

DAFTAR PUSTAKA

- Abidin, Z., Rama, & Ridho, B. (2015). Analisa Distribusi Tegangan Dan Defleksi Connecting Rod Sepeda Motor 100 Cc Menggunakan Metode Elemen. *Jurnal Rekayasa Mesin*, 15(1), 30–39.
- Ali, M., Maarij, M., & Hussain, A. (2022). Design and structural analysis of non-pneumatic tyres for different structures of polyurethane spokes. *Journal of Engineering and Applied Science*, 69(1), 1–21. <https://doi.org/10.1186/s44147-022-00093-5>
- An, Q., Li, D., Liao, W., Liu, T., Qu, Z., Wang, G., & Li, X. (2024). Electromagnetic Absorption Mechanism of TPMS-Based Metastructures: Synergy Between Materials and Structures. *Advanced Functional Materials*, November. <https://doi.org/10.1002/adfm.202414629>
- Asif, A., Dhanapal, M., Megha, U. ., Nazar, S., & Rose Jose, S. (2023). Analysis of steel–concrete composite beam using Ansys 18.1 Workbench. *Materials Today: Proceedings*. <https://doi.org/10.1016/J.MATPR.2023.05.285>
- Autodesk. (2025). *Autodesk Inventor: 3D modeling software for designers and engineers*. Autodesk.Com. <https://www.autodesk.com/products/inventor/overview>
- Barbosa, L. A. P., & Magalhães, P. S. G. (2015). Tire tread pattern design trigger on the stress distribution over rigid surfaces and soil compaction. *Journal of Terramechanics*, 58, 27–38. <https://doi.org/10.1016/j.jterra.2014.12.006>
- Barve, J., Joshi, A., Karandikar, D., & Sharma, A. (2024). Comparative analysis of material for flat & dome top piston for SI engine using ansys. *Materials Today: Proceedings*, 103, 559–566. <https://doi.org/10.1016/J.MATPR.2023.10.125>
- BPS. (2024). *Perkembangan Jumlah Kendaraan Bermotor Menurut Jenis (Unit), 2021-2022*. Badan Pusat Statistik. <https://www.bps.go.id/id/statistics-table/2/NTcjMg==/perkembangan-jumlah-kendaraan-bermotor-menurut-jenis--unit-.html>
- CAD, C. (2025). *Hexahedral Mesh vs. Tetrahedral: Comparing High-Quality Meshing*. Cadence. <https://resources.system-analysis.cadence.com/blog/msa2022-hexahedral-mesh-vs-tetrahedral-comparing-high-quality-meshing>

- Carneiro, V. H., Meireles, J., & Puga, H. (2013). Auxetic materials - A review. *Materials Science- Poland*, 31(4), 561–571. <https://doi.org/10.2478/s13536-013-0140-6>
- Chaiworapuek, W., Suvanjumrat, C., Worajinda, N., & Rugsaj, R. (2024). Development of Contact Area Model for Motorcycle Tire Hydroplaning Through Experimental Investigation. *International Journal of GEOMATE*, 26(113), 66–73. <https://doi.org/10.21660/2024.113.g13202>
- Clark, S. K. (1971). *Mechanics of Pneumatic Tires*. National Bureau of Standards. Council), U. N. E. C. for E. (United N. E. and S. (2016). *Regulation No 117 of the Economic Commission for Europe of the United Nations (UNECE) — Uniform provisions concerning the approval of tyres with regard to rolling sound emissions and/or to adhesion on wet surfaces and/or to rolling resistance [2016/ 1350]. 117.*
- Deng, Y., Wang, Z., Shen, H., Gong, J., & Xiao, Z. (2023). A comprehensive review on non-pneumatic tyre research. *Materials and Design*, 227, 111742. <https://doi.org/10.1016/j.matdes.2023.111742>
- Dong, Z., & Zhao, X. (2021). Application of TPMS structure in bone regeneration. *Engineered Regeneration*, 2(August), 154–162. <https://doi.org/10.1016/j.engreg.2021.09.004>
- Feng, J., Fu, J., Yao, X., & He, Y. (2022). Triply periodic minimal surface (TPMS) porous structures: From multi-scale design, precise additive manufacturing to multidisciplinary applications. *International Journal of Extreme Manufacturing*, 4(2). <https://doi.org/10.1088/2631-7990/ac5be6>
- Genovese, A., Garofano, D., Sakhnevych, A., Timpone, F., & Farroni, F. (2021). Static and dynamic analysis of non-pneumatic tires based on experimental and numerical methods. *Applied Sciences (Switzerland)*, 11(23). <https://doi.org/10.3390/app112311232>
- Gupta, A., & Babu L, S. (2023). Triply Periodic Minimal Surfaces: An Overview of Their Features, Failure Mechanisms, and Applications. *Journal of Mines, Metals and Fuels*, 70, 211–221. <https://doi.org/10.18311/jmmf/2022/31230>
- Halimatus Sa'diyah, N., Mariadi Kaharmen, H., & Shofiah, S. (2020). Efisiensi Rem Kendaraan Isuzu Tld 24 C Dengan Variasi Beban Dan Tekanan Angin

- Ban. *Jurnal Keselamatan Transportasi Jalan (Indonesian Journal of Road Safety)*, 7(2), 137–141. <https://doi.org/10.46447/ktj.v7i2.208>
- Hamed, M., Tesfa, B., Gu, F., & Ball, A. D. (2015). Effects of Tyre Pressure on Vehicle Suspension Performance. *International Letters of Chemistry, Physics and Astronomy*, 55, 102–111. <https://doi.org/10.56431/p-l6t1lc>
- Hutomo, A. K., Laksana, D. D., & Kristianta, F. (2017). PENGARUH PERMUKAAN ALUR KEMBANG (TREAD PATTERN) BAN TYPE RADIAL PLY TERHADAP ROLLING RESISTANCE. *Jurnal Rotor*, 10(April), 54–56.
- Imam Akbar, Dewi Rawani, Akbar Teguh Prakoso, Tolu Tamalika, Ahmad Malik Abdul Aziz, & Yules Pramona Zulkarnain. (2024). Digitalisasi Desain Teknik: Sosialisasi dan Pelatihan Autodesk Inventor di SMK Satria Nusantara (SN). *Bersama : Jurnal Pengabdian Masyarakat*, 2(1), 07–20. <https://doi.org/10.61994/bersama.v2i1.606>
- Isbahuddin, M. A., Sahri, A., & Aziz Kurniawan, M. (2020). Pengaruh Tekanan Ban Terhadap Konsumsi Bahan Bakar Pada Kendaraan Bus Isuzu. *Jurnal Keselamatan Transportasi Jalan (Indonesian Journal of Road Safety)*, 7(2), 154–160. <https://doi.org/10.46447/ktj.v7i2.180>
- Jafferson, J. M., & Sharma, H. (2021). Design of 3D printable airless tyres using NTopology. *Materials Today: Proceedings*, 46(xxxx), 1147–1160. <https://doi.org/10.1016/j.matpr.2021.02.058>
- Jin, X., Hou, C., Fan, X., Sun, Y., Lv, J., & Lu, C. (2018). Investigation on the static and dynamic behaviors of non-pneumatic tires with honeycomb spokes. *Composite Structures*, 187, 27–35. <https://doi.org/10.1016/j.compstruct.2017.12.044>
- Keane, P. (2025). *All About Butyl Rubber -Properties, Applications, and Uses*. Thomas for Industry. <https://www.thomasnet.com/articles/plastics-rubber/all-about-butyl-rubber/>
- Kim, D. Y., Kim, H. S., Kamath, S. S., Hou, X., Choi, J. W., & Park, S. H. (2024). TPMS-based auxetic structure for high-performance airless tires with variable stiffness depending on deformation. *Scientific Reports*, 14(1), 1–15. <https://doi.org/10.1038/s41598-024-62101-3>

- Kusuma, F. I., Partono, P., Sumarli, S., & Ismail, H. (2022). Analisis Hasil Pengereman Abs Dan Non-Abs Pada Tapak Ban Jenis Simetris. *Jurnal Teknik Otomotif: Kajian Keilmuan Dan Pengajaran*, 6(1), 15. <https://doi.org/10.17977/um074v6i12022p15-22>
- Liu, B., Feng, J., Lin, Z., He, Y., & Fu, J. (2023). Controllable three-dimension auxetic structure design strategies based on triply periodic minimal surfaces and the application in hip implant. *Virtual and Physical Prototyping*, 18(1). <https://doi.org/10.1080/17452759.2023.2170890>
- Maulana, D., & Aditya, A. M. (2024). *Sepeda Motor Jadi Penyumbang Kecelakaan Tertinggi Sepanjang 2023*. Kompas.Com. [https://otomotif.kompas.com/read/2024/01/17/071200015/sepeda-motor-jadi-penyumbang-kecelakaan-tertinggi-sepanjang-2023#:~:text=Jika dikomparasikan dengan periode-periode sebelumnya%2C terlihat ada kenaikan.&text=Membandingkan dengan data kecelakaan sepeda](https://otomotif.kompas.com/read/2024/01/17/071200015/sepeda-motor-jadi-penyumbang-kecelakaan-tertinggi-sepanjang-2023#:~:text=Jika%2C%20terlihat%20ada%20kenaikan.&text=Membandingkan%20dengan%20data%20kecelakaan%20sepeda)
- Mohan, A., Johny, C. A., Tamilarasu, A., Bhasker, J. P., & Ravi, K. (2017). Design and analysis of non-pneumatic tyre. *IOP Conference Series: Materials Science and Engineering*, 263(6). <https://doi.org/10.1088/1757-899X/263/6/062061>
- Murti, G. W. (2022). ANALISIS DEFORMASI PADA PROSES METAL ADDITIVE MANUFACTURING AIRLESS TIRE ANALISIS DEFORMASI PADA PROSES METAL ADDITIVE MANUFACTURING CETAKAN AIRLESS. *Skripsi*.
- Praditya, I. I. (2019). *KNKT: 80 Persen Kecelakaan Kendaraan karena Ban Kurang Angin*. Liputan 6. <https://www.liputan6.com/bisnis/read/4104440/knkt-80-persen-kecelakaan-kendaraan-karena-ban-kurang-angin?page=3>
- Prathama, R. A. (2020). ANALISIS INTERFERENCE FIT ANTARA BAN AIRLESS DAN VELG SEPEDA MOTOR DENGAN. *Skripsi*.
- Ram Kumar, A. C., Mohammed Raffic, N., Ganesh Babu, K., & Selvakumar, S. (2021). Static structural analysis of spur gear using ANSYS 15.0 and material selection by COPRAS, MOORA techniques. *Materials Today: Proceedings*, 47(xxxx), 25–36. <https://doi.org/10.1016/j.matpr.2021.03.485>
- Setiawan, B., Hidayat, G., & Djunaedi, T. (2023). Analisa Konstruksi Mesin Bubut Duplikat Untuk Profil Kayu Dengan Ukuran Kayu Diameter 15 Cm Dan

- Panjang 50 Cm. *Jurnal Rekayasa Material, Manufaktur Dan Energi*, 6(1), 128–136. <https://doi.org/10.30596/rmme.v6i1.13440>
- Shuai, Z., Gao, S., Yu, Y., Zhao, X., Yang, W., Song, Z., Zheng, Y., Yuan, J., & Jiao, Z. (2024). Characteristic study and design factor analysis of a novel non-pneumatic tyre with V-shaped spokes. *Materials and Design*, 238(September 2023), 112681. <https://doi.org/10.1016/j.matdes.2024.112681>
- Simsek, U., Akbulut, A., Gayir, C. E., Basaran, C., & Sendur, P. (2021). Modal characterization of additively manufactured TPMS structures: comparison between different modeling methods. *International Journal of Advanced Manufacturing Technology*, 115(3), 657–674. <https://doi.org/10.1007/s00170-020-06174-0>
- Soyarslan, C., Blümer, V., & Bargmann, S. (2019). Tunable auxeticity and elastomechanical symmetry in a class of very low density core-shell cubic crystals. *Acta Materialia*, 177, 280–292. <https://doi.org/10.1016/j.actamat.2019.07.015>
- Sutisna, N. A., & Gapsari, F. (2019). Rolling Resistance and Noise Estimation for Product Design and Development of Eco-Tyre using Finite Element and Numerical Method. *IOP Conference Series: Materials Science and Engineering*, 494(1). <https://doi.org/10.1088/1757-899X/494/1/012021>
- Suyabodha, A. (2017). A relationship between tyre pressure and rolling resistance force under different vehicle speed. *MATEC Web of Conferences*, 108, 10–14. <https://doi.org/10.1051/mateconf/201710812004>
- Taghavifar, H., & Mardani, A. (2013). Investigating the effect of velocity, inflation pressure, and vertical load on rolling resistance of a radial ply tire. *Journal of Terramechanics*, 50(2), 99–106. <https://doi.org/10.1016/j.jterra.2013.01.005>
- Taufiqurrahman, M., Raharjo, A., Faizdaffa Hakim, A., Prasetyo, D., & Jaya Saputra, T. (2023). Analisis Mekanik Dan Termal Piston Mesin Pembakaran Dalam Menggunakan Software Ansys 2023. *Jtmei*, 2(3), 143–154. <https://doi.org/10.55606/jtmei.v2i3>
- The Rubber Company. (2015). *Butyl Rubber Sheeting Material Datasheet*. 44(0), 0–1.
- Tremblay, T. (2008). *Introducing Autodesk Inventor 2009 And Autodesk Inventor*

Lt 2009. Wiley India.

- Wang, W., Jin, Y., Mu, Y., Zhang, M., & Du, J. (2023). A novel tubular structure with negative Poisson's ratio based on gyroid-type triply periodic minimal surfaces. *Virtual and Physical Prototyping*, 18(1). <https://doi.org/10.1080/17452759.2023.2203701>
- Widya, T., Kustanto, M. N., B, H. A., K, F. X., & K.W, R. K. (2022). The Effect of Tread Pattern Tires on Hard Compound Coefficient Rolling Resistance. *Journal of Mechanical Engineering, Science, and Innovation*, 2(2), 55–63. <https://doi.org/10.31284/j.jmesi.2022.v2i2.3058>
- Wyatt, O., Chatzistergos, P., Chockalingam, N., & Ganniari-Papageorgiou, E. (2024). A flexible-spoke non-pneumatic tyre for manual wheelchairs. *Scientific Reports*, 14(1), 1–15. <https://doi.org/10.1038/s41598-024-79689-1>
- Zepeng, W., & Qianxiang, J. (2011). Simulation of rolling resistance of tire based on ANSYS. *Advanced Materials Research*, 156–157, 592–595. <https://doi.org/10.4028/www.scientific.net/AMR.156-157.592>
- Zhang, Z., Fu, H., Liang, X., Chen, X., & Tan, D. (2020). Comparative Analysis of Static and Dynamic Performance of Nonpneumatic Tire with Flexible Spoke Structure. *Strojniski Vestnik/Journal of Mechanical Engineering*, 66(7–8), 458–466. <https://doi.org/10.5545/sv-jme.2020.6676>

Intelligentia - Dignitas