DAFTAR PUSTAKA

[1] R. V. Vignesh, R. Padmanaban, and M. Govindaraju, *Advances in Processing of Lightweight Metal Alloys and Composites: Microstructural Characterization and Property Correlation*. Materials Horizons: From Nature to Nanomaterials. Springer Nature Singapore, 2023, doi: 10.1007/978-981-19-7146-4.

[2] B. A. Ampangallo, J. Manga', Asmeati, B. Tangaran, K. Pasau, Masdiana, K. Tikupadang, A. Kasa, E. Bachtiar, C. L. Rantererung, S. Salu, *Teknologi Material*. Arsy Media, 2025. https://repo.ukitoraja.ac.id/id/eprint/728 [Diakses: 4 Desember 2025].

[3] M. F. Rochmat, Y. Umardani, and S. Nugroho, "Pengaruh Penambahan Unsur Magnesium Terhadap Sifat Mekanis Aluminium", *Jurnal Teknik Mesin*, vol. 10, no. 1, pp. 31-36, 2022.

[4] J. She, J. Chen, X. Xiong, Y. Yang, X. Peng, D. Chen, and F. Pan, "Research advances of magnesium and magnesium alloys globally in 2023", *Journal of Magnesium and Alloys*, vol. 12, no. 9, pp. 3441-3475, 2024, doi: 10.1016/j.jma.2024.10.001.

[5] H. Putra, A, G., Manaf, A., Djoko, "Pengaruh Elemen Paduan dan Senyawa terhadap Karakteristik Paduan Magnesium dan Aplikasinya Kajian", *Jurnal Teknik: Media Pengembangan Ilmu dan Aplikasi Teknik*, vol. 20, no. 2, pp. 166-179, 2021, doi: 10.26874/jt.vol20no2.424.

[6] C. Xiao, B. Yang, Z. Lai, X. Zeng, Z. Chen, Y. Zhou, and D. Wu, "First Principle Analysis on Elastic and Mechanical Behavior of High Pressure Hexagonal $MgZn_2$ Phase", *Crystals*, vol. 14, no. 12, pp. 1-15, 2024, doi: 10.3390/cryst14121090.

[7] S. Teslia, S. B. Trushkina, P. Novák, A. Michalcová, and D. Vojtěch, "The Activation of Magnesium Sintering by Zinc Addition", *Alloys*, vol. 3, no. 3, pp. 178-189, 2024, doi: 10.3390/alloys3030011.

[8] C. Wang, W. Q. Li, H. Deng, H. Q. Zhang, J. L. Cai, and Z. G. Li, "Microstructure and Mechanical Property Tailoring in Asymmetrically Shear-Extruded Mg-2.0Al-0.8Sn-0.5Ca Alloys via Zn Addition", *Crystals*,

vol. 15, no. 8, pp. 1-16, 2025, doi: 10.3390/cryst15080735.

[9] P. Jiang, C. Blawert, and M. L. Zheludkevich, "The Corrosion Performance and Mechanical Properties of Mg-Zn Based Alloys A Review", *Corrosion and Materials Degradation*, vol. 1, no. 1, pp. 92-158, 2020, doi: 10.3390/cmd1010007.

[10] Z. Xing, H. Fan, J. Tang, B. Wang, and G. Kang, "Molecular Dynamics Simulation on the Cyclic Deformation of Magnesium Single Crystals", *Computational Materials Science*, vol. 186, p. 110003, 2021, doi: 10.1016/j.commatsci.2020.110003.

[11] Y. Hu, X. Guo, Y. Qiao, X. Wang, and Q. Lin, "Preparation of medical Mg-Zn alloys and the effect of different zinc contents on the alloy", *Journal of Materials Science: Materials in Medicine*, vol. 33, no. 1, Article no. 9, 2022, doi: 10.1007/s10856-021-06637-0.

[12] S. Midori, D. Hikmawati, and A. Supardi, "Molecular Dynamics Study of Mechanical Properties of Zn-xMg Alloy for Metal Biomaterial", *AIP Conference Proceedings*, vol. 2314, no. 1, p. 020003, 2020, doi: 10.1063/5.0036372.

[13] M. Akbar, E. Dzulfikar, D. Hikmawati, and A. Supardi, "Molecular Dynamics Simulation to Determine Elastic Constant and Bulk Modulus from Mg-xZn", *AIP Conference Proceedings*, vol. 2314, no. 1, p. 020005, 2020, doi: 10.1063/5.0035227.

[14] M. Alidoust, D. Kleiven, and J. Akola, "Density Functional Simulations of Pressurized Mg-Zn and Al-Zn Alloys", *Physical Review Materials*, vol. 4, no. 4, p. 045002, 2020, doi: 10.1103/PhysRevMaterials.4.045002.

[15] T. Chowdhury, Z. Islam, A. Muhury, S. Ahmad, and F. Gulshan, "Study of Microstructural Characterization & Molecular Dynamics Evolution of Temperature and Strain Rate Effect on Tensile Properties of Mg-Zn-Nd Alloy", *Materials Today Communications*, vol. 50, p. 114496, 2026, doi: 10.1016/j.mtcomm.2025.114496.

[16] ChemTalk, "Magnificent Magnesium", *ChemTalk*. Available: https://chemistrytalk.org/magnesium-element/ [Diakses: 4 Desember 2025].

[17] M. M. Jamel, H. Lopez, B. Schultz, and W. Otieno, “The Effect of Solidification Rate on the Microstructure and Mechanical Properties of Pure Magnesium”, *Metals*,vol. 11,no.8, p. 1264, 2021, doi: 10.3390/met11081264.

[18] A. Pola and M. Tocci, “Review of Microstructures and Properties of Zinc Alloys,” *Metals*, vol. 10, no. 2, p. 253, 2020, doi: 10.3390/met10020253.

[19] S. Yuan, Y. Li, Y. Zhang, Y. Liu, H. Zhao, X. Zhang, and Z. Chen, “Effect of Zn Content on the Microstructure, Mechanical Performances, and Corrosion Resistance of Ultra High Strength Al-xZn-2.8Mg-1.0Cu Alloy with High Zn Content”, *Journal of Materials Research and Technology*, vol. 39, pp. 2030-2044, 2025, doi: 10.1016/j.jmrt.2025.09.229.

[20] S. M. Kang, J. H. Kim, J. Y. Lee, H. S. Kim, and Y. S. Kim, “Microstructural Evolution and Mechanical Properties of Pure Zinc Subjected to Extrusion and Caliber Rolling”, *Journal of Materials Research and Technology*, vol. 30, pp. 4564-4571, 2024, doi: 10.1016/j.jmrt.2024.04.058.

[21] M. R. Sahu and A. Yamamoto, “An Overview of the Recent Developments in Biodegradable Mg-Zn Alloy”, *Journal of Magnesium and Alloys*, vol. 13, no. 2, pp. 486-509, 2025, doi: 10.1016/j.jma.2025.01.011.

[22] M. Asadollahi, E. Gerashi, and R. Alizadeh, “Effect of Zn Content and Processing Route on the Microstructure, Mechanical Properties, and Biodegradation of Mg-Zn Alloys”, *Journal of Materials Research and Technology*, vol. 21, pp. 4473-4489, 2022, doi: 10.1016/j.jmrt.2022.11.041.

[23] X. Qian, Y. Zhang, Y. Wang, J. Li, X. Wang, and H. Wang, “Influence of Alloying Element Segregation at Grain Boundary on the Microstructure and Mechanical Properties of Mg-Zn Alloy”, *Materials & Design*, vol. 224, p. 111322, 2022, doi: 10.1016/j.matdes.2022.111322.

[24] W. D. Callister Jr. and D. G. Rethwisch, *Materials Science and Engineering: An Introduction*, 10th ed. John Wiley & Sons, Inc., 2018.

[25] A. W. Pramono and J. Bouffette, *Pengantar Tekstur Kristalografi: Teori dan Aplikasi*. LIPI Press, 2022, doi: 10.14203/press.393

[26] S. S. Murugan, “Mechanical Properties of Materials: Definition, Testing and

Application", vol. 6, no. 2, pp. 28-38, 2020, doi:10.20431/2454-9711.0602003.

[27] S. Bandara, "Mechanical Properties of Materials in Materials Science", *Journal of Materials Science and Nanomaterials*, vol. 8, no. 6, p. 162, 2024, doi: 10.4172/jmsn.1000162.

[28] M. Irwan, Daryanto, M. A. Ghony, Junaidi, E. Winarno, A. Kurniawan, and J. Chin, *Dasar-Dasar Teknik Mesin*. Aina Media Baswara, 2024.

[29] C. Pramono, *Material Teknik*. Anom Pustaka, 2020.

[30] L. One, Y. Sunarno, J. Manga', M. B. Palungan, Hijriah, L. Buarlele, B. Tangaran, M. Muhsar, and N. H. Aswad, *Mekanika Bahan*. Arsy Media, 2025.

[31] M. E. Atere, A. Taiwo, H. O. Uzoeto, E. C. Ezeh, P. C. Okorie, C. Samuel, A. Toheeb, and M. U. Osondu, "Mechanical Properties and Engineering Applications of Flexural and Tensile Properties in Materials Science", *Current Journal of Applied Science and Technology*, vol. 43, no. 8, pp. 54-62, 2024, doi: 10.9734/CJAST/2024/v43i84420.

[32] M. N. A. Habiby, Rusiyanto, R. D. Widodo, and W. Sumbodo, "Pengaruh Laju Pemanasan Green Body Terhadap Sifat Mekanis dan Fisis Material Crucible Berbahan Limbah Evaporation Boats", *R.E.M. (Rekayasa Energi Manufaktur) Jurnal*, vol. 7, no. m 1, pp. 19-26, 2022, doi: 10.21070/r.e.m.v7i1.1639.

[33] K. Vollmayr-Lee, "Introduction to Molecular Dynamics Simulations", *American Journal of Physics*, vol. 88, no. 5, pp. 401-422, 2020, doi: 10.1119/10.0000654.

[34] D. Frenkel and B. Smit, *Understanding Molecular Simulation: From Algorithms to Applications*, 3rd ed. Academic Press, 2023, doi: 10.1016/B978-0-323-90292-2.00001-1.

[35] C. Huang, C. Li, P. Y. K. Choi, K. Nandakumar, and L. W. Kostiuk, A Novel "Method for Molecular Dynamics Simulation in the Isothermal Isobaric Ensemble", *Molecular Physics*, vol. 108, no. 22, pp. 3615-3627, 2010, doi: 10.1080/00268976.2010.513345.

[36] N. Chistyakova and T. M. H. Tran, "A Study of the Applicability of Different Types of Interatomic Potentials to Compute Elastic Properties of Metals with Molecular Dynamics Methods", *AIP Conference Proceedings*, vol. 1772, no. 1, p. 060019, 2016, doi: 10.1063/1.4964599.

[37] M. Taoufik, H. Chabba, A. Barroug, A. Jouaiti, and D. Dafir, "Atomic Scale Compression and Tensile Investigations for Crystalline Aluminum Using EAM and MEAM Potentials", *Moroccan Journal of Chemistry*, vol. 10, no. 2, pp. 362-374, 2022, doi: 10.48317/IMIST.PRSM/morjchem-v10i2.29999.

[38] H. D. Snyder and T. G. Kucukkal, "Computational Chemistry Activities with Avogadro and ORCA", *Journal of Chemical Education*, vol. 98, no. 4, pp. 1335-1341, 2021, doi: 10.1021/acs.jchemed.0c00959.

[39] A. Albano, E. le Guillou, A. Danzé, I. Moulitsas, I. H. Sahputra, A. Rahmat, C. A. Duque-Daza, X. Shang, K. C. Ng, M. Ariane, and A. Alexiadis, "How to Modify LAMMPS: From the Prospective of a Particle Method Researcher", *ChemEngineering*, vol. 5, no. 2, p. 30, 2021, doi:10.3390/chemengineering5020030.

[40] D. E. Dickel, M. I. Baskes, I. Aslam, and C. D. Barrett, "New Interatomic Potential for MgAlZn Alloys with Specific Application to Dilute Mg-Based Alloys," *Modelling and Simulation in Materials Science and Engineering*, vol.26, no.4, p.045010, 2018, doi: 10.1088/1361-651X/aabaad.

[41] H. B. Maisun, E. Latifah, and Y. A. Laksono, "Investigating Melting Point and Crystal Structure of Mg-Ca Alloys Using Parallel Molecular Dynamics Simulations: LAMMPS and OVITO Approach", *Journal of Physics: Conference Series*, vol. 2900, no. 1, p. 012017, 2024, doi: 10.1088/1742-6596/2900/1/012017.

[42] T. Chen, J. Song, Y. Sun, Y. Wang, C. Zhang, X. Ding, and B. Sun, "Coupling Physics in Machine Learning to Investigate the Solution Behavior of Binary Mg Alloys", *Journal of Magnesium and Alloys*, vol. 10, no. 10, pp. 2817-2832, 2022, doi: 10.1016/j.jma.2021.06.014.

[43] O. O. Abu Galiah, A. S. Masadeh, and J. M. Aljaafreh, "Total Scattering X-Ray Diffraction Study of Distortions, Defects, and Anisotropic Bonding in

Nonideal HCP Zinc", *Physica Scripta*, vol. 100, no. 12, p. 125403, 2025, doi: 10.1088/1402-4896/ae2576.

[44] H. Shi, C. Xu, X. Hu, W. Gan, K. Wu, and X. Wang, "Improving the Young's Modulus of Mg via Alloying and Compositing A Short Review", *Journal of Magnesium and Alloys*, vol. 10, no. 8, pp. 2009-2024, 2022, doi: 10.1016/j.jma.2022.07.011.

[45] W. Mei, Q. Li, and X. Chen, "Atomic Simulation Study on the Effect of Y Atom and Grain Boundary on Tensile Deformation in Polycrystalline Magnesium Alloy", *Journal of Materials Research and Technology*, vol. 23, pp. 931-942, 2023, doi: 10.1016/j.jmrt.2023.01.059.

[46] A. H. Altoyuri, J. Syarif, and Z. Sajuri, "Heliyon Deformation behavior of single-crystal magnesium during Nano-ECAP simulation", *Heliyon*, vol. 8, no. 12, p. e11837, 2022, doi: 10.1016/j.heliyon.2022.e11837.

[47] W. Mei, Q. Li, and X. Chen, "Atomic Simulation Study on the Effect of Y Atom and Grain Boundary on Tensile Deformation in Polycrystalline Magnesium Alloy", *Journal of Materials Research and Technology*, vol. 23, pp. 931-942, 2023, doi: 10.1016/j.jmrt.2023.01.059.

[48] Q. Yang, C. Xue, Z. Chu, Y. Li, and L. Ma, "Molecular Dynamics Simulation of the Effect of Solute Atoms on the Compression of Magnesium Alloy", *Applied Physics A*, vol. 127, no. 6, pp. 1-10, 2021, doi: 10.1007/s00339-021-04636-0.

[49] Q. Zeng, L. Wang, and W. Jiang, "Molecular Dynamics Simulations of the Tensile Mechanical Responses of Selective Laser-Melted Aluminum with Different Crystalline Forms", *Crystals*, vol. 11, no. 11, p. 1388, 2021, doi: 10.3390/cryst11111388.