

DAFTAR PUSTAKA

- Abdel-Hamid, S. M. S., Al-Qabandi, O. A., Elminshawy, N. A. S., Bassyouni, M., Zoromba, M. S., Abdel-Aziz, M. H., Mira, H., & Elhenawy, Y. (2019). Fabrication and characterization of microcellular polyurethane sisal biocomposites. *Molecules*, *24*(24). <https://doi.org/10.3390/molecules24244585>
- Abu-Jdayil, B., Al Abdallah, H., Althabahi, A., Alaydaros, A., Mlhem, A., Alkhatib, S., El Sayah, A., & Hussein, H. (2022). Utilization of Polyurethane Foam Dust in Development of Thermal Insulation Composite. *Buildings*, *12*(2). <https://doi.org/10.3390/buildings12020126>
- Acosta, A., Aramburu, A. B., Beltrame, R., Gatto, D. A., Amico, S., Labidi, J., & Delucis, R. de A. (2022). Wood Flour Modified by Poly(furfuryl alcohol) as a Filler in Rigid Polyurethane Foams: Effect on Water Uptake. *Polymers*, *14*(24). <https://doi.org/10.3390/polym14245510>
- Akindoyo, J. O., Beg, M. D. H., Ghazali, S., Islam, M. R., Jeyaratnam, N., & Yuvaraj, A. R. (2016). Polyurethane types, synthesis and applications-a review. Dalam *RSC Advances* (Vol. 6, Nomor 115, hlm. 114453–114482). Royal Society of Chemistry. <https://doi.org/10.1039/c6ra14525f>
- Ashida, K. (2007). *Polyurethane and Related Foams Chemistry and Technology*. CRC Press.
- Augaitis, N., Vaitkus, S., Członka, S., & Kairyte, A. (2020). Research of wood waste as a potential filler for loose-fill building insulation: Appropriate selection and incorporation into polyurethane biocomposite foams. *Materials*, *13*(23), 1–21. <https://doi.org/10.3390/ma13235336>
- Badan Pusat Statistik. (2022). *Statistik Produksi Kehutanan 2022*. Badan Pusat Statistik.
- Borowski, P. F., Patuk, I., & Bandala, E. R. (2022). Innovative Industrial Use of Bamboo as Key “Green” Material. *Sustainability (Switzerland)*, *14*(4). <https://doi.org/10.3390/su14041955>
- Cheng, Y., Gao, S., Wang, W., Hou, H., & Lim, L. T. (2022). Low temperature extrusion blown ϵ -polylysine hydrochloride-loaded starch/gelatin edible antimicrobial films. *Carbohydrate Polymers*, *278*. <https://doi.org/10.1016/j.carbpol.2021.118990>
- Ciecierska, E., Jurczyk-Kowalska, M., Bazarnik, P., Gloc, M., Kulesza, M., Kowalski, M., Krauze, S., & Lewandowska, M. (2016). Flammability, mechanical properties and structure of rigid polyurethane foams with different types of carbon reinforcing materials. *Composite Structures*, *140*, 67–76. <https://doi.org/10.1016/j.compstruct.2015.12.022>
- Członka, S., Sienkiewicz, N., Strąkowska, A., & Strzelec, K. (2018). Keratin feathers as a filler for rigid polyurethane foams on the basis of soybean oil polyol. *Polymer Testing*, *72*, 32–45. <https://doi.org/10.1016/j.polymertesting.2018.09.032>
- Członka, S., Strąkowska, A., & Kairyte, A. (2020). Effect of walnut shells and silanized walnut shells on the mechanical and thermal properties of rigid polyurethane foams. *Polymer Testing*, *87*. <https://doi.org/10.1016/j.polymertesting.2020.106534>
- Członka, S., Strąkowska, A., Kairyte, A., & Kremensas, A. (2020). Nutmeg filler as a natural compound for the production of polyurethane composite foams with

- antibacterial and anti-aging properties. *Polymer Testing*, 86. <https://doi.org/10.1016/j.polymertesting.2020.106479>
- Delucis, R. de A., Magalhães, W. L. E., Petzhold, C. L., & Amico, S. C. (2018). Forest-based resources as fillers in biobased polyurethane foams. *Journal of Applied Polymer Science*, 135(3). <https://doi.org/10.1002/app.45684>
- Dinas Lingkungan Hidup dan Kehutanan DIY. (2024). *RENJA Rencana Kerja 2024*. Dinas Lingkungan Hidup dan Kehutanan DIY.
- Dolomanova, V., Jens, C. M. R., Jensen, L. R., Pyrz, R., & Timmons, A. B. (2011). Mechanical properties and morphology of nano-reinforced rigid PU foam. *Journal of Cellular Plastics*, 47(1), 81–93. <https://doi.org/10.1177/0021955X10392200>
- Dukarska, D., & Mirski, R. (2024). Current Trends in the Use of Biomass in the Manufacture of Rigid Polyurethane Foams: A Review. Dalam *Journal of Composites Science* (Vol. 8, Nomor 8). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/jcs8080286>
- Dukarska, D., Walkiewicz, J., Derkowski, A., & Mirski, R. (2022). Properties of Rigid Polyurethane Foam Filled with Sawdust from Primary Wood Processing. *Materials*, 15(15). <https://doi.org/10.3390/ma15155361>
- European Standardization Committee. (2016). *EN 13165 - Thermal insulation products for buildings ~ Factory made rigid polyurethane foam (PU) products Specification*.
- Federation of European Rigid Polyurethane Foam Associations. (2006). *Thermal Insulation Materials Made of Rigid Polyurethane Foam (PUR/PIR): Properties - Manufacture*. Federation of European Rigid Polyurethane Foam Associations.
- Han, D. S., Park, I. B., Kim, M. H., Noh, B. J., Kim, W. S., & Lee, J. M. (2010). The effects of glass fiber reinforcement on the mechanical behavior of polyurethane foam. *Journal of Mechanical Science and Technology*, 24(1), 263–266. <https://doi.org/10.1007/s12206-009-1136-3>
- Hartono, R., Farizky, F., Sutiawan, J., Sumardi, I., & Suhesti, E. (2022). Fiber Quality of Betung Bamboo (*Dendrocalamus asper*) from Forest Area with Special Purpose (FASP) Pondok Buluh, Simalungun, North Sumatera. *IOP Conference Series: Earth and Environmental Science*, 1115(1). <https://doi.org/10.1088/1755-1315/1115/1/012085>
- Jabber, L. J. Y., Grumo, J. C., Alguno, A. C., Lubguban, A. A., & Capangpangan, R. Y. (2020). Influence of cellulose fibers extracted from pineapple (*Ananas comosus*) leaf to the mechanical properties of rigid polyurethane foam. *Materials Today: Proceedings*, 46, 1735–1739. <https://doi.org/10.1016/j.matpr.2020.07.566>
- Joanna, P. S., Bogusław, C., & Joanna, L. (2011). Application of waste products from agricultural-food industry for production of rigid polyurethane-polyisocyanurate foams. *Journal of Porous Materials*, 18(5), 631–638. <https://doi.org/10.1007/s10934-010-9419-8>
- Jonjaroen, V., Ummartyotin, S., & Chittapun, S. (2020). Algal cellulose as a reinforcement in rigid polyurethane foam. *Algal Research*, 51. <https://doi.org/10.1016/j.algal.2020.102057>
- Kairytė, A., Członka, S., Boris, R., & Vėjelis, S. (2021). Evaluation of the performance of bio-based rigid polyurethane foam with high amounts of sunflower press cake particles. *Materials*, 14(19). <https://doi.org/10.3390/ma14195475>

- Kairyte, A., Ivdre, A., & Vaitkus, S. (2017). Dimensionally Stable Water-Blown Polyurethane Foam Extended with Bio-based Propylene Glycol and Modified with Paper Waste Sludge. *Engineering Structures and Technologies*, 9(2), 93–103. <https://doi.org/10.3846/2029882x.2016.1277170>
- Kairyte, A., Kremensas, A., Balčiūnas, G., Członka, S., & Strakowska, A. (2020). Closed cell rigid polyurethane foams based on low functionality polyols: Research of dimensional stability and standardised performance properties. *Materials*, 13(6). <https://doi.org/10.3390/ma13061438>
- Kim, J. Y., Kim, J. D., Kim, J. H., Kim, S. K., & Lee, J. M. (2021). Effects of ultrasonic dispersion on nanoparticle based polyurethane foam reinforcement. *Polymer Testing*, 99. <https://doi.org/10.1016/j.polymertesting.2021.107210>
- Kim, M. S., Kim, J. D., Kim, J. H., & Lee, J. M. (2021). Mechanical Performance Degradation of Glass Fiber-reinforced Polyurethane Foam Subjected to Repetitive Low-energy Impact. *International Journal of Mechanical Sciences*, 194. <https://doi.org/10.1016/j.ijmecsci.2020.106188>
- Kim, S. H., Park, H. C., Jeong, H. M., & Kim, B. K. (2010). Glass fiber reinforced rigid polyurethane foams. *Journal of Materials Science*, 45(10), 2675–2680. <https://doi.org/10.1007/s10853-010-4248-3>
- Kurańska, M., Barczewski, M., Uram, K., Lewandowski, K., Prociak, A., & Michałowski, S. (2019). Basalt waste management in the production of highly effective porous polyurethane composites for thermal insulating applications. *Polymer Testing*, 76, 90–100. <https://doi.org/10.1016/j.polymertesting.2019.02.008>
- Latinwo, G. K., Aribike, D. S., Oyekunle, L. O., Susu, A. A., & Kareem, S. A. (2010). Effects Of Calcium Carbonate Of Different Compositions And Particle Size Distributions On The Mechanical Properties Of Flexible Polyurethane Foam. Dalam *Nature and Science* (Vol. 8, Nomor 9).
- Lee, C. S., Kim, M. S., Park, S. B., Kim, J. H., Bang, C. S., & Lee, J. M. (2015). A temperature- and strain-rate-dependent isotropic elasto-viscoplastic model for glass-fiber-reinforced polyurethane foam. *Materials and Design*, 84, 163–172. <https://doi.org/10.1016/j.matdes.2015.06.086>
- Lestari, R., Yuliansyah, A. T., Prasetya, A., & Sulistyono, H. (2018). Prosiding Seminar Nasional Teknik Kimia “Kejuangan” Kajian Proses Pengolahan Limbah Bambu Apus (*Gigantochloa Apus*) dengan Menggunakan Metode Hydrothermal Liquefaction. *Jurusan Teknik Kimia*.
- Leszczyńska, M., Malewska, E., Ryszkowska, J., Kurańska, M., Gloc, M., Leszczyński, M. K., & Prociak, A. (2021). Vegetable fillers and rapeseed oil-based polyol as natural raw materials for the production of rigid polyurethane foams. *Materials*, 14(7). <https://doi.org/10.3390/ma14071772>
- Li, X., Cao, H., & Zhang, Y. (2008). Properties of Water Blown Rigid Polyurethane Foams with Different Functionality. *Journal Wuhan University of Technology, Materials Science Edition*, 23(1), 125–129. <https://doi.org/10.1007/s11595-006-1125-7>
- Luo, S., Gao, L., & Guo, W. (2020). Influence of adding lignin and wood as reactive fillers on the properties of lightweight wood-polyurethane composite foams. *Forest Products Journal*, 70(4), 420–427. <https://doi.org/10.13073/FPJ-D-20-00034>
- Maconachie, T., Leary, M., Lozanovski, B., Zhang, X., Qian, M., Faruque, O., & Brandt, M. (2019). SLM lattice structures: Properties, performance, applications

- and challenges. Dalam *Materials and Design* (Vol. 183). Elsevier Ltd. <https://doi.org/10.1016/j.matdes.2019.108137>
- Mirski, R., Dukarska, D., Walkiewicz, J., & Derkowski, A. (2021). Waste wood particles from primary wood processing as a filler of insulation pur foams. *Materials*, *14*(17). <https://doi.org/10.3390/ma14174781>
- Mirski, R., Walkiewicz, J., Dukarska, D., & Derkowski, A. (2022). Morphological Features of PUR-Wood Particle Composite Foams. *Materials*, *15*(19). <https://doi.org/10.3390/ma15196741>
- Nisa, R. S., Hermawan, D., Munawar, S. S., Purnomo, D., Subiyanto, B., Ismadi, Syahrir, A., & Akbar, F. (2024). The RPUF Composite's Physical and Mechanical Properties with Ramie Stem Particle Reinforcement. *Journal of Sylva Indonesiana*, *7*(01), 09–16. <https://doi.org/10.32734/jsi.v7i01.10254>
- Paciorek-Sadowska, J., Borowicz, M., Czuprynski, B., & Liskowska, J. (2017). Kompozyty sztywnych pianek poliuretanowo-poliizocyjanurowych z kora debu szypulkowego. *Polimery/Polymers*, *62*(9), 666–672. <https://doi.org/10.14314/polimery.2017.666>
- Pouzet, M., Dubois, M., Charlet, K., & Béakou, A. (2018). From hydrophilic to hydrophobic wood using direct fluorination: A localized treatment. *Comptes Rendus Chimie*, *21*(8), 800–807. <https://doi.org/10.1016/j.crci.2018.03.009>
- Prayitno, T. A., & Suranto, Y. (2023). *Metodologi Penelitian Hasil Hutan*. Gadjah Mada University Press.
- Qiu, C., Li, F., Wang, L., Zhang, X., Zhang, Y., Tang, Q., Zhao, X., De Hoop, C. F., Peng, X., Yu, X., & Huang, X. (2021). The preparation and properties of polyurethane foams reinforced with bamboo fiber sources in China. *Materials Research Express*, *8*(4). <https://doi.org/10.1088/2053-1591/abf1cd>
- Qiu, Q., Yang, X., Zhang, P., Wang, D., Lu, M., Wang, Z., Guo, G., Yu, J., Tian, H., & Li, J. (2021). Effect of fiber surface treatment on the structure and properties of rigid bagasse fibers/polyurethane composite foams. *Polymer Composites*, *42*(6), 2766–2773. <https://doi.org/10.1002/pc.26011>
- Shalbafan, A., Choupani Chaydarreh, K., & Welling, J. (2021). Effect of blowing agent concentration on rigid polyurethane foam and the properties of foam-core particleboard. *Wood Material Science and Engineering*, *16*(2), 85–93. <https://doi.org/10.1080/17480272.2019.1626480>
- Sheikhi, M. R., Hasanzadeh, M., Gürgen, S., & Li, J. (2024). Enhanced anti-impact resistance of polyurethane foam composites with multi-phase shear thickening fluids containing various carbon nanofillers. *Materials Today Communications*, *38*. <https://doi.org/10.1016/j.mtcomm.2023.107991>
- Silva, M. C., Takahashi, J. A., Chaussy, D., Belgacem, M. N., & Silva, G. G. (2010). Composites of rigid polyurethane foam and cellulose fiber residue. *Journal of Applied Polymer Science*, *117*(6), 3665–3672. <https://doi.org/10.1002/app.32281>
- Strakowska, A., Czlonka, S., & Kairyte, A. (2020). Rigid polyurethane foams reinforced with poss-impregnated sugar beet pulp filler. *Materials*, *13*(23), 1–15. <https://doi.org/10.3390/ma13235493>
- Syahbana, A., Rini, D. S., & Lestari, D. (2025). Geographic Variation in the Physical and Mechanical Properties of *Dendrocalamus asper* Growing on Lombok Island. *Jurnal Biologi Tropis*, *25*(1), 911–921. <https://doi.org/10.29303/jbt.v25i1.8710>
- Szycher, M. (2013). *Szycher'S handbook of PolyurethaneS Second edition* (Second Edition). CRC Press.

- Uram, K., Kurańska, M., Andrzejewski, J., & Prociak, A. (2021). Rigid polyurethane foams modified with biochar. *Materials*, *14*(19). <https://doi.org/10.3390/ma14195616>
- Uram, K., Leszczyńska, M., Prociak, A., Czajka, A., Gloc, M., Leszczyński, M. K., Michałowski, S., & Ryszkowska, J. (2021). Polyurethane composite foams synthesized using bio-polyols and cellulose filler. *Materials*, *14*(13). <https://doi.org/10.3390/ma14133474>
- Widyorini, R., Syahri, I., & Greitta, D. K. (2020). Sifat Papan Partikel Bambu Petung (*Dendrocalamus asper*) dan Bambu Wulung (*Gigantochloa atroviolacea*) dengan Perlakuan Ekstraksi. Dalam *Jurnal Ilmu Kehutanan* (Vol. 14). <https://jurnal.ugm.ac.id/jikfkt>
- Widyorini, R., Yudha, A. P., Lukmandaru, G., & Prayitno, T. A. (2015). *Sifat Fisika Mekanika dan Ketahanan Papan Partikel Bambu dengan perekat Asam Sitrat terhadap Serangan Rayap Kayu Kering*. 12–22.
- Wulandari, F. T., & Amin, R. (2023). Sifat Fisika Papan Laminasi Kombinasi Kayu Sengon dan Bambu Petung (*Dendrocalamus asper*). *Empiricism Journal*, *4*(1), 61–68. <https://doi.org/10.36312/ej.v4i1.1200>
- Yang, G., Liu, X., & Lipik, V. (2018). Evaluation of silica aerogel-reinforced polyurethane foams for footwear applications. *Journal of Materials Science*, *53*(13), 9463–9472. <https://doi.org/10.1007/s10853-018-2244-1>
- Yuan, J., & Shi, S. Q. (2009). Effect of the addition of wood flours on the properties of rigid polyurethane foam. *Journal of Applied Polymer Science*, *113*(5), 2902–2909. <https://doi.org/10.1002/app.30322>