



DAFTAR PUSTAKA

- AASHTO, 1993, *AASHTO Guide for Design of Pavement Structures*, American Association of State Highway and Transportation Officials (AASHTO), Washington D.C., United States of America.
- AASHTO, 2011, Standard Method of Test for Resistance of Compacted Hot Mix Asphalt (HMA) to Moisture-Induced Damage, *AASHTO Designation: T 283-07*, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., United States of America.
- AASHTO, 2013, Standard Practice for Mixture Conditioning of Hot Mix Asphalt (HMA), *AASHTO Designation: R 30-02 (2010)*, June 2013 Edition, American Association of State Highway and Transportation Officials (AASHTO), Washington, D.C., United States of America.
- Abo-Qudais, S., and H. Al-Shweily, 2007a, Effect of Antistripping Additives on Environmental Damage of Bituminous Mixtures, *Building and Environment*, 42(8):2929–2938, 2007.
- Abo-Qudais, S., and H. Al-Shweily, 2007b, Effect of Aggregate Properties on Asphalt Mixtures Stripping and Creep Behavior, *Construction and Building Materials*, 21(9):1886–1898, 2007.
- Ahmad, J., N.I.Md. Yusoff, M.R. Hainin, M.Y. Abd Rahman, and M. Hossain, 2014, Investigation into Hot-Mix Asphalt Moisture-Induced Damage under Tropical Climatic Conditions, *Construction and Building Materials*, 50:567–576, 2014.
- Ahmad, M., 2013, Permeability and Moisture Damage Characteristics of Asphalt Pavement, *MSc Thesis*, University of New Mexico, United States of America.
- Airey, G. D., Collop, A. C., Zoorob, S. E., and Elliott, R. C., 2008, The influence of aggregate, filler and bitumen on asphalt mixture moisture damage. *Construction and Building Materials*, 22:2015–2024, 2008.
- Aksoy, A., K. Şamlioglu, S., Tayfur, and H. Özen, 2005, Effects of various additives on the moisture damage sensitivity of asphalt mixtures. *Construction and Building Materials*, 19(1):11–18, 2005.
- Al Swailmi, S.H., 1992, Development of a Test Procedure for Water Sensitivity of Asphalt Concrete Mixtures, *Ph.D Dissertation*, Oregon State University, United States of America.



- Ali, N., M.W. Tjaronge, L. Samang, and M.I. Ramli, 2011, Experimental Study on Effects of Flood Puddle to Durability of Asphaltic Concrete Containing Refined Butonic Asphalt, *Journal of the Eastern Asia Society for Transportation Studies*, 9:1364–1375, 2011.
- Al-Qadi, I. L., I.M. Abuawad, H. Dhasmana, A.R. Coenen, and J.S. Trepanier, 2014, *Effects of Various Asphalt Binder Additives/Modifiers on Moisture-Susceptible Asphalt Mixtures*, Research Report FHWA-ICT-14-004, Federal Highway Administration (FHWA)-Illinois Center for Transportation (ICT), United States of America.
- Antaranews.com, 2014, Banjir Sisakan Banyak Lubang di Jalur Pantura, <http://www.antaranews.com/berita/415923/banjir-sisakanbanyaklubang-di-jalur-pantura>, [diakses 02 Juni 2016, 23:50].
- Apeageyi, A.K., J.R.A. Grenfell, and G.D. Airey, 2014, Observation of reversible moisture damage in asphalt mixtures, *Construction and Building Materials*, 60:73–80, 2014.
- Asi, I.M., 2006, Laboratory Comparison Study for the Use of Stone Matrix Asphalt in Hot Weather Climates, *Construction and Building Materials*, 20(10):982–989, 2006.
- Asphalt Institute, 1981, *Cause and Prevention of Stripping in Asphalt Pavements; Educational Series No. 10 (ES-10)*, Asphalt Institute, United States of America.
- Asphalt Institute, 1984, *Drainage of Asphalt Pavement Structures; Manual Series No. 15 (MS-15)*, Asphalt Institute, United States of America.
- Asphalt Institute, 1989, *The Asphalt Handbook; Manual Series No. 4 (MS-4)*, Asphalt Institute, United States of America.
- Asphalt Institute, 1993, *Mix Design Methods: For Asphalt Concrete and Other Hot-Mix Types; Manual Series No. 2 (MS-2)*, 6th Edition, Asphalt Institute, United States of America.
- Asphalt Institute, 1996, *Superpave Level 1 Mix Design; Superpave Series No. 2 (SP-2)*, Asphalt Institute, United States of America.
- Asphalt Institute, 2001, *HMA Construction of Hot Mix Asphalt Pavements; Manual Series No. 22 (HMA Construction)*, Asphalt Institute, United States of America.



- Asphalt Institute, 2014, *Asphalt Mix Design Methods; Manual Series No. 02 (MS-2)*, 7th Edition, Asphalt Institute, United States of America.
- Asphalt Pavement Alliance, 2010, High Performance Intersections, Asphalt Pavement Alliance, www.asphaltroads.org.
- ASTM, 2004, Standard Test Method for Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures, *Annual Book of ASTM Standards*, American Standard Testing and Material (ASTM), ASTM D 7012-04, ASTM International, United States of America.
- ASTM, 2007, Standard Test Method for Effect of Water on Compressive Strength of Compacted Bituminous Mixtures, *Annual Book of ASTM Standards*, American Standard Testing and Material (ASTM), ASTM D1075-07, ASTM International, United States of America.
- ASTM, 2013a, Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete, *Annual Book of ASTM Standards*, American Standard Testing and Material (ASTM), ASTM C42/C42M-13, ASTM International, United States of America.
- ASTM, 2013b, Standard Test Method for Unconfined Compressive Strength of Cohesive Soil, *Annual Book of ASTM Standards*, American Standard Testing and Material (ASTM), ASTM D2166/D2166M-13, ASTM International, United States of America.
- Atkins, H.N., 1997, *Highway Materials, Soils, and Concretes*, 3rd Edition, Prentice Hall, New Jersey, United States of America.
- Austrroads, 1987, *A Guide to the Visual Assessment of Pavement Condition*, Reprint 19, Austrroads National Office, Sydney, Australia.
- Austrroads, 1992, *Pavement Design: A Guide to the Structural Design of Road Pavements*, Revised 19, Sydney, Australia.
- Bagampadde, U., U. Isacson, and B.M. Kiggundu, 2006, Impact of Bitumen and Aggregate Composition on Stripping in Bituminous Mixtures, *Materials and Structures*, 39:303–315, 2006.
- Bahia, H., A. Hanz, K. Kanitpong, and H. Wen, 2007, *Method to Determine Aggregate/Asphalt Adhesion Properties and Potential Moisture Damage*, Wisconsin Highway Research Program, Wisconsin Department of Transportation, United States of America.
- Behiry, A.E.A.E., 2013, Laboratory evaluation of resistance to moisture damage in asphalt mixtures, *Ain Shams Engineering Journal*, 4(3):351–363, 2013.



- Bell, C.A., Y. Abwahab, M.E. Cristi, and D. Sosnovske, 1994, *Selection of Laboratory Aging Procedures for Asphalt-Aggregate Mixtures*, Strategic Highway Research Program (SHRP) A-383, National Research Council, Washington D.C., United States of America.
- Blazek, J., G. Sebor, D. Maxa, M. Ajib, H. and Paniagua, 2000, Effect of Hydrated Lime Addition on Properties of Asphalt. *Petroleum and Coal*, 42 (1): 41–45, 2000.
- BPS, 2015, *Statistik Indonesia 2015*, Badan Pusat Statistik (BPS), Jakarta.
- Brown, G. O., 2002, Henry Darcy and the Making of A Law, *Water Resources Research*, 38(7):1–12, 2002.
- Callister, W.D., 2001, *Fundamentals of Materials Science and Engineering: An Interactive E. Text*, 5th Edition, John Wiley & Sons, Inc., New York, United States of America.
- Chen, J.-S., K.-Y. Lin, and S.-Y. Young, 2004, Effects of Crack Width and Permeability on Effects of Crack Width and Permeability on Moisture-Induced Damage of Pavements Moisture-Induced Damage of Pavements. *Journal of Materials in Civil Engineering*, 16(3):276–282, 2004.
- Chen, X., and B. Huang, 2008, Evaluation of Moisture Damage in Hot Mix Asphalt Using Simple Performance and Superpave Indirect Tensile Tests, *Construction and Building Materials*, 22(9):1950–1962, 2008.
- Cooley Jr., L.A., P.S. Kandhal, M.S. Buchanan, F. Fee, and A. Epps, 2000, Loaded Wheel Testers in the United States: State of the Practice, *Transportation Research E-Circular No. E-C016*, National Center for Asphalt Technology (NCAT) Auburn University, Auburn, United States of America.
- Copeland, A.R., 2007, Influence of Moisture on Bond Strength of Asphalt-Aggregate Systems, *Ph.D Dissertation*, Vanderbilt University, Nashville, Tennessee, United States of America.
- Craus, J., Ishai I., and A. Sides, 1981, Durability of Bituminous Paving Mixtures as Related to Filler Type and Properties, *Proceedings of Association of Asphalt Paving Technologists*, 50:291–318, 1981.
- Crovetti, J., 2009, Analysis of Load-Induced Strains in a Hot Mix Asphalt Perpetual Pavement, *Final Report*, WisDOT Report FEP 01-09 Wisconsin Department of Transportation, United States of America.
- Cui, S., B.R.K. Blackman, A.J. Kinloch, and A.C. Taylor, 2014, Durability of Asphalt Mixtures: Effect of Aggregate Type and Adhesion Promoters, *International Journal of Adhesion and Adhesives*, 54:100–111, 2014.



- Curtis, C.W., K. Ensley, and J. Epps, 1993, *Fundamental Properties of Asphalt-Aggregate Interactions Including Adhesion and Absorption*, Strategic Highway Research Program (SHRP) A-341, National Research Council, Washington D.C., United States of America.
- Dawson, A., 2008, *Water in Road Structures*, Springer, Nottingham Transportation Engineering Centre, University of Nottingham, United Kingdom.
- Departemen Pekerjaan Umum, 1989, *Tata Cara Pelaksanaan Lapis Aspal Beton (Laston) untuk Jalan Raya SNI 03-1737-1989*, Pusat Transportasi, Badan Penelitian dan Pengembangan Pekerjaan Umum, Jakarta.
- Departemen Pekerjaan Umum, 1987, *Petunjuk Pelaksanaan Lapis Aspal Beton (Laston) untuk Jalan Raya*, Yayasan Badan Penerbit Pekerjaan Umum, Jakarta.
- Ditjen Bina Marga, 1983, *Petunjuk Pelaksanaan Lapis Aspal Beton (Laston) No.13/PT/B/1983*, Departemen Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 1992, *Road Rehabilitation Project III, Volume 3, General Specification*, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 1999, *Pedoman Perencanaan Campuran beraspal dengan Pendekatan Kepadatan Mutlak*, Departemen Pekerjaan Umum, Direktorat Jenderal Bina Marga, Yayasan Badan Penerbit Pekerjaan Umum, Jakarta.
- Ditjen Bina Marga, 2002, *Pedoman Perencanaan Tebal Perkerasan Lentur-Pt T-01-2002-B*, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 2005, *Divisi 6: Perkerasan Aspal, Spesifikasi Umum*, Kementerian Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 2007, *Divisi 6: Perkerasan Aspal, Spesifikasi Umum*, Kementerian Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 2010, *Divisi 6: Perkerasan Aspal, Spesifikasi Umum*, Kementerian Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 2011, *Divisi 6: Perkerasan Aspal, Spesifikasi Umum, Edisi 2010 Revisi 1*, Kementerian Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 2012, *Divisi 6: Perkerasan Aspal, Spesifikasi Umum, Edisi 2010 Revisi 2*, Kementerian Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.



- Ditjen Bina Marga, 2013, *Manual Desain Perkerasan Jalan*, Kementerian Pekerjaan Umum, Direktorat Jenderal Bina Marga, Jakarta.
- Ditjen Bina Marga, 2014, *Divisi 6: Perkerasan Aspal, Spesifikasi Umum, Edisi 2010 Revisi 3*, Kementerian Pekerjaan Umum Direktorat, Jenderal Bina Marga, Jakarta.
- Effendi, H., 2003, *Telaah Kualitas Air bagi Pengelolaan Sumber Daya dan Lingkungan Perairan*, Cetakan ke-9, PT. Kanisius, Yogyakarta.
- Effendi, H., 2004, Tinjauan Daya Tahan Lama terhadap Air Sungai Berlumpur pada Campuran Beton Aspal, *Master Thesis*, Magister Sistem dan Teknik Transportasi Universitas Gadjah Mada Yogyakarta, tidak dipublikasikan.
- Epps, J., E. Berger, and J.N. Anagnos, 2003, Treatments, Moisture Sensitivity of Asphalt Pavements, A National Seminar, February 4-6, 2003, San Diego, California, *Transportation Research Board of The National Academies*, Washington D.C., United States of America.
- Findley, W. N., J.S. Lai, and K. Onaran, 1976, *Creep and Relaxation of Nonlinear Viscoelastic Materials*, North-Holland Publishing Company, Hungary.
- Fromm, H.J., 1974, The Mechanisms of Asphalt Stripping from Aggregate Surfaces, *Proceedings of Association of Asphalt Paving Technologists*, 43:191-223, 1974.
- Fwa, T. F., S.A. Tan, and L.Y. Zhu, 2004, Rutting Prediction of Asphalt Pavement Layer Using C- ϕ Model. *Journal of Transportation Engineering*, 130(5):675-683, 2004.
- Gaus, A., M.W. Tjaronge, N. Ali, and R. Djamaluddin, 2015, Compressive Strength of Asphalt Concrete Binder Course (AC-BC) Mixture Using Buton Granular Asphalt (BGA), *Procedia Engineering*, 125:657-662, 2015.
- Griffith, A., 2009, *SPSS For Dummies*, 2nd Edition, Wiley Publishing, Inc., Indiana.
- Habeeb, H., S. Chandra, and Y. Nashaat, 2014, Estimation of Moisture Damage and Permanent Deformation in Asphalt Mixture from Aggregate Gradation, *Korean Society of Civil Engineers (KSCE) Journal of Civil Engineering*, 18(6):1655-1663, 2014.
- Hadiwardoyo, S.P., dan H. Fikri, 2013, Use of Buton Asphalt Additive on Moisture Damage Sensitivity and Rutting Performance of Asphalt Mixtures, *Civil and Environmental Research*, 3(3):100-109, 2013.
- Hardiana, D., 2002, Tinjauan Daya Tahan Lama pada Campuran Beton Aspal, *Master Thesis*, Magister Sistem dan Teknik Transportasi Universitas Gadjah Mada Yogyakarta, tidak dipublikasikan.



- Hardiyatmo, H.C., 2015, *Perancangan Perkerasan Jalan dan Penyelidikan Tanah*, Edisi Kedua, Gadjah Mada University Press, Yogyakarta.
- Harinaldi, 2005, *Prinsip-Prinsip Statistik untuk Teknik dan Sains*, Penerbit Erlangga, Jakarta.
- Hicks, G.R., L. Santucci, and T. Aschenbrenner, 2003, Introduction and Seminar Objectives, Moisture Sensitivity of Asphalt Pavements, A National Seminar, February 4-6, 2003, San Diego, California, *Transportation Research Board of The National Academies*, Washington D.C., United States of America.
- Hossain, M.I., and R.A. Tarefder, 2013, Effects of Moisture in Asphalt Concrete, *Basic Research Journal of Engineering Innovation*, 1(1):16-25, 2013.
- Huang, Y., R.N. Bird, and O. Heidrich, 2007, A Review of the Use of Recycled Solid Waste Materials in Asphalt Pavements, *Resources, Conservation and Recycling*, 52(1):58–73, 2007.
- Huang, Y.H., 2004, *Pavement Analysis and Design*, 2nd Edition, Pearson Prentice Hall, Pearson Education Inc., Upper Sadle River, New Jersey, United States of America.
- Hudson, W.R., and T.W. Kennedy, 1968, *An Indirect Tensile Test for Stabilized Materials*, Research Report Number 98-1, Center for Highway Research, University of Texas at Austin.
- Hunter, R.N., A. Self, and J. Read, 2015, *The Shell Bitumen Handbook*, 6th Edition, Thomas Telford Publishing, London, United Kingdom.
- Ishai, I., and J. Craus, 1977, Effect of The Filler on Aggregate-Bitumen Adhesion Properties in Bituminous Mixtures. *Proceedings of the Association Asphalt Paving Technologists* 43: 228–258, 1977.
- Ishai, I., and J. Craus, 1996, Effects of Some Aggregate and Filler Characteristics on Behavior and Durability of Asphalt Paving Mixtures, Transportation Research Record, *Journal of the Transportation Research Board*, 1530:75–85, 1996.
- Ishai, I., and S. Nesichi, 1989, Laboratory Evaluation of Moisture Damage to Bituminous Paving Mixtures by Long Time Hot Immersion, *Transport Research Record*, 1171:12–17, 1989.
- Kandhal, P., and I.J. Rickards, 2001, Premature Failure of Asphalt Overlays from Stripping: Case Histories, *Proceedings of Association of Asphalt Paving Technologists*, 70:301–351, 2001.



- Kanitpong, K., N. Charoentham, and S. Likitlersuang, 2012, Investigation on the Effects of Gradation and Aggregate Type to Moisture Damage of Warm Mix Asphalt Modified with Sasobit, *International Journal of Pavement Engineering*, 13(5):451–458, 2012.
- KBBI, 2018, Banjir, Kamus Besar Bahasa Indonesia (KBBI) daring, <https://kbbi.kemdikbud.go.id/entri/banjir>, [diakses 16 Januari 2018, 08:51].
- Khatri, M.A., 2005, Selection of Mixing and Compaction Temperatures for Hot Mix Asphalt Mixtures Produced with Modified Binders, *Ph.D Dissertation*, University of Wisconsin-Madison, United States of America.
- Khodaii, A., H.F. Haghshenas, and H.K. Tehrani, 2012, Effect of Grading and Lime Content on HMA Stripping Using Statistical Methodology, *Construction and Building Materials*, 34:131–135, 2012.
- Kim, Y.R., J.S. Lutfi, A. Bhasin, and D.N. Little, 2008, Evaluation of Moisture Damage Mechanisms and Effects of Hydrated Lime in Asphalt Mixtures through Measurements of Mixture Component Properties and Performance Testing, *Journal of Materials in Civil Engineering*, 20(10):659–667, 2008.
- Kliwer, J.E., 1994, Development of Performance Based Test Procedures for Asphalt Mixtures, *Ph.D Dissertation*, Oregon State University.
- Kodoatie, R.J., 2013, *Rekayasa dan Manajemen Banjir Kota*, Penerbit ANDI, Yogyakarta.
- Kök, B.V. and M. Yilmaz, 2009, The Effects of Using Lime and Styrene–Butadiene–Styrene on Moisture Sensitivity Resistance of Hot Mix Asphalt, *Construction and Building Materials*, 23(5):1999–2006, 2009.
- Kök, B.V., and H. Çolak, 2011, Laboratory Comparison of the Crumb-Rubber and SBS Modified Bitumen and Hot Mix Asphalt, *Construction and Building Materials*, 25(8):3204–3212, 2011.
- Kompas, 2015, *Buku Pintar Kompas 2014*, PT Kompas Media Nusantara, Jakarta.
- Kringos, N., T. Scarpas, C. Kasbergen, and P. Selvadurai, 2008, Modelling of Combined Physical–Mechanical Moisture-Induced Damage in Asphaltic Mixes, Part 1: Governing Processes and Formulations, *International Journal of Pavement Engineering*, 9(2):115–128, 2008.
- Kubo, K., 2004, *Pavement in Japan*, Public Works Research Institute, Japan.
- Kumar, P., and P. Anand, 2012, Laboratory Study on Moisture Susceptibility of Dense Graded Mixes, *Journal of Transportation Engineering*, 138(1): 105–113, 2012.



- Lavin, P.G., 2003, *Asphalt Pavements: A Practical Guide to Design, Production and Maintenance for Engineers and Architects*, Spon Press, Taylor and Francis Group, New York.
- Leon, L., R. Charles, and N. Simpson, Stress-strain behaviour of asphalt concrete in compression, *Procedia Structural Integrity*, 2:2913–2920, 2016.
- Lilliefors, H.W., 1967, On the Kolmogorov-Smirnov Test for Normality with Mean and Variance Unknown, *Journal of the American Statistical Association*, 62(318):399–402, 1967.
- Liputan6.com, 2014, 130 Km Jalan di Jateng Rusak Parah Akibat Banjir, <http://bisnis.liputan6.com/read/830163/130-km-jalan-di-jateng-rusakparah-akibat-banjir>, [diakses 1 Desember 2014].
- Little, D.N., and D.R. Jones IV, 2003, Chemical and Mechanical Processes of Moisture Damage in Hot-Mix Asphalt Pavements, Moisture Sensitivity of Asphalt Pavements, A National Seminar, February 4-6, 2003, San Diego, California, *Transportation Research Board of The National Academies*, Washington D.C., United States of America.
- Lu, Q., 2005, Investigation of Conditions for Moisture Damage in Asphalt Concrete and Appropriate Laboratory Test Methods, *Ph.D Dissertation*, University of California, Berkeley, United States of America.
- Lu, Q., and J.T. Harvey, 2005, *Investigation of Conditions for Moisture Damage in Asphalt Concrete and Appropriate Laboratory Test Methods*, Research Report: UCPRC-RR-2005-15, University of California Pavement Research Center (UCPRC), United States of America.
- Maruto, 1987, *AF-16 Asphalt Permeability Apparatus*, Instruction Manual, Maruto Testing Machine Co., Japan.
- McKillup, S., 2005, *Statistics Explained An Introductory Guide for Life Scientists*, Cambridge University Press, New York, United States of America.
- Megson, T.H.G., 2005, *Structural and Stress Analysis*, 2nd Edition, Elsevier Butterworth Heinemann, United Kingdom.
- Mehrara, A., and A. Khodaii, 2013, A Review of State of the Art on Stripping Phenomenon in Asphalt Concrete, *Construction and Building Materials*, 38(424):423–442, 2013.
- Merdeka.com, 2014, Ini 5 banjir besar yang pernah melumpuhkan Jakarta, <http://www.merdeka.com/peristiwa/ini-5-banjir-besar-yang-pernahmelumpuhkan-jakarta/banjir-besar-pada-2007.html> [diakses 02 Juni 2016, 22:20]



- Mohamady, A., Mousa, B. E.-D. A., & El-Mitiny, M. R., 2003, Measuring And Evaluating Modulus of Elasticity of Asphalt Mixtures Using Plastometer, *Mansoura Engineering Journal*, 28, 3(9):11, 2003.
- Mohamed, E. H. H., 1994, Debonding Location in Asphalt Concrete Associated with Moisture Damage, *Journal of Materials in Civil Engineering*, 5(4):497–509, 1994.
- Montgomery, D.C., 2001, *Design and Analysis of Experiments*, 5th Edition, John Wiley & Sons, Inc., United States of America.
- Montgomery, D.C., and G.C. Runger, 2014, *Applied Statistics and Probability for Engineers*, 6th Edition, John Wiley & Sons, Inc., United States of America.
- Motaleb, M. A., & Mohamady, A., 2004, A Simplified Technique for Measuring Dynamic Modulus of Asphalt Concrete. *Mansoura Engineering Journal*, 29, 3(9):1-11, 2004.
- Mugisidi, D., & O. Heriyani, 2014, Karakterisasi Air Banjir sebagai Air Baku untuk Air Minum. In *Symposium Nasional Teknologi Terapan (SNTT)*, pages 1–5.
- Mulyono, A.T., 2007, Model Monitoring dan Evaluasi Pemberlakuan Standar Mutu Perkerasan Jalan Berbasis Pendekatan Sistemik, *Ph.D Dissertation*, Universitas Diponegoro Semarang.
- Murjanto, D., 2014, Perbaiki Jalan Rusak Akibat Banjir, PU Butuh Rp 2,12 Triliun, accessed January 1, 2017, from www.pu.go.id/main/view_pdf/9215.
- Nainggolan, H., Rahmantya, K. F., Asianto, A. D., Wibowo, D., Wahyuni, T., dan Somad, W. A., 2014, *Kelautan dan Perikanan dalam Angka 2014*, Pusat Data Statistik dan Informasi Kementerian Kelautan dan Perikanan (PDSIKKP).
- Neville, A. M., 2004, *Properties of Concrete, Fourth and Final Edition*, Pearson, Prentice Hall, England.
- O’Flaherty, C. A., 2002, *Highways: The Location, Design, Construction and Maintenance of Pavements*, 4th Edition, Butterworth-Heinemann.
- Ortuzar, J. de D., and L. G. Willumsen, 2011, *Modelling Transport*, 4th edition, John Wiley & Sons, Ltd., United Kingdom.
- Palupi, D. S., Suharyanto, dan Karyono, 2009, *Fisika untuk SMA dan MA Kelas XI*, Pusat Perbukuan Departemen Pendidikan Nasional, Jakarta.



- Pangaraya, D.K., 2014, Kajian Laboratorium Penggunaan Aspal Starbit E-55 Modifikasi Polimer pada Asphalt Concrete Wearing Course (AC-WC) ditinjau dari Durabilitas dan Indirect Tensile Strength, *Master Thesis*, Magister Sistem dan Teknik Transportasi Universitas Gadjah Mada Yogyakarta, tidak dipublikasikan.
- Papagiannakis, A.T., and E.A. Masad, 2008, *Pavement Design and Materials*, John Wiley & Sons, Inc, Hoboken, New Jersey, United States of America.
- Pavement Interactive, 2018, Pavement Distress, <http://www.pavementinteractive.org/general-guidancepavement-distress/> [diakses 01 April 2018, 14:35].
- PT. Bintang Djaja, 2014, *Petunjuk Praktis Bahan Konstruksi Bangunan dan Rekayasa Sipil-Penggunaan Aspal Polimer Starbit dalam Campuran Beraspal Panas*, PT. Bintang Djaja, Semarang.
- Read, J., dan D. Whiteoak, 2003, *The Shell Bitumen Handbook*, 5th Edition, Thomas Telford Publishing, London, United Kingdom.
- Read, J.M., and A.C. Collop, 1997, Practical Fatigue Characterisation of Bituminous Paving Mixtures, *Proceedings of Association of Asphalt Paving Technologists*, 66:75–108, 1997.
- Roberts, F. L., P.S. Kandhal, E.R. Brown, D.Y. Lee, and T.W. Kennedy, 1996, *Hot Mix Asphalt Materials, Mixture Design, and Construction*, 2nd Edition, National Asphalt Pavement Association (NAPA) Education Foundation 5100 Forbes Blvd. Lanham, Maryland, United States of America.
- Roque, R., and W. G. Buttlar, 1993, The Development of Measurement and Analysis System to Accurately Determine Asphalt Concrete Properties Using The Indirect Tensile Strength, *Proceedings of Association of Asphalt Paving Technologist*, 61:304–332, 1993.
- Ruan, Y., R. R. Davison, and C.J. Glover, 2003, The effect of Long-term Oxidation on the Rheological Properties of Polymer Modified Asphalts, *Fuel*, 82(14):1763–1773, 2003.
- Sánchez-leal, F.J., 2007, Gradation Chart for Asphalt Mixes: Development. *Journal of Materials in Civil Engineering*, 19(2):185–197, 2007.
- Sangsefidi, E., H. Ziari, and M. Sangsefidi, 2016, The effect of aggregate gradation on creep and moisture susceptibility performance of warm mix asphalt, *Korean Society of Civil Engineers (KSCE) Journal of Civil Engineering*, 20(1):385–392, 2016.
- Santoso, S., 2006, *Menggunakan SPSS untuk Statistik Parametrik*, Penerbit Elex Media Komputindo, Kelompok Gramedia, Jakarta.



- Septiana, R., 2013, Kepekaan Aspal Modifikasi Polimer dan Aspal Pen 60/70 terhadap Perubahan Kadar Aspal pada Campuran AC-WC dengan Pengujian Marshall dan Permeabilitas, *Master Thesis*, Magister Sistem dan Teknik Transportasi Universitas Gadjah Mada Yogyakarta, tidak dipublikasikan.
- Setiawan, A., L.B. Suparma, and A.T. Mulyono, 2016, The Effect of Aggregate Gradation on Workability of Asphalt Concrete, *International Journal of Engineering and Technology*, 8(4):1750-1757, 2016.
- Setiawan, A., L.B. Suparma, and A.T. Mulyono, 2017b, Modelling Effect of Aggregate Gradation and Bitumen Content on Marshall Properties of Asphalt Concrete, *International Journal on Advanced Science, Engineering and Information Technology*, 7(2): 359–365, 2017.
- Setiawan, A., L.B. Suparma, and A.T. Mulyono, 2017c, Developing the elastic modulus measurement of asphalt concrete using the compressive strength test, *American Institute of Physics (AIP) Conference Proceedings*, 1903(1):050002-1-11, 2017.
- Setiawan, A., L.B. Suparma, dan A.T. Mulyono, 2017a, Indeks Gradasi sebagai Parameter untuk Menentukan Gradasi Agregat Beton Aspal, *Jurnal Transportasi*, 17(1):1–10, 2017.
- Setyawan, A., A.H.M. Elshawesh, and S. As'ad, 2015, The Structural Properties Assessment of Thin Hot Mixture Asphalt for Pavement Preservation, *Applied Mechanics and Materials*, 776:30–35, 2015.
- Shahin, M. Y., 2005, *Pavement Management for Airports, Roads, and Parking Lots*, 2nd Edition, Springer, United States of America.
- Shell Bitumen, 1998, *Bitumens and Asphalt Nomograph (BANDS) 2.0*, Shell Pavement Design Software Packages, Shell International Oil Products BV.
- SHRP, 1993, *Distress Identification Manual for the Long - Term Pavement Performance Project*, Strategic Highway Research Program (SHRP) P-338, National Research Council, Washington D.C., United States of America.
- SNI, 1991, Metode Pengujian Campuran Aspal dengan Alat Marshall, Standar Nasional Indonesia (SNI) 06-2489-1991, Pusat Transportasi, Badan Penelitian dan Pengembangan Pekerjaan Umum, Jakarta.
- SNI, 2015, *Cara Uji Ketahanan Campuran Beraspal terhadap Kerusakan akibat Rendaman*, Standar Nasional Indonesia (SNI) 6753:2015, Badan Standardisasi Nasional, Jakarta.



- SNI, 2016, *Tata Cara Perhitungan Debit Banjir Rencana*, Standar Nasional Indonesia (SNI) 2415:2016, Badan Standardisasi Nasional, Jakarta.
- Solaimanian, M., J. Harvey, M. Tahmoressi, and V. Tandon, 2003, Methods to Predict Moisture Sensitivity of Hot-Mix Asphalt Pavements, Moisture Sensitivity of Asphalt Pavements, A National Seminar, February 4-6, 2003, San Diego, California, *Transportation Research Board of The National Academies*, Washington D.C., United States of America.
- Starodubsky, S., I. Blechman, and M. Livneh, 1994, Stress-Strain Relationship for Asphalt Concrete in Compression, *Materials and Structures*, 27:474–482, 1994.
- Stuart, K.D., 1990, *Moisture Damage in Asphalt Mixtures A State-of-the-Art Report*, Research, Development, and Technology Turner-Fairbank Highway Research Center, Virginia, United States of America.
- Stumm, W., 2004, Chemical Processes Regulating the Composition of Lake Waters, in P.E. O’Sullivan, and C.S. Reynolds, editor, *The Lakes Handbook*, Volume 1: Limnology and Limnetic Ecology, pages 79-106, Blackwell Publishing, United States of America.
- Subagio, B. S., H. Rahman, S. Hendarto, and F.J. Philips, 2009, Stiffness Modulus of Asphaltic Concrete Wearing Course (AC-WC) Mix Containing Retona Blend 55®: Theoretical and Experimental Analysis, In *Proceedings of the Eastern Asia Society for Transportation Studies*, Eastern Asia Society for Transportation Studies, pages 1–13, Surabaya, Indonesia.
- Sudarsono, D. U. I. 1976, *Prinsip-prinsip Beton Aspal dan Pengaspalan dengan Butas*, Cetakan II, Badan Penerbit Pekerjaan Umum Departemen Pekerjaan Umum dan Tenaga Listrik, Jakarta.
- Sukarmanto, H., 2016, Kajian Durabilitas Campuran Asphalt Concrete-Wearing Course (Ac-Wc) Terhadap Rendaman Air Banjir, *Master Thesis*, Magister Sistem dan Teknik Transportasi Universitas Gadjah Mada Yogyakarta, tidak dipublikasikan.
- Suparma, L.B., 2001, The Use of Recycled Waste Plastics in Bituminous Composites, *PhD Dissertation*, University of Leeds, United Kingdom, Unpublished.
- Susantono B., dan A.T. Mulyono, 2008, Jalan Rusak dan Good Governance, <http://www.unisosdem.org/article/detail.php?aid=9840&coid=1&caid=34&gid=3>, [diakses 28 Januari 2016].
- Sutanto dan S. Karmawan, 2006, *Pedoman Drainase Jalan Raya*, Penerbit Universitas Indonesia (UI) Press, Jakarta.



- Tam, W. O., M. Solaimanian, and T.W. Kennedy, 2000, *Development and Use of Static Creep Test to Evaluate Rut Resistance of Superpave Mixes*, Research Report Number 1250-4, Center for Transportation Research Bureau of Engineering Research, University of Texas at Austin, United States of America.
- Tarefder, R.A., dan M. Ahmad, 2015, Evaluating the Relationship between Permeability and Moisture Damage of Asphalt Concrete Pavements, *Journal of Materials in Civil Engineering*, 27(5):04014172-1-10.
- Tempo.co., 2013, Kenapa Banjir di Jakarta Barat Lama Surut?, <https://metro.tempo.co/read/news/2013/01/24/083456663/kenapa-banjir-di-jakartaba-rat-lama-surut>, [diakses 02 Juni 2016, 23:47].
- Terrel, R.L., and S. Al-Swailmi, 1994, *Water Sensitivity of Asphalt-Aggregate Mixes: Test Selection*, Strategic Highway Research Program (SHRP) A-403, National Research Council, Washington D.C., United States of America.
- Totomiharjo, S., 2004, *Bahan dan Struktur Jalan Raya*, Edisi Ketiga, Biro Penerbit Keluarga Mahasiswa Teknik Sipil (KMST) Fakultas Teknik Universitas Gadjah Mada, Yogyakarta.
- Triatmodjo, B., 2013, *Hidrologi Terapan*, Cetakan Ketiga, Beta Offset, Yogyakarta.
- TRL, 1993, *A Guide to the Structural Design of Bitumen-Surfaced Roads in Tropical and Sub-Tropical Countries*, 4th Edition, Overseas Centre, Transport Research Laboratory (TRL), Crowthorne, Berkshire, United Kingdom.
- TRL, 2002, *A Guide to the Design of Hot Mix Asphalt in Tropical and Sub-Tropical Countries*, Crowthorne, Berkshire, RG45 6AU, Transport Research Laboratory (TRL) Limited, United Kingdom.
- TxDOT, 2005, *Static Creep Test*, Texas Department of Transportation (TxDOT), TxDOT Designation: Tex-231-F, Texas, United States of America.
- Urdan, T. C., 2010, *Statistic in Plain English*, 3rd Edition, Routledge, Taylor and Francis Group, New York, United States of America.
- Van de Loo, P. J., 1978, The Creep Test: A Key Tool in Asphalt Mix Design and in The Prediction of Pavement Rutting, *Proceedings of Association of Asphalt Paving Technologists*, 47:522–557, 1978.



- Wahyudi, M., 2000, Evaluasi Teknik Pemadatan dan Faktor-Faktor yang Berpengaruh terhadap Karakteristik Campuran Aspal Berbatuan Besar, *Prosiding Simposium III Forum Studi Transportasi antar Perguruan Tinggi (FSTPT)*, Universitas Gadjah Mada, Yogyakarta.
- Walpole, R. E., R.H. Myers, S.L. Myers, and K. Ye, 2007, *Probability & Statistics for Engineers Scientists*, 8th Edition, Pearson Prentice Hall, Pearson Education Inc., New Jersey, United States of America.
- Wibawa, I. M. P., 2016, Pengaruh Rendaman Menerus dan Berkala Air Banjir Terhadap Durabilitas Campuran Asphalt Concrete Wearing Course dengan Bahan Pengikat Aspal Modifikasi Elastomer (AME), *Master Thesis*, Magister Teknik Sarana dan Prasarana dan Bahan Bangunan, Universitas Gadjah Mada, tidak dipublikasikan.
- Widayat, J., 2010, *Road Map Perkerasan Lentur*, Puslitbang Jalan dan Jembatan, Bandung.
- Witczak, M. W., K. Kaloush, T. Pellinen, M. El-Basyouny, and H.V. Quintus, 2002, *Simple Performance Test for Superpave Mix Design*, Transportation Research Board, National Research Council, National Academy Press, Washington, D.C., United States of America.
- Wulandari, I.T., 2015, Pengaruh Penggunaan Bahan Aditif Anti-Stripping Agent Wetfix dan Filler PC pada Aspal Shell Pen 60/70 terhadap Nilai Stabilitas, Durabilitas dan Permeabilitas Campuran AC-WC, *Master Thesis*, Magister Sistem dan Teknik Transportasi Universitas Gadjah Mada Yogyakarta, tidak dipublikasikan.
- Yahoo.com, 2014, Kecelakaan Akibat Jalan Rusak Salah Siapa?, Yahoo News Indonesia, <https://id.berita.yahoo.com/kecelakaanakibatjalan-rusak-salah-siapa-015306644.html>, [diakses 1 Desember 2014].
- Yan, Y., 2012, Hot Mix Asphalt Concrete Density, Bulk Specific Gravity , and Permeability, *M.Sc Thesis*, West Virginia University, Morgantown, West Virginia, United States of America.
- Yoon, H.H., and A.R. Tarrer, 1988, The Effect of Aggregate Properties on Stripping, *Transportation Research Record*, 1171:37–43, 1988.
- Zaiontz, C., 2018, Two Factor Anova without Replication, <http://www.real-statistics.com/two-way-anova/two-factor-anova-without-replication/>, [diakses 16 Januari 2018, 17:01].
- Zhou, L., F. Chen, Y. Jiang, and Q. Xie, 2009, Influence of Water Saturated State on Moisture Susceptibility of Asphalt Mixture, In *GeoHunan International Conference 2009*, pages 109–114.