

DAFTAR PUSTAKA

- [1] S. A. Begum, A. V. Rane, and K. Kanny, *Applications of compatibilized polymer blends in automobile industry*. Elsevier Inc., 2019. doi: 10.1016/B978-0-12-816006-0.00020-7.
- [2] F. I. Aryanti, "Pembuatan Komposit Polimer Polipropilena/Talk/Masterbatch Hitam Pada Cover Tail," *Jurnal Teknologi dan Manajemen*, vol. 19, no. 1, pp. 1–6, 2021, doi: 10.52330/jtm.v19i1.8.
- [3] S. K. Selvaraj, A. Raj, R. R. Mahadevan, U. Chadha, and V. Paramasivam, "A Review on Machine Learning Models in Injection Molding Machines," *Hindawi*, vol. 2022, 2022.
- [4] M. Kozderka, B. Rose, N. Bahlouli, V. Kočí, and E. Caillaud, "Recycled high impact polypropylene in the automotive industry - mechanical and environmental properties," *International Journal on Interactive Design and Manufacturing*, vol. 11, no. 3, pp. 737–750, 2017, doi: 10.1007/s12008-016-0365-9.
- [5] S. K. Satya and P. S. R. Sreekanth, "An experimental study on recycled polypropylene and high-density polyethylene and evaluation of their mechanical properties," *Materials Today: Proceedings*, vol. 27, no. xxxx, pp. 920–924, 2020, doi: 10.1016/j.matpr.2020.01.259.
- [6] R. Jeziorska, A. Szadkowska, E. Spasowka, A. Lukomska, and M. Chmielarek, "Characteristics of Biodegradable Polylactide/Thermoplastic Starch/Nanosilica Composites: Effects of Plasticizer and Nanosilica Functionality," *Advances in Materials Science and Engineering*, vol. 2018, 2018, doi: 10.1155/2018/4571368.
- [7] X. Zhang *et al.*, "Synergetic effect of crystal nucleating agent and melt self-enhancement of isotactic polypropylene on its rheological and microcellular foaming properties," *Journal of Cellular Plastics*, vol. 57, no. 1, pp. 101–121, 2021, doi: 10.1177/0021955X20969553.
- [8] Y. Zhao, C. Yao, T. Chang, and Y. Zhu, "The influence of DMDBS on crystallization behavior and crystalline morphology of weakly-phase-separated olefin block copolymer," *Polymers*, vol. 11, no. 3, pp. 1–12, 2019, doi: 10.3390/polym11030552.
- [9] H. Fransiscus, S.T., M.T., S. S. Tjandra, M. Pangestu, and L. Handranto, "Perancangan Eksperimen Proses Ekstrusi Dengan Bahan Plastik Bekas Pakai," *Jurnal Rekayasa Sistem Industri*, vol. 11, no. 2, pp. 157–166, 2022, doi: 10.26593/jrsi.v11i2.5750.157-166.
- [10] J. P. Jose, S. K. Malhotra, S. Thomas, J. Kuruvilla, K. Goda, and M. S. Sreekala, *Advances in Polymer Composites: Macro- and Microcomposites - State of the Art, New Challenges, and Opportunities*, vol. 1. 2012. doi: 10.1002/9783527645213.ch1.

- [11] E. Pellicer, *Smart Composite Materials: An Introduction*. 2021. doi: 10.1016/b978-0-12-819724-0.00092-6.
- [12] A. Rudi and P. Cho, *The Elements of Polymer Science and Engineering*. 2012. doi: 10.1016/C2009-1-64286-6.
- [13] H. A. Maddah, “Polypropylene as a Promising Plastic : A Review Polypropylene as a Promising Plastic : A Review,” no. January, 2016, doi: 10.5923/j.ajps.20160601.01.
- [14] C. Zhang *et al.*, “Morphology, microstructure and compatibility of impact polypropylene copolymer,” *Polymer*, vol. 51, no. 21, pp. 4969–4977, 2010, doi: 10.1016/j.polymer.2010.08.021.
- [15] SNI 8432, “Polipropilena Kopolimer Impak untuk Komponen Otomotif,” 2022.
- [16] J. E. Galve *et al.*, “Dimensional stability and process capability of an industrial component injected with recycled polypropylene,” *Polymers*, vol. 11, no. 6, 2019, doi: 10.3390/polym11061063.
- [17] M. Ajorloo, M. Ghodrat, and W. H. Kang, “Incorporation of Recycled Polypropylene and Fly Ash in Polypropylene-Based Composites for Automotive Applications,” *Journal of Polymers and the Environment*, vol. 29, no. 4, pp. 1298–1309, 2021, doi: 10.1007/s10924-020-01961-y.
- [18] Moczo, *Encyclopedia of Polymers and Composites*, no. November. 2014. doi: 10.1007/978-3-642-37179-0.
- [19] M. Ramesh, L. N. Rajeshkumar, N. Srinivasan, D. V. Kumar, and D. Balaji, “Influence of filler material on properties of fiber-reinforced polymer composites: A review,” *E-Polymers*, vol. 22, no. 1, pp. 898–916, 2022, doi: 10.1515/epoly-2022-0080.
- [20] E. Evan, P. Pardoyo, and A. Darmawan, “Pembuatan Nanosilika dari Abu Sekam Padi pada Variasi pH Sol Gel,” *Greensphere: Journal of Environmental Chemistry*, vol. 2, no. 1, pp. 8–13, 2022, doi: 10.14710/gjec.2022.14720.
- [21] S. R. Karnati, P. Agbo, and L. Zhang, “Applications of silica nanoparticles in glass/carbon fiber-reinforced epoxy nanocomposite,” *Composites Communications*, vol. 17, pp. 32–41, 2020, doi: 10.1016/j.coco.2019.11.003.
- [22] J. Zdarta and T. Jasionowski, “Silica and Silica-Based Materials for Biotechnology, Polymer Composites, and Environmental Protection,” *Materials*, vol. 15, no. 21, pp. 10–12, 2022, doi: 10.3390/ma15217703.
- [23] R. Watanabe, A. Sugahara, H. Hagiwara, K. Sakamoto, Y. Nakajima, and Y. Naganawa, “Polypropylene-Based Nanocomposite with Enhanced Aging Stability by Surface Grafting of Silica Nanofillers with a Silane Coupling Agent Containing an Antioxidant,” *ACS Omega*, vol. 5, no. 21, pp. 12431–12439, 2020, doi: 10.1021/acsomega.0c01198.

- [24] E. Kontou, A. Christopoulos, P. Koralli, and D. E. Mouzakis, "The Effect of Silica Particle Size on the Mechanical Enhancement of Polymer Nanocomposites," *Nanomaterials*, vol. 13, no. 6, 2023, doi: 10.3390/nano13061095.
- [25] C. Saha, P. K. Bahera, S. K. Raut, and N. K. Singha, "A Thermoplastic Polyurethane /Nanosilica Composite via Melt Mixing Process and its Properties," *Silicon*, vol. 13, no. 4, pp. 1041–1049, 2021, doi: 10.1007/s12633-020-00487-1.
- [26] T. M. M. Ways, K. W. Ng, W. M. Lau, and V. V. Khutoryanskiy, "Silica nanoparticles in transmucosal drug delivery," *Pharmaceutics*, vol. 12, no. 8, pp. 1–25, 2020, doi: 10.3390/pharmaceutics12080751.
- [27] W. C. Lai, S. J. Tseng, and P. H. Huang, "Self-assembled structures of 1,3:2,4-di(3,4-dimethylbenzylidene) sorbitol in hydrophobic polymer matrices prepared using different heat treatments," *Journal of Nanoparticle Research*, vol. 17, no. 11, pp. 1–12, 2015, doi: 10.1007/s11051-015-3267-z.
- [28] D. Wang *et al.*, "Structure difference of sorbitol derivatives influences the crystallization and performance of P3OT / PCBM organic photovoltaic solar cells," *Organic Electronics*, vol. 46, pp. 158–165, 2017, doi: 10.1016/j.orgel.2017.04.020.
- [29] L. Balzano, G. Portale, G. W. M. Peters, and S. Rastogi, "Thermoreversible DMDBS Phase Separation in iPP : The Effects of Flow on the Morphology," pp. 5350–5355, 2008.
- [30] K. Sreenivas, R. Basargekar, and G. Kumaraswamy, "Phase separation of DMDBS from PP: Effect of polymer molecular weight and tacticity," *Macromolecules*, vol. 44, no. 7, pp. 2358–2364, 2011, doi: 10.1021/ma200035s.
- [31] Rauwendaal Chris, *Polymer Extrusion 5 th Edition*. 2014.
- [32] F. H. Giles, J. R. Wagner, and E. M. Mount, *Extrusion The Definitive Processing Guide and Handbook*. 2005.
- [33] M. Czepiel, M. Bańkosz, and A. Sobczak-Kupiec, "Advanced Injection Molding Methods: Review," *Materials*, vol. 16, no. 17, 2023, doi: 10.3390/ma16175802.
- [34] A. B. D. Nandiyanto, R. Oktiani, and R. Ragadhita, "How to read and interpret ftir spectroscope of organic material," *Indonesian Journal of Science and Technology*, vol. 4, no. 1, pp. 97–118, 2019, doi: 10.17509/ijost.v4i1.15806.
- [35] R. Morent, N. De Geyter, C. Leys, L. Gengembre, and E. Payen, "Comparison between XPS- And FTIR-analysis of plasma-treated polypropylene film surfaces," *Surface and Interface Analysis*, vol. 40, no. 3–4, pp. 597–600, 2008, doi: 10.1002/sia.2619.
- [36] M. A. Ramazanov, H. A. Shirinova, S. G. Nuriyeva, M. A. Jafarov, and M. R. Hasanova, "Structure and optic properties of the nanocomposites based on polypropylene and

- amorphous silica nanoparticles,” *Journal of Thermoplastic Composite Materials*, vol. 36, no. 4, pp. 1762–1774, 2023, doi: 10.1177/08927057211028890.
- [37] K. Panwar, M. Jassal, and A. K. Agrawal, “In situ synthesis of Ag-SiO₂Janus particles with epoxy functionality for textile applications,” *Particuology*, vol. 19, no. October 2014, pp. 107–112, 2015, doi: 10.1016/j.partic.2014.06.007.
- [38] M. Barczewski, O. Mysiukiewicz, J. Andrzejewski, A. Piasecki, B. Strzemięcka, and G. Adamek, “The inhibiting effect of basalt powder on crystallization behavior and the structure-property relationship of α -nucleated polypropylene composites,” *Polymer Testing*, vol. 103, 2021, doi: 10.1016/j.polymertesting.2021.107372.
- [39] E. Ghanbari, S. J. Picken, and J. H. van Esch, “Analysis of differential scanning calorimetry (DSC): determining the transition temperatures, and enthalpy and heat capacity changes in multicomponent systems by analytical model fitting,” *Journal of Thermal Analysis and Calorimetry*, vol. 148, no. 22, pp. 12393–12409, 2023, doi: 10.1007/s10973-023-12356-1.
- [40] A. Fortunato, *DSC: History, instruments and devices*. Woodhead Publishing Limited, 2013. doi: 10.1533/9781908818348.169.
- [41] C. Schick, “Differential scanning calorimetry (DSC) of semicrystalline polymers,” *Analytical and Bioanalytical Chemistry*, vol. 395, no. 6, pp. 1589–1611, 2009, doi: 10.1007/s00216-009-3169-y.
- [42] X. X. Wang, J. J. Yi, L. Wang, Y. Yuan, and J. C. Feng, “Investigating the Nucleation Effect of DMDBS on Syndiotactic Polypropylene from the Perspective of Chain Conformation,” *Chinese Journal of Polymer Science (English Edition)*, vol. 38, no. 12, pp. 1355–1364, 2020, doi: 10.1007/s10118-020-2447-1.
- [43] C. F. Drummond, M. S. P. Damas, C. Merlini, and R. Battisti, “Influence of clarifying agent on the properties of polypropylene copolymer industrially injected cups for Brazilian cream cheese,” *International Journal of Plastics Technology*, vol. 23, no. 2, pp. 170–176, 2019, doi: 10.1007/s12588-019-09245-4.
- [44] B. Muller, *Colorants for Thermoplastic Polymers*. Elsevier, 2011. doi: 10.1016/B978-1-4377-3514-7.10043-1.
- [45] R. Berns, *Principles of Color Technology*, 4th ed. John Wiley & Sons, 2019.
- [46] M. Pöttinger, C. Marschik, K. Straka, K. Fellner, and G. Steinbichler, “A comparative study of color sensors for inline color measurement of recyclates in injection molding,” *Proceedings of the 38Th International Conference of the Polymer Processing Society (Pps-38)*, vol. 3158, p. 020002, 2024, doi: 10.1063/5.0205773.
- [47] B. C. K. Ly, E. B. Dyer, J. L. Feig, A. L. Chien, and S. Del Bino, “Research Techniques Made Simple: Cutaneous Colorimetry: A Reliable Technique for Objective Skin Color

- Measurement," *Journal of Investigative Dermatology*, vol. 140, no. 1, pp. 3-12.e1, 2020, doi: 10.1016/j.jid.2019.11.003.
- [48] A. Chafidz, M. Kaavessina, S. Al-Zahrani, and M. N. Al-Otaibi, "Rheological and mechanical properties of polypropylene/calcium carbonate nanocomposites prepared from masterbatch," *Journal of Thermoplastic Composite Materials*, vol. 29, no. 5, pp. 593–622, 2016, doi: 10.1177/0892705714530747.
 - [49] ASTM-D224-16, "Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates," *Annual book of ASTM Standards*, vol. 06, pp. 1–10, 2016.
 - [50] P. Phulkerd, T. Nakabayashi, S. Iwasaki, and M. Yamaguchi, "Enhancement of drawdown force in polypropylene containing nucleating agent," *Journal of Applied Polymer Science*, vol. 136, no. 7, pp. 1–7, 2019, doi: 10.1002/app.47295.
 - [51] S. C. Chen, H. Su, J. J. Mathew, H. Gunawan, C. W. Huang, and C. Te Feng, "An Investigation to Reduce the Effect of Moisture on Injection-Molded Parts through Optimization of Plasticization Parameters," *Applied Sciences (Switzerland)*, vol. 12, no. 3, 2022, doi: 10.3390/app12031410.
 - [52] F. I. Aryanti and E. C. Pasya, "Purge material berbasis campuran recycled HDPE dan lempung kaolin untuk ekstrusi polipropilena dan masterbatch," *Majalah Kulit, Karet, dan Plastik*, vol. 37, no. 1, p. 17, 2021, doi: 10.20543/mkkp.v37i1.6657.
 - [53] E. J. J. Kirchner and J. Ravi, "Setting Tolerances on Color and Texture for Automotive Coatings," vol. 00, no. 0, pp. 1–11, 2012, doi: 10.1002/col.21767.
 - [54] C. Sun, C. Li, H. Tan, and Y. Zhang, "Enhancing the durability of poly(lactic acid) composites by nucleated modification," *Polymer International*, vol. 68, no. 8, pp. 1450–1459, 2019, doi: 10.1002/pi.5837.
 - [55] J. Xu, Y. Li, and X. Cheng, "Investigating the Phase Transition Kinetics of 1-Octadecanol / Sorbitol Derivative / Expanded Graphite Composite Phase Change Material with Isoconversional and," 2023.