

## DAFTAR PUSTAKA

- Aigbodion, V.S., Akadike, U., Hassan, S.B., Asuke, F. and Agunsoye, J.O., 2010, Development of Asbestos - Free Brake Pad Using Bagasse, *Tribology in Industry*, 32(10), pp. 12-18.
- Ahmaruzzaman, M., 2010, A Review on the Utilization of Fly ash, *Progress in Energy and Combustion Science*, 36, pp. 327-363.
- Aiba, H., 2010, Novolak Production, in : L. Pilato (Ed.), *Phenolic Resin : a Century of Progress*, Springer-Verlag, Berlin, pp. 147-151.
- Amelia, D.W. dan Suhartojo, T., 2002, Optimasi Kekerasan Kampas Rem Dengan Metode Desain Eksprimen, *Jurnal Teknik Mesin*, 4(1), hal. 50-58.
- Balaji, M.A.S. and Kalaichelvan, K., 2012, Optimization of a Non Asbestos Semi Metallic Disc Brake Pad Formulation with Respect to Friction and Wear, *Procedia Engineering*, 38, pp. 1650 – 1657.
- Barsoum, M.W., 2003, *Fundamentals of Ceramics*, IOP Publishing.
- Bijwe, J., Nidhi and Satapathy, B.K., 2004, Influence of Amount of Resin on Fade and Recovery Behavior of Non-Asbestos Organic (NAO) Friction Materials, *Trans. Indian Inst. Met.*, 57(4), pp. 335-344.
- Blau, P.J., 2001, Compositions, Functions, and Testing of Friction Brake Materials and Their Additives, Technical Report ORNL/TM-2001/64, Oak Ridge National Laboratory, [www.ornl.gov/~webworks/cppr/y2001/rpt/110463.pdf](http://www.ornl.gov/~webworks/cppr/y2001/rpt/110463.pdf).
- Blau, P.J. and McLaughlin, J.C., 2003, Effects of Water Films and Sliding Speed on the Frictional Behavior of Truck Disc Brake Materials. *Tribology International*, 36, pp. 709-715.
- Callister, W.D., 1994, *Materials Science and Engineering*, John Wiley and Son, Canada.
- Chan, D. and Stachowiak, G.W., 2004, Review of Automotive Brake Friction Materials, *Proc. Instn. Mech. Engrs.*, 218, Part D : J. Automobile Engineering, pp. 953-966.

- Cho, M.H., Kim, S.J., Kim, D. and Jang, H., 2005, Effects of Ingredients on Tribological Characteristics of a Brake Lining : an Experimental Case Study, *Wear*, 258, pp. 1682-1687.
- Chugh, Y.P., Filip, P., Mohanty, S. and Hee, K.W., 2004, A Collaborative Program for Development of Frictional Materials Using Industrial Wastes, *International Conference on Engineering Education and Research "Progress Through Partnership"*, Ostrava.
- Ciullo, P.A., 1996, *Industrial minerals and their uses*, Noyes Publications, New Jersey.
- Czichos, H., Klaffke, D., Santner, E. and Woydt, M., 1995, Advance in tribology : the materials point of view; *Wear*, 190, pp. 155-161.
- Dadkar, N., Tomar, B.S., Satapathy, B.K. 2009, Evaluation of fly ash-filled and aramid fibre reinforced hybrid polymer matrix composites (PMC) for friction braking applications, *Materials and Design*, 30, pp. 4369–4376.
- Dadkar, N., Tomar, B.S., Satapathy, B.K., Patnaik, A., 2010, Performance assessment of hybrid composite friction materials based on fly ash–rock fibre combination, *Materials and Design*, 31, pp. 723–731.
- El-Tayeb, N.S. and Gadelrab, R.M., 1996, Friction and Wear Properties of E-Glass Fiber Reinforced Epoxy Composites Under Different Sliding Contact Conditions, *Wear*, 192, pp. 112-117.
- El-Tayeb, N.S.M. and Liew, K.W., 2009, On the Dry and Wet Sliding Performance of Potentially New Frictional Brake Pad Materials for Automotive Industry, *Wear*, 266, pp. 275-287.
- Eriksson, M., Lord, J., Jacobson S., 2001, Wear and contact conditions of brake pads : dynamical in situ studies of pad on glass, *Wear*, 249, pp. 272–278.
- Eriksson, M., Jacobson, S., 2000, Tribological surfaces of organic brake pads, *Tribology International*, 33, pp. 817–827.
- Ertan, E. and Yavuz, N., 2010, An experimental study on the effects of manufacturing parameters on the tribological properties of brake lining materials, *Wear*, 268, pp. 1524–1532.

- Ferrer, C., Pascual, M., Busquets, D. and Rayon, E., 2010, Tribological Study of Fe-Cu-Cr-Graphite Alloy and Cast Iron Railway Brake Shoes by Pin-on-Disc Technique, *Wear*, 268, pp. 784-789.
- Gibson, R.F., 1994, *Principles of Composite Material Mechanics*, McGraw-Hill, New York.
- Ho, S. C., Lin, J.H.C. and Ju, C.P., 2005, Effect of Phenolic Content on Tribological Behavior of Carbonized Copper-Phenolic Based Friction Material, *Wear*, 258, pp. 1764-1774.
- Hee, K.W., Filip, P., 2005, Performance of ceramic enhanced phenolic matrix brake lining materials for automotive brake linings, *Wear*, 259, pp. 1088-1096.
- Holman, J.P, 1986, *Heat Transfer*, McGraw-Hill, New York.
- Hirasata, K., Hayashi, K. and Inamoto, Y., 2007, Friction and wear of several kinds of cast irons under severe sliding conditions, *Wear*, 263, pp. 790-800.
- Jang, H., Lee, J.S. and Fash, J.W., 2001, Compositional Effects of the Brake Friction Material on Creep Groan Phenomena, *Wear*, 251, pp. 1477-1483.
- Jang, H., Ko, K., Kim, S.J., Basch, R.H., Fash, J.W., 2004, The effect of metal fibers on the friction performance of automotive brake friction materials, *Wear*, 256, pp. 406-414.
- Kim, M.S., 2012, Development of the Braking Performance Evaluation Technology for High Speed Brake Dynamometer, *International Journal of Systems Applications Engineering and Development*, 6(1), pp. 122-129.
- Kim, S.J., Kim, K.S., and Jang, H., 2003, Optimization of Manufacturing Parameters for a Brake Lining Using Taguchi Method, *Journal of Materials Processing Technology*, 136, pp. 202-208.
- Kolluri, D.K., Boidin, X., Desplanhques, Y., Degallaix, G., Ghosh, A.K, Kumar, M. and Bijwe, J., 2010, Effect of Natural Graphite Particle Size in Friction Materials on Thermal Localization Phenomenon During Stop-Braking, *Wear*, 268, pp. 1472-1482.

- Kumar, M. and Bijwe, J., 2010, Role of Different Metallic Fillers in Non-Asbestos Organic (NAO) Friction Composites for Controlling Sensitivity of Coefficient of Friction to Load and Speed, *Tribology International*, 43, pp. 965-974.
- Kumar, M. and Bijwe, J., 2011, Composite Friction Materials Based on Metallic Fillers: Sensitivity of  $\mu$  to Operating Variables, *Tribology International*, 44, pp. 106-113.
- Kuram, E., Simsek, B.T., Ozcelik, B., Demirbas, E. and Askin, S., 2010, Optimization of the Cutting Fluids and Parameter Using Taguchi and ANOVA in Milling, *Proceeding on the World Congress on Engineering*, 30 June- 2 July 2010, London.
- Kukutschova, J., Roubicek, V., Maslan, M., Jancik, D., Slovak, V., Malachova, K., Pavlickova, Z., Filip, P., 2010, Wear performance and wear debris of semimetallic automotive brake materials, *Wear*, 268, pp. 86–93.
- Lee, GY., Dharan, C.K.H. and Ritchie, R.O., 2011, A Physically-Based Abrasive Wear Model for Composite Materials, [www.lbl.gov/ritchie/Library/PDF/Gun.pdf](http://www.lbl.gov/ritchie/Library/PDF/Gun.pdf).
- Liang, J.Z. and Liu, G.S., 2009, A New Heat Transfer Model of Inorganic Particulate-Filled Polymercomposites, *J. Mater Sci*, 44, pp. 4715–4720.
- Lu, Y., 2004, Optimization of a Semimetallic Friction Material Formulation, *Journal of Reinforced Plastics and Composites*, 23(14), pp. 1537-1545.
- Matsuo, Y., Clarke, D.D. and Ozeki S., 2010, Friction, in : L. Pilato (Ed.), *Phenolic Resin : a Century of Progress*, Springer-Verlag, Berlin, pp. 345-362.
- Matejka, V, Martynkova, G.S., Ma, Y. and Lu, Y., 2009, Semimetallic Brake Friction Materials Containing ZrSiO<sub>4</sub> : Friction Performance and Friction Layer Evaluation, *Journal of Composite Materials*, 43(13), pp. 1421-1434.
- Miracle, D.B.and Donaldson, S.L., 2001, Introduction to Composite, in : Miracle, D.B.and Donaldson, S.L. (Volume Chair), *ASM Handbook*, 21 (Composite), ASM International.

- Miyauchi, T., Tsujimura, T., Handa, K., Nakayama, J. and Shimizu, K., 2009, Influence of Silicone Carbide Filters in Cast Iron Composite Brake Blocks on Brake Performance and Development of a Production Process, *Wear*, 267, pp. 833-838.
- Mohanty, S. and Chugh, Y.P., 2007, Development of *Fly ash* Based Automotive Brake Lining, *Tribology International*, 40, pp. 1217-1224.
- Morrison, T.N., 2004, Practical Guidelines for the Efficient Postbaking of Molded Phenolics, *Presented Paper at Topical Conference (RETEC) : Imagination & Implementation - Thermosets 2004*, 24-26 March 2004, Illinois.
- Morshed, M.M. and Haseeb, ASM., 2004, Physical and Chemical Characteristic of Commercially Available Brake Shoe Lining Materials : a Comparative Study, *Journal of Materials Processing Technology*, 155-156, pp. 1422-1427.
- Mutlu, I., 2009, Investigation of Tribological Properties of Brake Pads by Using Rice Straw and Rice Husk Dust, *Journal of Applied Science*, 9 (2), pp. 377-381.
- Mutlu, I., Eldgan, O. and Findik, F., 2006, Tribological Properties of Some Phenolic Composites Suggested for Automotive Brake, *Tribology International*, 39, pp. 317-325.
- Myshkin, N.K., Petrokovets, M.I., Kovalev, A.V., 2005, Tribology of polymers : Adhesion, friction, wear, and mass-transfer, *Tribology International*, 38, pp. 910-921.
- Nidhi and Bijwe, J., 2007, NBR-Modified Resin in Fade and Recovery Module in Non-Asbestos Organic (NAO) Friction Materials, *Tribol Lett*, 27, pp. 189-196.
- Osterle, W., Dörfel, I., Prietzel, C., Rooch, H., Cristol-Bulthé, A.L., Degallaix, G., Desplanques, Y., 2009, A comprehensive microscopic study of third body formation at the interface between a brake pad and brake disc during the final stage of a pin-on-disc test, *Wear*, 267, pp.781-788.
- Osterle, W., Urban, I., 2004, Friction layers and friction films on PMC brake pads, *Wear*, 257, pp. 215-226.

- Osterle, W., Urban, I., 2006, Third body formation on brake pads and rotors, *Tribology International*, 39, pp. 401–408.
- Osterle, W., Kloß, H., Urban, I., Dmitriev, A.I., 2007, Towards a better understanding of brake friction materials, *Wear*, 263, pp. 1189–1201.
- Palmer, B.B. and Weintraub, M.H., 2000, The Role of Engineered Cashew Particles on Performance, in : Barton, D. and Earle, S. (Ed.), *Brakes 2000*, Professional Engineering Publishing Limited, London, UK, pp. 185-195.
- Pascault, J.P., Sautereau, H., Verdu, J. dan Williams, R.J.J., 2002, *Thermosetting Polymers*, Marcel Dekker Inc., New York.
- Paukert, 2007, *UIC Activities on Composite Brake Shoes*, European Railway Review – Part 2, [www.europeanrailwaysreview.com/tag/uic/page](http://www.europeanrailwaysreview.com/tag/uic/page).
- Program Studi S1 Teknik Mesin Jurusan Teknik Mesin dan Industri Fakultas Teknik Universitas Gadjah Mada, 2014, Pengukuran Konduktivitas Termal, di dalam *Petunjuk Pelaksanaan Praktikum Laboratorium Perpindahan Kalor dan Massa*.
- A.R. Riahi, A.R. and Alpas, A.T., 2003, Wear map for grey cast iron, *Wear*, 255, pp. 401–409.
- Rohatgi, P.K., Weiss, D. and Gupta, N., 2006, Applications of *Fly ash* in Synthesizing Low Cost MMCs for Automotive and other Applications, *JOM*, Nov 2006, pp. 71-76.
- Roy, R., 1990, *A primer on the Taguchi Method*, Van Nostrand Reinhold, New York.
- Saffar, A. and Shojaei, A., 2011, Effect of Rubber Component on the Performance of Brake Friction Materials, *Wear*, doi : 10.1016/j. wear.2011.09.012.
- Saffar, A. Shojaei, A. and Arjmand, M., 2010, Theoretical and Experimental Analysis of the Thermal, Fade and Wear Characteristics of Rubber – Based Composite Friction Materials, *Wear*, 269, pp. 145-151.
- Satapathy, B.K. and Bijwe, J., 2004, Wear Data Analysis of Friction Materials to Investigate the Simultaneous Influence of Operating Parameters and Compositions, *Wear*, 256, pp. 797-804.

- Satapathy, B.K., and Bijwe, J., 2006, Composite Friction Materials Based on Organic Fibres : Sensitivity of Friction and Wear to Operating Variables, *Composites - Part A*, 37, pp. 1557–1567.
- Satapathy, B.K., Patnaik, ., Dadkar, N., Kolluri, .K. and Tomar, B.S., 2011, Influence of Vermiculite on Performance of Flyash-based Fibre-reinforced Hybrid Composites as Friction Materials, *Materials and Design*, 32, pp. 4354–4361.
- Shin, M.W., Cho, K.H., Lee, WK. and Jang, H., 2010, Tribological Characteristics of Binder Resins for Brake Friction Materials at Elevated Temperatures, *Tribological Lett.*, 38, pp. 161-168, DOI 10.1007/s1 1249-010-9586-4.
- Shojaei, A., Fahimian, M. and Derakhshandeh, B., 2007, Thermally Conductive Rubber-Based Composite Friction Materials for Railroad Brakes – Thermal Conduction Characteristics, *Composites Science and Technology*, 67, pp. 2665-2674.
- Smith, W.F., 1993, *Structure and Properties of Engineering Alloys*, McGraw-Hill Book Co., Singapore.
- Solomon, D.G. and Berhan, M.N., 2007, Characterization of Friction Material Formulation for Brake Pad, *Proceeding on the World Congress on Engineering*, 2, July 2 - 4, 2007, London, UK.
- Stolarski, T.A., 1990, *Tribology in Machine Design*, Butterworth, Oxford.
- Subyanto, M., 1977, *Dinamika Kendaraan Rel*, Bandung.
- Thuresson, D., 2004, Influence of Material Properties on Sliding Contact Braking Application, *Wear*, 257, pp. 451-460.
- Vernersson, T., 1999, Thermally Induced Roughness of Tread-Braked Railway Wheels Part 1 : Brake Rig Experiments, *Wear*, 236, pp. 96-105.
- Wallenberger, F.T., Watson, J.C., and Li, H., 2001, Glass Fibers, in : Miracle, D.B. and Donaldson, S.L. (Volume Chair), *ASM Handbook*, 21 (Composite), ASM International.
- Wu, Y., Zeng, M., Xu, Q., Hou, S., Jin H., and Fan, L., 2012., Effects of Glass-to-Rubber Transition of Thermosetting Resin Matrix on the Friction and

Wear Properties of Friction Material, *Tribology International*, 54, pp. 51–57.

Yang, W.H. and Tarng, Y.S., 1998, Design Optimization of Cutting Parameters for Turning Operations Based on the Taguchi Method, *Journal of Materials Processing Technology*, 84, pp. 122-129.

Yi, G., Yan, F., 2007, Mechanical and tribological properties of phenolic resin-based friction composites filled with several inorganic fillers, *Wear*, 262, pp. 121–129.

Yoon S.W., Shin M.W., Lee W.G. and Jang H., 2012, Effect of Surface Contact Conditions on the Stick–Slip Behavior of Brake Friction Material, *Wear*, 294–295, pp. 305-312.