

DAFTAR PUSTAKA

- [1] S. N. I. Tricho Hermawan, "Analisis Kekuatan Impak Komposit Berpenguat Serat Rami dengan Matriks Gondorukem pada Fraksi Massa 15% dan 30%," *Jurnal Teknik Mesin (S-1)*, pp. 64-71, 2023.
- [2] J. G.-G. P. O. B. Z. d. I. E. Huiying Jin, "Effect of Extensive Recycling on Flow Properties of LDPE," *Polymer Degradation and Stability*, p. 2262–2272, Vol. 97, Tahun 2012.
- [3] H. A. d. M. F. M. Aditya Pradana, "Pemisahan Selulosa dari Lignin Serat Tandan Kosong Kelapa Sawit dengan Proses Alkalisasi untuk Penguat Bahan Komposit Penyerap Suara," *Jurnal Teknik ITS*, pp. 413-417, 2017.
- [4] X. Q. C. W. L. Z. F. F. J. Z. Z. Z. Y. Q. D. Y. C. C. X. Wenli Zhang, "Bahan karbon turunan lignin: status terkini dan tren masa depan," *Carbon Research*, 2022.
- [5] E. T. A. H. E. Y. M. Ghazali, "Effect of lignin on morphology, biodegradability, mechanical and thermal properties of low linear density polyethylene/lignin biocomposites," *IOP Conference Series: Materials Science and Engineering (MSE)*, 2017.
- [6] X. Q. C. W. L. Z. F. F. J. Z. Z. Z. Y. Q. D. Y. C. C. X. Wenli Zhang, "Lignin derived carbon materials: current status and future trends," *Carbon Research*, 2022.
- [7] S. Maulina, Nurtahara and Fakhradila, "Pirolisis Pelepah Kelapa Sawit untuk Menghasilkan Fenol pada Asap Cair (Palm Midrib Pyrolysis to Produce Phenol in Liquid Smoke)," *Jurnal Teknik Kimia USU*, pp. 12-18, 2018.
- [8] N. Kanani, Rahmayetty and E. Y. W, "Pengaruh Penambahan FeCl_3 dan Al_2O_3 terhadap Kadar Lignin pada Delignifikasi Tongkol Jagung dengan Pelarut NaOH Menggunakan Bantuan Gelombang Ultrasonik," *Jurnal Prosiding Seminar Nasional Sains dan Teknologi (Semnastek) – Fakultas Teknik, Universitas Muhammadiyah Jakarta*, 17 Oktober 2018.
- [9] W. Boerjan, J. Ralph and M. Baucher, "Lignin Biosynthesis," *Annual Review of Plant Biology*, Vol. 54, pp. 519-546, 2003.
- [10] S. I. W. L. C. H. R. A. L. I. G. P. D. O. D. A. H. H. V. S. M. M. Oki Alfernando, MATERIAL MAJU BERBASIS LINGKUNGAN, Kota Padang, Sumatera Barat: U ME Publishing, Mei 2025.
- [11] Y. I. W. W. Muhammad Ghazali, "Pengaruh Penambahan Lignin terhadap Stabilitas Termal Biokomposit Poliasam Laktat / Lignin," *Jurnal Penelitian Pascapanen Pertanian, Volume 14, Nomor 1*, pp. 46-52, 2017.
- [12] B. I. L. D. C. L. d. E. S. Jesper Kleis, "Towards a Working Density-Functional Theory for Polymers: First-Principles Determination of the Polyethylene Crystal Structure," *Physical Review B*, p. 5 halaman, 2007.
- [13] D. T. C. J. M. B. A. K. D. E. N. B. d. C. W. J. Jennifer L. Jordan, "Mechanical Properties of Low Density Polyethylene," *Experimental Mechanics*, p. 509–518, 2017.
- [14] S.-H. H. & S.-H. Hwang, "Construction, Physical Properties and Foaming Behavior of High-Content Lignin Reinforced Low-Density Polyethylene Biocomposites," *Polymers*, 2020.
- [15] E. M. M. R. M. S. Khadijah Sayyidatun Nisa, "Sintesis Biokomposit Serat Sabut Kelapa dan Resin Poliester dengan Alkalisasi KOH ," *Jurnal Rekayasa*, p. 200–210,

2022.

- [16] I. K. H. A. S. Hersandy Dayu Kusuma, "Pengaruh Suhu terhadap Ekstraksi Lignin dari Batang Pohon Kelapa Sawit Menggunakan Metode Organosolv," *IONTech*, p. 25–31, Februari 2024.
- [17] H. Simatupang, A. Nata and N. Herlina, "Studi Isolasi dan Rendemen Lignin dari Tandan Kosong Kelapa Sawit (TKKS)," *Jurnal Teknik Kimia USU*, 2012.
- [18] N. P. J. E. P. A. S. R. N. N. A. S. Iqbal Nugroho, "Tinjauan Kritis Kemampuan Fourier Transform Infrared Spectroscopy (FTIR) dalam Analisis dan Karakterisasi Senyawa Obat," *Jurnal Ilmiah Wahana Pendidikan (JIWP)*, p. 332–344, Agustus 2024.
- [19] D. I. Santos, M. J. N. Correia, M. M. Mateus, J. A. Saraiva, A. A. Vicente and & M. Moldão, "Fourier Transform Infrared (FT-IR) Spectroscopy as a Possible Rapid Tool to Evaluate Abiotic Stress Effects on Pineapple By-Products," *Applied Sciences*, 2019.
- [20] S. R. Y. Arpinaini, "STUDI KOMPONEN KIMIA PELEPAH SAWIT VARIETAS TENERA DAN PENGEMBANGANNYA SEBAGAI MODUL PEMBELAJARAN KIMIA," *Universitas Bengkulu*, 2017.
- [21] S. B. Setiajit, W. W. Raharjo and H. Sukanto, "Pengaruh Waktu Pengepresan terhadap Sifat Mekanik Komposit Kenaf / Polypropylene," *Jurnal Teknik Mesin Indonesia (JTMI)*, p. 89–93, 2016.
- [22] A. A. Purba, A. Sunani and I. P. D. A. S. Prabowo, "Analisis Penggantian Mesin Hot Press dengan Menggunakan Metode Equivalent Uniform Annual Cost (EUAC) di PT Xyz," *Jurnal Teknik Industri: Jurnal Hasil Penelitian dan Karya Ilmiah dalam Bidang Teknik Industri*, pp. 132-140, 2022.
- [23] E. Huerta, J. Corona, A. Oliva, F. Avilés and J. González-Hernández, "Universal testing machine for mechanical properties of thin materials," *Revista Mexicana de Física*, Agustus 2010.
- [24] S. A. A. M. P. M. S. O. F. O. O. A. O. O. Olatunji, "Thermo-gravimetric Characterization of Biomass Properties: A Review," *IOP Conference Series: Materials Science and Engineering*, 2018.
- [25] S. M. apt. Hilya Nur Imtihani, D. r. n. R. A. Wahyuono and S. M. apt. Silfiana Nisa Permatasari, *Biopolimer Kitosan dan Penggunaannya dalam Formulasi Obat*, Surabaya, Indonesia: Graniti (Anggota IKAPI), 2020.
- [26] K. D. T. S. Agung Fahmi Johari, "Pengaruh Temperatur terhadap Pembuatan Papan Komposit Sekam Padi Berbasis Limbah HDPE menggunakan Metode Hot Press," *Jurnal Rekayasa Mesin*, pp. hal. 17-24, April 2021.
- [27] A. I. (. S. f. T. a. Materials), "Standard Test Method for Compositional Analysis by Thermogravimetry," *ASTM International (American Society for Testing and Materials)*, 2008.
- [28] A. I. (. S. f. T. a. Materials), "Standard Test Method for Tensile Properties of Plastics," *ASTM International (American Society for Testing and Materials)*, West Conshohocken, PA, USA, 2014.
- [29] H. d. P. Direktorat Statistik Tanaman Pangan, "STATISTIK KELAPA SAWIT INDONESIA," *Badan Pusat Statistik/BPS–Statistics Indonesia*, Volume 17, 2024.
- [30] K. K. Chawla, *Composite Materials: Science and Engineering*, Cham, Switzerland.: Springer International Publishing / Springer Nature, 2019.
- [31] H. P. K. R. Z. A. Dedikarnia, "PENGARUH PENAMBAHAN ABU CANGKANG SAWIT DAN LIMBAH PLASTIK TERHADAP SIFAT MEKANIK DAN MIKRO

STRUKTUR PLAT KOMPOSIT," *SINERGI Polmed : JURNAL ILMIAH TEKNIK MESIN*, pp. 93-99, 2024.

- [32] D. I. Donato, G. Lazzara and S. Milioto, "Thermogravimetric analysis A tool to evaluate the ability of mixtures in consolidating waterlogged," *Akade'miai Kiado*, 2010.
- [33] O. Faix, "Classification of Lignins from Different Botanical Origins by FT-IR Spectroscopy," *Bundesforschungsanstalt für Forst- und Holzwirtschaft, Institut für Holzchemie und chemische Technologie des Holzes*, pp. 21-27, 1991.
- [34] C. T. Farida, "Pembuatan Plastik Biodegradable Berbahan Dasar Selulosa dari Tandan Kosong Kelapa Sawit (TKKS) dengan Penambahan Pati Sagu," *Universitas Malikussaleh*, 2024.
- [35] F. P. Januati, "Pengaruh Modifikasi Kimia Permukaan Serat Nanas Terhadap Sifat-sifat Biokomposit (Polylactid Acid)/Serat Daun Nanas," *Universitas Islam Negeri Syarif Hidayatullah*, 2024.
- [36] O. f. E. C.-o. a. D. (OECD), *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options*, Paris, France: OECD Publishing, 2022.
- [37] R. A. SAPUTRA, "PENGARUH PENGUAT SERAT PADA SIFAT TARIK KOMPOSIT PLA/OPEFB (Oil Palm Empty Fruit Bunch) UNTUK APLIKASI BIODEGRADABLE TENDON SCAFFOLD," *UNIVERSITAS LAMPUNG*, 2022.
- [38] O. f. E. C. a. D. (. s. lembaga., *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options*, Paris, France.: *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options*, 2022.
- [39] K. K. P. d. A. J. Pitman, "FTIR studies of the changes in wood chemistry following decay by brown-rot and white-rot fungi," *International Biodeterioration & Biodegradation*, p. 151–160, 2003.
- [40] D. A. K. PUTRI, "LEMBARAN KOMPOSIT PLASTIK BERBAHAN LINEAR LOW DENSITY POLY ETHYLENE DENGAN PENAMBAHAN," *INSTITUT PERTANIAN BOGOR*, 2024.
- [41] D. I. Santos, M. J. N. Correia, M. M. Mateus, J. A. Saraiva, A. A. Vicente and & M. Moldão, "Fourier Transform Infrared (FT-IR) Spectroscopy as a Possible Rapid Tool to Evaluate Abiotic Stress Effects on Pineapple By-Products".
- [42] M. Müller, V. Kolář and R. K. Mishra, "Mechanical and Thermal Degradation-Related Performance of Recycled LDPE from Post-Consumer Waste," *Polymers*, 2020.
- [43] S. Agustina, "Biokomposit Serat Kelapa Sawit Sebagai Bahan Otomotif," *Prosiding Seminar Nasional I Hasil Litbangyasa Industri*, Oktober 2018.
- [44] S. Suhartati, R. Puspito, F. Rizali and D. Anggraini, "Analisis Sifat Fisika dan Kimia Lignin Tandan Kosong Kelapa Sawit Asal Desa Sape, Kabupaten Sanggau, Kalimantan Barat," *Akademia Kimia Analisi Caraka Nusantara*, pp. 24-29, 2016.
- [45] Suyadi, "KAJI EKSPERIMEN KEKUATAN TARIK PRODUK-PRODUK BERBAHAN PLASTIK DAUR ULANG," *Tek. Mesin Polines*.
- [46] M. Yani, B. Suroso and Rajali, "Mechanical Properties Komposit Limbah Plastik," *Jurnal Rekayasa Material, Manufaktur dan Energi*, p. 74–83, 2019.