

DAFTAR PUSTAKA

- AAPA, 1997. Open Graded Asphalt Design Guide.
- Acharya, T., Riehl, B., Fuchs, A., 2021. Effects of Albedo and Thermal Inertia on Pavement Surface Temperatures with Convective Boundary Conditions—A CFD Study. *Processes* 9, 2078. <https://doi.org/10.3390/pr9112078>
- Affonso Alexandre, 2017. Urban Heat Island Effect [WWW Document]. URL <https://www.australianenvironmentaleducation.com.au/education-resources/urban-heat-island-effect/> (diakses 12.9.24).
- Akbari, H., Matthews, H.D., 2012. Global cooling updates: Reflective roofs and pavements, dalam: *Energy and Buildings*. hlm. 2–6. <https://doi.org/10.1016/j.enbuild.2012.02.055>
- Alhaqi, D.H., Nazalanzilni, A., Rahman, T., 2024. Evaluation of the cooling performance of various heat-reflective cool pavement coatings for Urban Heat Island mitigation, dalam: *IOP Conference Series: Earth and Environmental Science*. Institute of Physics. <https://doi.org/10.1088/1755-1315/1416/1/012005>
- Amanda, T.M., 2024. EVALUASI KARAKTERISTIK STABILITAS DAN DURABILITAS SERTA FRICTION CAMPURAN *POROUS ASPHALT* (PA) DENGAN POLYMER MODIFIED BITUMEN (PMB).
- Arrieta, V.S., Maquilón, J.E.C., 2014. Resistance to Degradation or Cohesion Loss in Cantabro Test on Specimens of *Porous asphalt* Friction Courses. *Procedia Soc Behav Sci* 162, 290–299. <https://doi.org/10.1016/j.sbspro.2014.12.210>
- Asphalt Institute, 2007. *The Asphalt Handbook - MS-4*, 7 ed. Lexington.
- Asphalt Institute MS-2 7th Edition, 2015. *Asphalt mix design methods*. Asphalt Institute.
- Asphalt Pavement Association, W., 2015. *Porous asphalt* Pavement.
- ASTM E303–93, 1998. Standard Test Method for Measuring Surface Frictional Properties Using the British 1–5.
- Badin, G., Ahmad, N., Ali, H.M., Ahmad, T., Jameel, M.S., 2021. Effect of addition of pigments on thermal characteristics and the resulting performance enhancement of asphalt. *Constr Build Mater* 302. <https://doi.org/10.1016/j.conbuildmat.2021.124212>
- Baroroh, N., Pangi, 2018. PERUBAHAN PENUTUP LAHAN DAN KERAPATAN VEGETASI TERHADAP URBAN HEAT ISLAND DI KOTA SURAKARTA.
- Cao, X., Tang, B., Zhu, H., Zhang, A., Chen, S., 2011. Cooling Principle Analyses and Performance Evaluation of Heat-Reflective Coating for Asphalt Pavement. *Journal of Materials in Civil Engineering* 23, 1067–1075. [https://doi.org/10.1061/\(ASCE\)MT.1943-5533.0000256](https://doi.org/10.1061/(ASCE)MT.1943-5533.0000256)
- Cao, X., Tang, B., Zou, X., He, L., 2015. Analysis on the cooling effect of a heat-reflective coating for asphalt pavement. *Road Materials and Pavement Design* 16, 716–726. <https://doi.org/10.1080/14680629.2015.1026383>
- Celaya, B.J., Haddock, J.E., 2006. Investigation of Coarse Aggregate Strength for Use in *Stone matrix asphalt*.

- Chen, J., Chu, R., Wang, H., Zhang, L., Chen, X., Du, Y., 2019. Alleviating urban heat island effect using high-conductivity permeable concrete pavement. *J Clean Prod* 237. <https://doi.org/10.1016/j.jclepro.2019.117722>
- Chen, Y., Li, Z., Ding, S., Yang, X., Guo, T., 2022a. Research on heat reflective coating technology of asphalt pavement. *International Journal of Pavement Engineering* 23, 4455–4464. <https://doi.org/10.1080/10298436.2021.1952410>
- Chen, Y., Li, Z., Ding, S., Yang, X., Guo, T., 2022b. Research on heat reflective coating technology of asphalt pavement. *International Journal of Pavement Engineering* 23, 4455–4464. <https://doi.org/10.1080/10298436.2021.1952410>
- Cichowicz, R., Bochenek, A.D., 2024. Assessing the effects of urban heat islands and air pollution on human quality of life. *Anthropocene*. <https://doi.org/10.1016/j.ancene.2024.100433>
- Damarsasi, R., 2024. PENGARUH MUATAN ELEKTRIK PERMUKAAN TACK COAT DAN AGREGAT TERHADAP KUAT GESER ANTARLAPISAN CAMPURAN ASPAL.
- Darlina, S.P., Sasmito, B., Yuwono, B.D., 2018. ANALISIS FENOMENA URBAN HEAT ISLAND SERTA MITIGASINYA (STUDI KASUS : KOTA SEMARANG), *Jurnal Geodesi Undip* Juli.
- Direktorat Jenderal Bina Marga, 2020. Spesifikasi Umum 2018 untuk Pekerjaan Konstruksi Jalan dan Jembatan (Revisi 2).
- Fan, J., Jiang, Y., Yi, Y., Tian, T., Yuan, K., Xue, J., 2022. Effects of load and environment on the durability and anti-skid performance of road heat-reflective coating. *Constr Build Mater* 346, 128520. <https://doi.org/10.1016/j.conbuildmat.2022.128520>
- Fwa, T.F., Lim, E., Tan, K.H., 2015. Comparison of Permeability and Clogging Characteristics of *Porous asphalt* and Pervious Concrete Pavement Materials. *Transportation Research Record: Journal of the Transportation Research Board* 2511, 72–80. <https://doi.org/10.3141/2511-09>
- Giguère, M., 2009. Mesures de lutte aux îlots de chaleur urbains : revue de littérature. Direction des risques biologiques, environnementaux et occupationnels, Institut national de santé publique Québec.
- Golden, J.S., Kaloush, K.E., 2006. Mesoscale and microscale evaluation of surface pavement impacts on the urban heat island effects. *International Journal of Pavement Engineering* 7, 37–52. <https://doi.org/10.1080/10298430500505325>
- Górszczyk, J., Malicki, K., 2025. Comparative Laboratory Tests of Thermal Conductivity of Road Materials Using Two Measurement Methods. *Materials* 18. <https://doi.org/10.3390/ma18091970>
- Guider, A., Manager, Mas., Varamini, S., Manager, Pe., Kucharek, A., Wiese, M., Sales, B., 2018. Examining an Accelerated Wet Track Abrasion and Schulze-Breuer and Ruck Test for Micro-surfacing Mix Design.
- Hardiyatmo, H.C., 2019. Perancangan Perkerasan Jalan dan Penyelidikan Tanah, 3ed.
- Hardyanti, L., Sobirin, Wibowo, A., 2017. Variasi Spasial Temporal Suhu Permukaan Daratan Di Kota Jakarta Tahun 2015 dan 2016.

- Haselbach, L., Boyer, M., Kevern, J.T., Schaefer, V.R., 2011. Cyclic heat island impacts on traditional versus pervious concrete pavement systems. *Transp Res Rec* 107–115. <https://doi.org/10.3141/2240-14>
- Hu, B., Liang, Y.H., Guo, L.Y., Jiang, T., 2017. Preparation and performance evaluation of epoxy-based heat reflective coating for the pavement, dalam: IOP Conference Series: Earth and Environmental Science. Institute of Physics Publishing. <https://doi.org/10.1088/1755-1315/61/1/012083>
- Huang, W., Yu, H., Lin, Y., Zheng, Y., Ding, Q., Tong, B., Wang, T., 2022a. Energy analysis for evaluating durability of *porous asphalt* mixture. *Constr Build Mater* 326, 126819. <https://doi.org/10.1016/j.conbuildmat.2022.126819>
- Huang, W., Yu, H., Lin, Y., Zheng, Y., Ding, Q., Tong, B., Wang, T., 2022b. Energy analysis for evaluating durability of *porous asphalt* mixture. *Constr Build Mater* 326. <https://doi.org/10.1016/j.conbuildmat.2022.126819>
- Jiang, L., Wang, L., Wang, S., 2019. A novel solar reflective coating with functional gradient multilayer structure for cooling asphalt pavements. *Constr Build Mater* 210, 13–21. <https://doi.org/10.1016/j.conbuildmat.2019.03.180>
- Jimmyanto, H., Firda, A., Al Faritzie, H., Fuad, I.S., Misdalena, F., Lubis, L.R., 2024. *JURNAL TEKNIK SIPIL LATERAL* 2.
- Kakar, M.R., Refaa, Z., Bueno, M., Worlitschek, J., Stamatiou, A., Partl, M.N., 2020. Investigating bitumen's direct interaction with Tetradecane as potential phase change material for low temperature applications. *Road Materials and Pavement Design* 21, 2356–2363. <https://doi.org/10.1080/14680629.2019.1601127>
- Kim, D.H., Park, K., Baik, J.J., Jin, H.G., Han, B.S., 2024. Contrasting interactions of urban heat islands with dry and moist heat waves and their implications for urban heat stress. *Urban Clim* 56. <https://doi.org/10.1016/j.uclim.2024.102050>
- Kubilay, A., Ferrari, A., Derome, D., Carmeliet, J., 2021. Smart wetting of permeable pavements as an evaporative-cooling measure for improving the urban climate during heat waves. *J Build Phys* 45, 36–66. <https://doi.org/10.1177/1744259120968586>
- Kurniawan, A.T., Mulyono, A.T., Suparma, L.B., 2022. PENGARUH KEPADATAN CAMPURAN BERASPAL TERHADAP KERUSAKAN PERKERASAN LENTUR SELAMA MASA PELAYANAN, Himpunan Pengembangan Jalan Indonesia.
- Li, H., Xie, N., 2020. Reflective coatings for high albedo pavement, dalam: *Eco-Efficient Pavement Construction Materials*. Elsevier, hlm. 127–146. <https://doi.org/10.1016/B978-0-12-818981-8.00007-2>
- Li, Z., Guo, T., Chen, Y., Wang, C., Chen, Qian, Ding, S., Chen, Qi, Chen, H., 2022. Preparation and Properties of New Thermal Reflective Coating for Asphalt Pavement. *Materials* 15. <https://doi.org/10.3390/ma15228087>
- Liu, H., Hao, P., Xu, J., 2017. Effects of nominal maximum aggregate size on the performance of *Stone matrix asphalt*. *Applied Sciences (Switzerland)* 7. <https://doi.org/10.3390/app7020126>

- Liu, L., Li, M., Lu, Q., 2020. Two-Step Mixing Process Elaboration of the Hot-Mix Asphalt Mixture Based on Surface Energy Theory. *Journal of Materials in Civil Engineering* 32. [https://doi.org/10.1061/\(asce\)mt.1943-5533.0003400](https://doi.org/10.1061/(asce)mt.1943-5533.0003400)
- Mallick, R.B., El-Korchi, T., 2013. *Pavement Engineering*. CRC Press. <https://doi.org/10.1201/9781420060317>
- Miao, C., Li, Z., Li, K., Lv, Y., Wu, X., Cao, X., Wu, Y., 2022. A super-cooling solar reflective coating with waterborne polyurethane for asphalt pavement. *Prog Org Coat* 165. <https://doi.org/10.1016/j.porgcoat.2022.106741>
- Moaveni, M., 1+, E.T., Yilmaz, A., 2014. Laboratory Characterization of Compaction and Damping Properties of *Stone matrix asphalt*. *International Journal of Pavement Research and Technology* 7, 1–8. [https://doi.org/10.6135/ijprt.org.tw/2014.7\(1\).1](https://doi.org/10.6135/ijprt.org.tw/2014.7(1).1)
- Momber, A.W., Irmer, M., Glück, N., Plagemann, P., 2016. Abrasion testing of organic corrosion protection coating systems with a rotating abrasive rubber wheel. *Wear* 348–349, 166–180. <https://doi.org/10.1016/j.wear.2015.11.001>
- Nicks, J., Adams, M., 2014. Large-Scale Direct Shear Testing of Common Open-Graded Aggregates, dalam: *Geo-Congress 2014 Technical Papers*. American Society of Civil Engineers, Reston, VA, hlm. 47–53. <https://doi.org/10.1061/9780784413272.005>
- Ning, S., Zhou, Y., Wang, M., Li, B., Li, P., Zhang, L., Luo, Y., 2024. Urban Heat Island Differentiation and Influencing Factors: A Local Climate Zone Perspective. *Sustainability* 16, 9103. <https://doi.org/10.3390/su16209103>
- Noviyanti, E., 2016. *Konsep Manajemen UHI (Urban Heat Island) di Kawasan CBD Kota Surabaya (UP. Tunjungan)*.
- Nur, N.K., Mahyuddin, Bachtiar, E., Tumpu, M., Mukrim, M.I., Irianto, Kadir, Y., Sharly P, T., Ahmad, S.N., Masdiana, Halim, H., Syukuriah, 2021. *Perancangan Perkerasan Jalan*.
- Pandia, I.J., Lubis, A.S., Rambe, A.P., 2016. Korelasi Skid Resistance dengan Kedalaman Tekstur pada Permukaan Perkerasan Lentur.
- Pin, Y., Lee, K., Fang, T., Choo, Y.S., 2005. EFFECT OF PAVEMENT SURFACE TEXTURE ON BRITISH PENDULUM TEST.
- Pradoto, R., Puri, E., Hadinata, T., Rahman, Q.D., 2020. Improving strength of *porous asphalt*: A nano material experimental approach, dalam: *IOP Conference Series: Materials Science and Engineering*. Institute of Physics Publishing. <https://doi.org/10.1088/1757-899X/849/1/012044>
- Prawiro, B., Pasca, N., Tarigan, O., Ludfi Djakfar, I., Bowoputro, H., 2014. PENGARUH PENGGUNAAN LIMBAH BETON SEBAGAI AGREGAT KASAR PADA CAMPURAN ASPAL PORUS DENGAN TAMBAHAN GILSONITE.
- Pusat Pembinaan Kompetensi Dan Pelatihan Konstruksi, 2005. Modul Rde - 11: *Perencanaan Perkerasan Jalan*, Departemen Pekerjaan Umum Badan Pembinaan Konstruksi Dan Sumber Daya Manusia.
- Qin, Y., 2015. A review on the development of cool pavements to mitigate urban heat island effect. *Renewable and Sustainable Energy Reviews*. <https://doi.org/10.1016/j.rser.2015.07.177>
- Rahman, T., Dawson, A., Thom, N., Sudibyoy, T., Carvajal-Munoz, J.S., Suwanto, F., Ahmed, I., 2023. Spray water cooling of newly laid asphalt pavement for rapid

opening to traffic. *Road Materials and Pavement Design* 24, 1103–1129.
<https://doi.org/10.1080/14680629.2022.2060127>

- Rahman, T., Suhendri, Tajudin, A.N., Suwanto, F., Sudigdo, P., Thom, N., 2024. Durability evaluation of heat-reflective coatings for road surfaces: A systematic review. *Sustain Cities Soc.* <https://doi.org/10.1016/j.scs.2024.105625>
- Rahman, T., Thom, N., Dawson, A., 2019. Strategies for Reduced Cooling Time of Asphalt for Airfield Pavement Overlay, dalam: *Airfield and Highway Pavements 2019*. American Society of Civil Engineers, Reston, VA, hlm. 251–265. <https://doi.org/10.1061/9780784482476.026>
- Riaz, A., Yasir, N., Badin, G., Mahmood, Y., 2024. Innovative Pavement Solutions: A Comprehensive Review from Conventional Asphalt to Sustainable Colored Alternatives. *Infrastructures (Basel)* 9, 186. <https://doi.org/10.3390/infrastructures9100186>
- Richard, C., Doré, G., Lemieux, C., Bilodeau, J.-P., Haure-Touzé, J., 2015. Albedo of Pavement Surfacing Materials: In Situ Measurements, dalam: *Cold Regions Engineering 2015*. American Society of Civil Engineers, Reston, VA, hlm. 181–192. <https://doi.org/10.1061/9780784479315.017>
- Richard, C., Doré, G., Lemieux, C., Bilodeau, J.-P., Haure-Touzé, J., 2014. Albedo of Pavement Surfacing Materials: In Situ Measurements.
- Santamouris, M., 2013. Using cool pavements as a mitigation strategy to fight urban heat island - A review of the actual developments. *Renewable and Sustainable Energy Reviews.* <https://doi.org/10.1016/j.rser.2013.05.047>
- Sembung, N.T., Sendow, T.K., Palenewen, S., 2020. ANALISA CAMPURAN ASPAL PORUS MENGGUNAKAN MATERIAL DARI KAKASKASEN KECAMATAN TOMOHON UTARA KOTA TOMOHON. *Jurnal Sipil Statik* 8, 345–352.
- Sen, S., Roesler, J., Al-Qadi, I.L., 2022. Albedo Change Mechanism of Asphalt Concrete Surfaces. *Transportation Research Record: Journal of the Transportation Research Board* 2676, 763–772. <https://doi.org/10.1177/03611981221082567>
- Setyawan, A., 2008. OBSERVASI PROPERTIES ASPAL PORUS BERBAGAI GRADASI DENGAN MATERIAL LOKAL.
- Shamsaei, M., Carter, A., Vaillancourt, M., 2022. A review on the heat transfer in asphalt pavements and urban heat island mitigation methods. *Constr Build Mater* 359, 129350. <https://doi.org/10.1016/j.conbuildmat.2022.129350>
- Shimazaki, Y., Aoki, M., Nitta, J., Okajima, H., Yoshida, A., 2021. Experimental Determination of Pedestrian Thermal Comfort on Water-Retaining Pavement for UHI Adaptation Strategy. *Atmosphere (Basel)* 12, 127. <https://doi.org/10.3390/atmos12020127>
- SNI 8129, 2015. Spesifikasi *Stone matrix asphalt (SMA)*.
- Srivanit, M., Jareemit, D., 2020. A comparison of diurnal variation of pavement albedo between vertical and horizontal surfaces under tropical climatic condition of Thailand. *IOP Conf Ser Mater Sci Eng* 910, 012011. <https://doi.org/10.1088/1757-899X/910/1/012011>

- Susca, T., Gaffin, S.R., Dell'Osso, G.R., 2011. Positive effects of vegetation: Urban heat island and green roofs. *Environmental Pollution* 159, 2119–2126. <https://doi.org/10.1016/j.envpol.2011.03.007>
- Synnefa, A., Santamouris, M., Livada, I., 2006. A study of the thermal performance of reflective coatings for the urban environment. *Solar Energy* 80, 968–981. <https://doi.org/10.1016/j.solener.2005.08.005>
- Tang, C., Xu, X., Ding, H., 2018. Research on dynamic performance and road performance of dense-gradation asphalt mixture, dalam: *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. Springer Verlag, hlm. 654–664. https://doi.org/10.1007/978-3-030-00021-9_58
- Thushara, V.T., Murali Krishnan, J., 2020. Permanent Deformation Characterisation of Gap-Graded and Continuous Graded Aggregate Blends for Bituminous Mixtures. hlm. 493–505. https://doi.org/10.1007/978-3-030-48679-2_47
- Tukiran, J.M., Ariffin, J., Naser, A., Ghani, A., 2016. Jurnal Teknologi Full Paper COMPARISON ON COLORED COATING FOR ASPHALT AND CONCRETE PAVEMENT BASED ON THERMAL PERFORMANCE AND COOLING EFFECT.
- Utami, P.D., 2018. PERANCANGAN LABORATORIUM CAMPURAN *STONE MATRIX ASPHALT* (SMA) MENGGUNAKAN ASPAL SHELL PEN 60/70 DAN ASPAL MODIFIKASI ELVALOY.
- Wang, H., Zhang, Yue, Zhang, Yi, Feng, S., Lu, G., Cao, L., 2019. Laboratory and numerical investigation of microwave heating properties of asphalt mixture. *Materials* 12. <https://doi.org/10.3390/ma12010146>
- Xie, N., Li, H., Zhao, W., Zhang, C., Yang, B., Zhang, H., Zhang, Y., 2019. Optical and durability performance of near-infrared reflective coatings for cool pavement: Laboratory investigation. *Build Environ* 163, 106334. <https://doi.org/10.1016/j.buildenv.2019.106334>
- Xie, N., Wang, H., Feng, D., 2015. Coating materials to increase pavement surface reflectance, dalam: *Eco-efficient Materials for Mitigating Building Cooling Needs: Design, Properties and Applications*. Elsevier Ltd, hlm. 13–35. <https://doi.org/10.1016/B978-1-78242-380-5.00002-9>
- Yang, J., Wang, Z.H., Kaloush, K.E., 2015. Environmental impacts of reflective materials: Is high albedo a “silver bullet” for mitigating urban heat island? *Renewable and Sustainable Energy Reviews*. <https://doi.org/10.1016/j.rser.2015.03.092>
- Yang, R., Zhou, Q., 2017. Gradation theory of asphalt mixture aggregate based on fractal theory.
- Yi, Y., Jiang, Y., Fan, J., Zhang, Y., Deng, C., Tian, T., Ji, X., 2022. Durability of a heat-reflective coating on an asphalt pavement. *Road Materials and Pavement Design* 23, 2651–2668. <https://doi.org/10.1080/14680629.2021.1991838>
- Yi, Y., Jiang, Y., Li, Q., Deng, C., Ji, X., Xue, J., 2019a. Development of super road heat-reflective coating and its field application. *Coatings* 9. <https://doi.org/10.3390/coatings9120802>

- Yi, Y., Jiang, Y., Li, Q., Deng, C., Ji, X., Xue, J., 2019b. Development of super road heat-reflective coating and its field application. *Coatings* 9. <https://doi.org/10.3390/coatings9120802>
- Yu, F., Guo, J., Liu, J., Cai, H., Huang, Y., 2023. A review of the pore structure of pervious concrete: Analyzing method, characterization parameters and the effect on performance. *Constr Build Mater*. <https://doi.org/10.1016/j.conbuildmat.2022.129971>
- Zhang, K., Lim, J., Nassiri, S., Englund, K., Li, H., 2019. Reuse of carbon fiber composite materials in porous hot mix asphalt to enhance strength and durability. *Case Studies in Construction Materials* 11, e00260. <https://doi.org/10.1016/j.cscm.2019.e00260>
- Zhao, Y., Jiang, J., Dai, Y., Zhou, L., Ni, F., 2020. Thermal property evaluation of *porous asphalt* concrete based on heterogeneous meso-structure finite element simulation. *Applied Sciences (Switzerland)* 10. <https://doi.org/10.3390/app10051671>
- Zheng, M., Han, L., Wang, F., Mi, H., Li, Y., He, L., 2015. Comparison and analysis on heat reflective coating for asphalt pavement based on cooling effect and anti-skid performance. *Constr Build Mater* 93, 1197–1205. <https://doi.org/10.1016/j.conbuildmat.2015.04.043>
- Zheng, M., Tian, Y., He, L., 2019. Analysis on Environmental Thermal Effect of Functionally Graded Nanocomposite Heat Reflective Coatings for Asphalt Pavement. *Coatings* 9, 178. <https://doi.org/10.3390/coatings9030178>
- Zheng, N., Lei, J., Wang, S., Li, Z., Chen, X., 2020. Influence of Heat Reflective Coating on the Cooling and Pavement Performance of Large Void Asphalt Pavement. *Coatings* 10, 1065. <https://doi.org/10.3390/coatings10111065>
- Zhou, Z., Chen, G., 2021. Preparation, Performance, and modification mechanism of high viscosity modified asphalt. *Constr Build Mater* 310, 125007. <https://doi.org/10.1016/j.conbuildmat.2021.125007>