DAFTAR PUSTAKA

Abass, F., Ismail, L. H., Wahab, I. A., & Elgadi, A. A. (2020). Development of a model for OTTV and RTTV based on BIM-VPL to optimize the envelope thermal performance. *IOP Conference Series: Materials Science and Engineering, 713*(1), 012009. https://doi.org/10.1088/1757-899X/713/1/012009

Abdelalim, A. M., Safaa, A. M., & Tantawy, M. (2024). Enhancing cost management in construction: The role of 5D building information modeling (BIM). *Engineering Research Journal, 183*(3), C164–C185. https://doi.org/10.21608/erj.2024.377303

Altomonte, S., Schiavon, S., Kent, M. G., & Brager, G. (2019). Indoor environmental quality and occupant satisfaction in green-certified buildings. *Building Research & Information, 47*(3), 255–274. https://doi.org/10.1080/09613218.2018.1383715

Archilabs.ai. (2026, March 16). What is Dynamo? A deep dive on this essential Revit tool. https://archilabs.ai/posts/what-is-dynamo

Atthaillah, Mangkuto, R. A., & Bintoro, A. (2025). Sensitivity analysis and optimization of facade design to improve daylight performance of tropical classrooms with an adjacent building. *Journal of Daylighting, 12*(1), 235–251. https://doi.org/10.15627/jd.2025.13

Autodesk Inc. (2023). Dynamo BIM: Open-source visual programming for computational design automation. https://dynamobim.org

Badan Standardisasi Nasional. (2020). *SNI 6389:2020: Konservasi energi selubung bangunan pada bangunan gedung.* Badan Standardisasi Nasional Republik Indonesia.

BIM Forum. (2020). Level of development (LOD) specification part I & commentary. https://bimforum.org/resource/lod-level-of-development-lod-specification/

Borg, W. R., & Gall, M. D. (1983). *Educational research: An introduction* (4th ed.). Longman.

Chan, A. L. S. (2023). Evaluating the appropriateness of adopting a single overall thermal transfer value and its implication to building energy regulation. *Journal of Building Engineering, 76*, 107175. https://doi.org/10.1016/j.jobe.2023.107175

Changnawa, T., & Baltazar, J. C. (2024). A BIM-integrated Thailand building energy code framework for building envelope thermal requirements in a

conceptual design stage. *International Journal of Architectural Computing, 22*(4), 1–22. https://doi.org/10.1177/14780771241296260

Chen, B., Jiang, S., Qi, L., Su, Y., Mao, Y., Wang, M., & Cha, H. S. (2022). Design and implementation of quantity calculation method based on BIM data. *Sustainability, 14*(13), 7797. https://doi.org/10.3390/su14137797

Chen, J., Lin, K., Pan, A., Zhu, Y., Ho, T. C., Gong, Q., Jia, L., Shi, W., Sun, Q., & Tso, C. Y. (2024). Innovating building energy regulations enabled by radiative sky cooling: Enhanced code of practice for overall thermal transfer value (OTTV) of super-cool roofs. *Energy Conversion and Management, 306*, 118309. https://doi.org/10.1016/j.enconman.2024.118309

Chiradeja, P., & Ngaopitakkul, A. (2019). Energy and economic analysis of tropical building envelope material in compliance with Thailand's building energy code. *Sustainability, 11*(23), 6872. https://doi.org/10.3390/su11236872

Chiradeja, P., Thongsuk, S., Ananwattanaporn, S., Ngaopitakkul, A., & Yoomak, S. (2023). A study on transparent type envelope material in terms of overall thermal transfer, energy, and economy for an office building based on the Thai building energy code. *Sustainability, 15*(13), 10435. https://doi.org/10.3390/su151310435

Chou, S. K., & Lee, Y. K. (1988). A simplified overall thermal transfer value equation for building envelopes. *Energy, 13*(8), 657–670. https://doi.org/10.1016/0360-5442(88)90007-0

Chow, W. K., & Yu, P. C. H. (2000). Controlling building energy use by overall thermal transfer value (OTTV). *Energy, 25*(5), 463–478. https://doi.org/10.1016/S0360-5442(99)00079-1

Eastman, C., Teicholz, P., Sacks, R., & Liston, K. (2011). *BIM handbook: A guide to building information modeling for owners, managers, designers, engineers, and contractors* (2nd ed.). John Wiley & Sons.

Eid, A. S., Aboulnaga, M. M., & Mahmoud, A. H. (2022). VPL-based code compliance checking for building envelope design using OTTV calculation. *IOP Conference Series: Earth and Environmental Science, 1056*(1), 012033. https://doi.org/10.1088/1755-1315/1056/1/012033

Elogictech. (2025, May 20). How does Dynamo help in BIM workflow? https://www.elogictech.com/blog/how-does-dynamo-help-in-bim-workflow/

Enggarsiwi, A. R., Yuliani, S., & Winarto, Y. (2024). Thermal performance of tall building envelope design in tropical urban region. *IOP Conference Series: Earth and Environmental Science, 1361*(1), 012018. https://doi.org/10.1088/1755-1315/1361/1/012018

Farhan, S. A., Ismail, F. I., Kiwan, O., Shafiq, N., Zain-Ahmed, A., Husna, N., & Hamid, A. I. A. (2021). Effect of roof tile colour on heat conduction transfer, roof-top surface temperature and cooling load in modern residential buildings under the tropical climate of Malaysia. *Sustainability, 13*(9), 4665. https://doi.org/10.3390/su13094665

Gupta, V., & Deb, C. (2023). Envelope design for low-energy buildings in the tropics: A review. *Renewable and Sustainable Energy Reviews, 186*, 113650. https://doi.org/10.1016/j.rser.2023.11365

Hajji, A. M., & Hilmi, A. R. Z. (2021). Façade design modification in complying Indonesia's national standard of energy conservation for tall building envelope. *IOP Conference Series: Earth and Environmental Science, 847*(1), 012028. https://doi.org/10.1088/1755-1315/847/1/012028

He, Y., Lin, E. S., Tan, C. L., Yu, Z., Tan, P. Y., & Wong, N. H. (2021). Model development of Roof Thermal Transfer Value (RTTV) for green roof in tropical area: A case study in Singapore. *Building and Environment, 203*, 108101. https://doi.org/10.1016/j.buildenv.2021.108101

Heimig-Elschner, T., Du, C., Scheuvens, A., Borrmann, A., & Beetz, J. (2025). *A modular reference architecture for MCP-servers enabling agentic BIM interaction* (arXiv:2601.00809). arXiv. https://arxiv.org/abs/2601.00809

International Energy Agency. (2025). *World energy outlook 2025.* https://www.iea.org/reports/world-energy-outlook-2025

Iqbal, M. (2015). Overall thermal transfer value: Studi kasus ruang kuliah III pada Program Studi Arsitektur Universitas Malikussaleh. *Jurnal Arsitekno*, *5*(5), 32–41.

Iqbal, M., Ozaki, A., & Choi, Y. (2022). Assessment of indoor thermal comfort of naturally ventilated house in tropical region. *Journal of Architecture and Urban Design, Kyushu University.*

JLL Research. (2024). *Flight to quality: Post-pandemic office trends and the premium on ESG credentials.* JLL Global Real Estate Insights.

Juaidi, A., Montoya, F. G., Gázquez, J. A., & Manzano-Agugliaro, F. (2018). Building energy efficiency in the tropics. *Renewable and Sustainable Energy Reviews, 82*, 3376–3392.

Kementerian Pekerjaan Umum dan Perumahan Rakyat. (2023). *Peraturan Menteri PUPR No. 8 Tahun 2023 tentang Pedoman Bangunan Gedung Hijau.* Kementerian PUPR RI.

Khanh Phuong, T. L., Changnawa, T., & Baltazar, J. C. (2024). *Data pipeline interoperability from BIM to web-based visualization for building energy performance.* Manuscript submitted for publication.

Kusumawati, L., Setyowati, E., & Purnomo, A. B. (2021). Practical-empirical modeling on envelope design towards sustainability in tropical architecture. *Sustainability, 13*(5), 2959. https://doi.org/10.3390/su13052959

Latiffi, A. A., Mohd, S., & Rakiman, U. S. (2015). Building information modeling (BIM): Exploring level of development (LOD) in construction projects. *Applied Mechanics and Materials, 773–774*, 933–937. https://doi.org/10.4028/www.scientific.net/AMM.773-774.933

Lau, H. H., Tzempelikos, A., & Berkoz, L. (2015). A new RTTV (roof thermal transfer value) calculation method for cool roofs. *Energy, 82*, 1015–1026. https://doi.org/10.1016/j.energy.2014.12.048

Lim, Y. W., Seghier, T. E., Harun, M. F., Ahmad, M. H., Samah, A. A., & Majid, H. A. (2019). Computational BIM for building envelope sustainability optimization. *MATEC Web of Conferences, 278*, 04001. https://doi.org/10.1051/matecconf/201927804001

MacNaughton, P., Woo, M., Tinianov, B., & Boubekri, M. (2021). Economic implications of access to daylight and views in office buildings from improved productivity. *Journal of Applied Social Psychology, 51*(12), 1176–1183. https://doi.org/10.1111/jasp.12764

Mahmoud, M., et al. (2025). Automated material-aware BIM generation using deep learning. *Automation in Construction, 175*, 106196.

Makridakis, S. (1993). Accuracy measures: Theoretical and practical concerns. *International Journal of Forecasting, 9*(4), 527–529. https://doi.org/10.1016/0169-2070(93)90079-3

Mirrahimi, S., Mohamed, M. F., Haw, L. C., Ibrahim, N. L. N., Yusoff, W. F. M., & Aflaki, A. (2016). The effect of building envelope on the thermal comfort and energy saving for high-rise buildings in hot-humid climate. *Renewable and Sustainable Energy Reviews, 53*, 1508–1519. https://doi.org/10.1016/j.rser.2015.09.055

Morakote, N., Rinchumphu, D., Manokeaw, S., Khuwuthyakorn, P., Chan, Y.-C., & Phichetkunbodee, N. (2025). BIM-based automation for OTTV calculation and construction cost estimation in energy-efficient building design. In *Proceedings of the 11th World Congress on New Technologies (NewTech'25)* (Paper ICCEIA 121). https://doi.org/10.11159/icceia25.121

Natephra, W., Yabuki, N., & Fukuda, T. (2018). Optimizing the evaluation of building envelope design for thermal performance using a BIM-based overall thermal transfer value calculation. *Building and Environment, 136*, 128–145. https://doi.org/10.1016/j.buildenv.2018.03.033

Peffers, K., Tuunanen, T., Rothenberger, M. A., & Chatterjee, S. (2007). A design science research methodology for information systems research. *Journal of Management Information Systems, 24*(3), 45–77. https://doi.org/10.2753/MIS0742-1222240302

Petatematikindo. (2026). *Peta tematik iklim tropis Indonesia.* https://petatematikindo.wordpress.com/

Pishdad, P., & Onungwa, I. O. (2024). Analysis of 5D BIM for cost estimation, cost control, and payments. *Journal of Information Technology in Construction (ITcon), 29*, 525–548. https://doi.org/10.36680/j.itcon.2024.024

Prasetyo, A., & Wahyudi, R. (2024). Kajian teknis dan biaya pekerjaan façade curtain wall unitized system. *Forum Mekanika, 13*(2). https://jrnl.itpln.ac.id/forummekanika/article/view/2500

Pratama, A., & Marzuki, P. F. (2024). Kajian implementasi BIM (Building Information Modeling) di Indonesia berdasarkan perspektif pelaksana konstruksi (Studi kasus: Proyek kontraktor BUMN). *Jurnal Teknik Sipil, 30*(2), 277–296. https://doi.org/10.5614/jts.2023.30.2.15

Priansyah, D., & Zulbahri, D. J. A. (2026). Evaluation of OTTV values for glass facades in the domestic waiting area at Sultan Hasanuddin Airport. *Jurnal RISA (Riset Arsitektur), 10*(1).

PT Damai Abadi. (n.d.). *Company profile PT Damai Abadi aluminium extrusion industry.*

Rofi, M., Atthaillah, Muliana, E., Nik Kamrulzaman, N. M. F., & Iqbal, M. (2026). Simulation and optimization of energy and daylighting performance in government district office building in the tropics. *Arsitekno*, *13*(1), 66–80.

Raza, M. S., Tayeh, B. A., Abu Aisheh, Y. I., & Maglad, A. M. (2023). Potential features of building information modeling (BIM) for application of project management knowledge areas in the construction industry. *Heliyon, 9*, e19697. https://doi.org/10.1016/j.heliyon.2023.e19697

Setiawan, R., Safyan, A., & Nabila, P. S. A. (2025). Energy efficiency optimization through modification of shading device in an educational building using an OTTV-based approach. *IOP Conference Series: Earth and Environmental Science*, *1510*, 012097. https://doi.org/10.1088/1755-1315/1510/1/012097

Seghier, T. E., Lim, Y. W., Ahmad, M. H., & Samuel, W. O. (2017). Building envelope thermal performance assessment using visual programming and BIM, based on ETTV requirement of Green Mark and GreenRE. *International Journal of Built Environment and Sustainability, 4*(3), 227–235. https://doi.org/10.11113/ijbes.v4.n3.216

Seghier, T. E., & Lim, Y. W. (2021). BIM-based retrofit method (RBIM) for building envelope thermal performance optimization. *Energy and Buildings, 254*, 111693. https://doi.org/10.1016/j.enbuild.2021.111693

Seghier, T. E., Sepúlveda, A., Lim, Y. W., & Mesloub, A. (2024). Optimising thermal-daylight performance in tropical open-plan offices: A coupled OTTV and daylight prediction approach. *Journal of Building Engineering, 98*, 111369. https://doi.org/10.1016/j.jobe.2024.111369

Sekhar, S. C. (2015). Thermal comfort in air-conditioned buildings in hot and humid climates: Why are we not getting it right? *Indoor Air, 26*(1), 138–152. https://doi.org/10.1111/ina.12184

Singhpoo, C., Punnucharoenwong, N., & Benjapiyaporn, C. (2015). Study of the effect of temperature differences on the overall thermal transfer value of buildings. *Energy Procedia, 79*, 348–353. https://doi.org/10.1016/j.egypro.2015.11.501

Snowflake Inc. (2022, November 7). Streamlit in Snowflake: Build data and AI apps with Python. https://www.snowflake.com/en/blog/building-python-data-apps-streamlit/

Streamlit Inc. (2023). *Streamlit: Free open-source data apps builder with Python.* https://streamlit.io

Syafutri, R. F., Suryabrata, J. A., & Rahmawati, Y. (2023). Developing the building envelope thermal transfer value calculator based on BIM-VPL framework. *International Journal of Application on Sciences, Technology and Engineering (IJASTE), 1*(1), 343–349. https://doi.org/10.24912/ijaste.v1.i1.343-349

Trideko Interior. (2024). *Harga curtain wall per m2 untuk fasad gedung modern.* https://www.trideko.com/harga-curtain-wall-per-m2/

Vighio, A. A., Zakaria, R., Ahmad, F., Munikanan, V., Wahi, N., Aminuddin, E., & Pawłowicz, J. (2024). Overall thermal transfer analysis of glazing facade design for passive building energy efficiency. *Civil and Environmental Engineering Reports, 34*(4), 503–520. https://doi.org/10.59440/ceer/193131

Vijayalaxmi, J. (2010). Concept of overall thermal transfer value (OTTV) in design of building envelope to achieve energy efficiency. *International Journal of Thermal and Environmental Engineering, 1*(2), 75–80.

Wang, L. (2021). Optimization of window-to-wall ratio in office buildings for energy efficiency. *Applied Energy, 281*, 116035.

Willmott, C. J., & Matsuura, K. (2005). Advantages of the mean absolute error (MAE) over the root mean square error (RMSE) in assessing average model performance. *Climate Research, 30*, 79–82. https://doi.org/10.3354/cr030079

Wong, N. H., Cheong, D. K. W., Yan, H., Soh, J., Ong, C. L., & Sia, A. (2003). The effects of rooftop garden on energy consumption of a commercial building in Singapore. *Energy and Buildings, 35*(4), 353–364. https://doi.org/10.1016/S0378-7788(02)00105-7

World Resources Institute. (2025). *The state of global green building standards in the global south.* WRI Ross Center for Sustainable Cities.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.

Zingre, K. T., Wan, M. P., & Yang, X. (2015). A new RTTV (roof thermal transfer value) calculation method for cool roofs. *Energy, 81*, 222–232. https://doi.org/10.1016/j.energy.2014.12.048