggunaan Epoxy Resin pada Candi Borobudur*, Balai Konservasi Borobudur, Magelang.
- Murdock L. J., dan Brook K. M., 1979, *Bahan dan Praktek Beton*, Erlangga, Jakarta.
- Palomo, A., Blanco-Varela, M.T., Martinez-Ramirez, S., Puertas, F., and Fortes, C., 2006, *Characterization and Durability*, New Tendencies for Research, Eduardo Torroja Institute, Madrid.
- Phumying, S., Labuayai, S., Swatsitang, E., Amornkitbamrung, V., dan Maensiri, S., 2013, Nanocrystalline Spinel Ferrite (MFe<sub>2</sub>O<sub>4</sub>, M = Ni, Co, Mn, Mg, Zn) Powders Prepared by a Simple Aloe Vera Plant-extracted Solution Hydrothermal Route, *Material Research Bulletin*, 48, 2060-2065.
- Pola, A., Crosta, G., Fusi, N., Barberini, V., dan Norini, G., 2012, Influence of Alteration on Physical Properties of Volcanic Rocks, *Tectonophysics*, 566–567, 67–86.
- Praveena, S. M., Aris, A. Z., dan Radojevic, M., 2010, Heavy Metals Dynamic Ana Source Ni Intertidal Mangrove Sediment of Sabah Borneo Island, *EnvironmentAsia* 3, 79-83.
- Rangkuti, N., 1984, Pemakaian Batu Tufa pada Candi-Candi di Sekitar Candi Prambanan, *Skripsi*, Jurusan Arkeologi Fakultas Sastra UI, Jakarta.
- Ridwan, P., Arfiansyah, K., Kusumah, P. A., Amrullah, F. dan Gani, R. M. G., 2018, Identifikasi Karakteristik dan Kualitas Andesit sebagai Bahan Bangunan Daerah Batujajar, Kecamatan Batujajar Timur, Kabupaten Bandung Barat, *Padjajaran Geoscience Journal*, 3 (2), 197-200.
- Sandrolini, F., Franzoni, E., and Pigino, B., 2012, Ethyl Silicate For Surface Treatment of Concrete - Part I: Pozzolanic Effect of Ethyl Silicate, *Cem. Concr.Compos.*, 34(3), 306–312.
- Sari, R. A. I., Wallah, S. E., dan Windah, R. S., 2015, Pengaruh Jumlah Semen dan Fas Terhadap Kuat Tekan Beton dengan Agregat yang Beraal dari



- Sungai, *Jurnal Sipil Statik*, 1 (3), 68-76.
- Sierra-Fernandez, A., Gomez-Villalba, L.S., Rabanal, M.E. dan Fort, R., 2017, New Nanomaterials for Applications in Conservation and Restoration of Stony Materials: A review, *Materiales Deconstrucción*, 325 (67), 1-18.
- Siddique, R., 2011, Review, Utilization of Silica Fume in Concrete: Review of Hardened Properties, *Resources, Conservation, and Recycling*, 55, 923-932.
- Slosarczyk, A., dan Dziob, Z., 1993. Porphyry Tuff A New Raw Material for The Ceramic Industry. *Interceram*, 42, 76-82.
- Subari dan Widodo, 2015, Tuff sebagai Bahan Pelebur pada Pembuatan Keramik Bodi Stoneware, *Ris. Geo. Tam*, 1, 25, 37-47.
- Suyono, 1979, *Konservasi Peninggalan Kepurbakalaan*, Direktorat Perlindungan dan Pembinaan Peninggalan Sejarah dan Purbakala, Dirjen Kebudayaan, Kementerian Pendidikan dan Kebudayaan, Jakarta.
- Talling, B., dan Krivenko, P., 1996, *Waste Materials Used in Concrete Manufacturing*, William Andrew Publishing, Norwich.
- Thorn, A., 2011, The Consolidation and Bonding of Water Saturated Siliceous Stone with Lithium Silicate A Preliminary Evaluation, *Proceeding of Symposium 2011- Adhesives and Consolidants for Conservation: Research and Applications*, 17-21 October 2011, Ottawa.
- Thorn, A., 2012, Lithium Silicate Consolidation of Wet Stone and Plaster, *Proceeding 12<sup>th</sup> International Congress on The Deterioration and Conservation of Stone*, Columbia University, New York.
- Tjokrodinuljo, K., 2012, *Teknologi Beton*, Biro Penerbit, Yogyakarta.
- Tognonvi, M. T., Soro, J. dan Rossignol, S., 2012, Physical/Chemistry of Silica/Alkaline Silicate Interactions During Consolidation Part 1: Effect of Cation Size, *J. Non-Cryst. Solids* 358, 81-87.
- Vacchiano, C. D., Incarnato, L., Scarfato, P. dan Acierno, D., 2008, Conservation of Tuff Stone with Polimeric Resins, *Constr. Build. Mater*, 22, 855-865.
- Wheeler, G.E., 2005, *Alkoxysilanes and The Consolidation of Stone*, Getty Publications, Los Angeles.
- Wibowo, A. B., 2014, Strategi Pelestarian Benda/Situs Cagar Budaya Berbasis Masyarakat, *Jurnal Konservasi Cagar Budaya Borobudur*, 1 (8), 58-71.
- Wu, X., Wen, Z., Xu, X., Wang, X., and Lin, J., 2009, Synthesis and Characterization of Li<sub>4</sub>SiO<sub>4</sub> Nano-Powders by a Water-Based Sol-Gel Process, *J.Nucl.Mater.*, 392(3), 471-475.
- Yang, A., Wang, H., Li., dan Shi, J., 2012, Synthesis of Lithium Metasilicate Powders at Low Temperature via Mechanical Milling, *J. Am. Ceram. Soc*, 1-4.
- Zarins, A., Kizane, G., Supe, A., Baumane, L., and Valtenbergs, O., 2015, Physico-Chemical Properties and Application Possibility of Nano-Sized Lithium Orthosilicate Powders, *Euro. Chem. Forum.*, Institute of Chemical Physics University of Latvia, Latvia.