

DAFTAR PUSTAKA

- Abanilla, M. A., Karbhari, V. M., & Li, Y. (2006). Interlaminar and intralaminar durability characterization of wet layup carbon/epoxy used in external strengthening. *Composites Part B: Engineering*, 37(7–8), 650–661. <https://doi.org/10.1016/j.compositesb.2006.02.023>
- ACI Committe 440. (2008). *Guide for the Design and Construction of Externally Bonded FRP Systems for Strengthening Concrete Structures (ACI 440.2R-08)*.
- Akkas, A. M. (2008). *Struktur beton Bertulang I*. Jurusan Teknik Sipil Universitas Hasanuddin.
- Alawar, A., Hamed, A. M., & Al-Kaabi, K. (2009). Characterization of treated date palm tree fiber as composite reinforcement. *Composites Part B: Engineering*, 40(7), 601–606. <https://doi.org/10.1016/j.compositesb.2009.04.018>
- ASTM D3039/D3039M - 00. (2012). *Standard Test Method for Tensile Properties of Polymer Matrix Composite Materials*.
- ASTM D3039/D3039M - 14. (2014). *Standard test method for tensile properties of polymer matrix composite materials*.
- Attanayaka, A., Duyar, O., Liang, X., Aktan, H., & Ng, K. (2003). Fundamentals of use of penetrating sealants for concrete bridge deck protection. *TRB 2003 Annual Meeting*.
- Azwar, M., Saidi, T., Hasan, M., & Amalia, Z. (2022). Studi Perilaku Lekatan Antara Beton Dan Natural Fiber Reinforced Polymer (Nfrp) Dengan Uji Lekatan Geser. *Jurnal Arsip Rekayasa Sipil Dan Perencanaan*, 5(2), 318–326. <https://doi.org/10.24815/jarsp.v5i2.25081>
- Badan Standardisasi Nasional. (1990). SNI 03-1974-1990 Metode Pengujian Kuat Tekan Beton. *Badan Standardisasi Nasional Indonesia*, 2–6.
- Badan Standardisasi Nasional. (2002). SNI 03-2847-2002 Tata cara perhitungan struktur beton untuk bangunan gedung. *Badan Standardisasi Nasional Indonesia*.
- Badan Standardisasi Nasional. (2004). SNI 15-2409-2008 Semen Portland. *Badan Standardisasi Nasional Indonesia*, 1–128.
- Badan Standardisasi Nasional. (2019). SNI 2847:2019 Persyaratan Beton Struktural untuk Bangunan Gedung. *Badan Standardisasi Nasional Indonesia*, 8, 720.
- Badan Standardisasi Nasional. (2008). SNI 1969: 2008 Cara Uji Berat Jenis dan Penyerapan Air Agregat Kasar. *Badan Standardisasi Nasional*, 20.
- Barba, B. J. D., Madrid, J. F., & Penaloza, D. P. (2020). A review of abaca fiber-

- reinforced polymer composites: Different modes of preparation and their applications. *Journal of the Chilean Chemical Society*, 65(3), 4919–4924. <https://doi.org/10.4067/s0717-97072020000204919>
- Ben Dror, E., & Rabinovitch, O. (2016). Size effect in the debonding failure of FRP strengthened beams. *Engineering Fracture Mechanics*, 156(February), 161–181. <https://doi.org/10.1016/j.engfracmech.2016.02.007>
- Bledzki, A. K., & Gassan, J. (1999). Composites reinforced with cellulose_Bledzki_1999.pdf. *Progress in Polymer Science*, 24, 221–274. http://ac.els-cdn.com/S0079670098000185/1-s2.0-S0079670098000185-main.pdf?_tid=af34542c-0260-11e7-a49c-00000aab0f27&acdnat=1488800173_c95596c7ddcc4673fe88c8ec84262bb9
- Boopathi, L., Sampath, P. S., & Mysamy, K. (2012). Investigation of physical, chemical and mechanical properties of raw and alkali treated Borassus fruit fiber. *Composites Part B: Engineering*, 43(8), 3044–3052. <https://doi.org/10.1016/j.compositesb.2012.05.002>
- Cai, M., Takagi, H., Nakagaito, A. N., Li, Y., & Waterhouse, G. I. N. (2016). Effect of alkali treatment on interfacial bonding in abaca fiber-reinforced composites. *Composites Part A: Applied Science and Manufacturing*, 90, 589–597. <https://doi.org/10.1016/j.compositesa.2016.08.025>
- Chen, Y., Davalos, J. F., Ray, I., & Kim, H. Y. (2007). Accelerated aging tests for evaluations of durability performance of FRP reinforcing bars for concrete structures. *Composite Structures*, 78(1), 101–111. <https://doi.org/10.1016/j.compstruct.2005.08.015>
- Demis, S., Pilakoutas, K., & Apostolopoulos, C. A. (2010). Effect of corrosion on bond strength of steel and non-metallic reinforcement. *Materials and Corrosion*, 61(4), 328–331. <https://doi.org/10.1002/maco.200905324>
- Diab, H. M. (2013). Performance of different types of FRP sheets bonded to concrete using flexible adhesive. *The Online Journal of Science and Technology*, 3(2), 116–126.
- Diab, H. M., & Farghal, O. A. (2014). Bond strength and effective bond length of FRP sheets/plates bonded to concrete considering the type of adhesive layer. *Composites Part B: Engineering*, 58, 618–624. <https://doi.org/10.1016/j.compositesb.2013.10.075>
- Fakhruddin. (2017). Failure Mechanisms Of Widening Prestressed Concrete Deck Slabs With External Prestressing. *Tokyo Institute Of Technology*.
- Ferrier, E., Michel, L., Jurkiewicz, B., & Hamelin, P. (2011). Creep behavior of adhesives used for external FRP strengthening of RC structures. *Construction and Building Materials*, 25(2), 461–467. <https://doi.org/10.1016/j.conbuildmat.2010.01.002>

- Gil, E., & Beltran, S. (2016). Strengthening the Design Mix of Concrete Using Abaca Fiber for Reinforced Concrete Design. *IJISSET-International Journal of Innovative Science, Engineering & Technology*, 3(6), 156–164.
- Hallonet, A., Michel, L., & Ferrier, E. (2016). Investigation of the bond behavior of flax FRP strengthened RC structures through double lap shear testing. *Composites Part B: Engineering*, 100, 247–256. <https://doi.org/10.1016/j.compositesb.2016.06.049>
- Hernandez, B., Gutierrez-Duran, G., Dubon, J., Pajon, M., Rojas-Sanchez, J. F., Boesl, B., & McDaniel, D. (2019). Effect of surface contamination with mitigation methods on adhesive composite bond integrity and durability. *International SAMPE Technical Conference, 2019-May*. <https://doi.org/10.33599/nasampe/s.19.1481>
- Iovinella, I., Prota, A., & Mazzotti, C. (2013). Influence of surface roughness on the bond of FRP laminates to concrete. *Construction and Building Materials*, 40, 533–542. <https://doi.org/10.1016/j.conbuildmat.2012.09.112>
- Irshidat, M. R., & Al-Saleh, M. H. (2016). Effect of using carbon nanotube modified epoxy on bond-slip behavior between concrete and FRP sheets. *Construction and Building Materials*, 105, 511–518. <https://doi.org/10.1016/j.conbuildmat.2015.12.183>
- Jirawattanasomkul, T., Ueda, T., Likitlersuang, S., Zhang, D., Hanwiboonwat, N., Wuttiwannasak, N., & Horsangchai, K. (2019). Effect of natural fibre reinforced polymers on confined compressive strength of concrete. *Construction and Building Materials*, 223, 156–164. <https://doi.org/10.1016/j.conbuildmat.2019.06.217>
- Julian, E. O. (2008). *Perbandingan kekuatan mekanis komposit serat pisang abaka dengan peraturan klasifikasi untuk aplikasi badan kapal*.
- Ko, H., & Sato, Y. (2004). Analysis of FRP-strengthened RC members with varied sheet bond stress-slip models. *Journal of Advanced Concrete Technology*, 2(3), 317–326. <https://doi.org/10.3151/jact.2.317>
- Kobayashi, K., Kimura, S., Togawa, E., & Wada, M. (2011). Crystal transition from Na-cellulose IV to cellulose II monitored using synchrotron X-ray diffraction. *Carbohydrate Polymers*, 83(2), 483–488. <https://doi.org/10.1016/j.carbpol.2010.08.006>
- Lau, D. (2012). Moisture-induced Debonding in Concrete-epoxy Interface. *HKIE Transactions Hong Kong Institution of Engineers*, 19(3), 33–38. <https://doi.org/10.1080/1023697X.2012.10668995>
- Masuelli, M. A. (2013). *Introducing of Fibre Reinforced Polymers – Polymers And Composites*.
- Mata, O. R., & Atadero, R. A. (2014). Evaluation of Pull-Off Tests as a FRP–

- Concrete Bond Testing Method in the Laboratory and Field. *Practice Periodical on Structural Design and Construction*, 19(2), 1–8. [https://doi.org/10.1061/\(asce\)sc.1943-5576.0000170](https://doi.org/10.1061/(asce)sc.1943-5576.0000170)
- McComac, J. C. (2001). *Desain Beton Bertulang Edisi Kelima Jilid 1 dan 2*. Erlangga.
- Meaud, C., Jurkiewicz, B., & Ferrier, E. (2011). Investigation of creep effects in strengthened RC structures through double lap shear testing. *Composites Part B: Engineering*, 42(3), 359–366. <https://doi.org/10.1016/j.compositesb.2010.12.024>
- Molina, M., Cruz, J. J., Oller, S., Barbat, A. H., & Gil, L. (2011). Behaviour of the interface between concrete and FRP using serial/parallel mixing theory | Comportamiento de la interfaz concreto-epoxi-frp utilizando la teoría de mezclas serie/paralelo. *Ingenieria e Investigacion*, 31(3), 26–39.
- MONTI, G., RENZELLI, M., & LUCIANI, P. (2003). *Frp Adhesion in Uncracked and Cracked Concrete Zones*. July, 183–192. https://doi.org/10.1142/9789812704863_0015
- Mostofinejad, D., Heydari Mofrad, M., Hosseini, A., & Heydari Mofrad, H. (2018). Investigating the effects of concrete compressive strength, CFRP thickness and groove depth on CFRP-concrete bond strength of EBROG joints. *Construction and Building Materials*, 189, 323–337. <https://doi.org/10.1016/j.conbuildmat.2018.08.203>
- Mwaikambo, L. Y., & Ansell, M. P. (2002). Chemical modification of hemp, sisal, jute, and kapok fibers by alkalization. *Journal of Applied Polymer Science*, 84(12), 2222–2234. <https://doi.org/10.1002/app.10460>
- Pan, J., & Leung, C. K. (2007). Effect of Concrete Composition on FRP/Concrete Bond Capacity. *Journal of Composites for Construction*, 11(6), 611–618. [https://doi.org/10.1061/\(asce\)1090-0268\(2007\)11:6\(611\)](https://doi.org/10.1061/(asce)1090-0268(2007)11:6(611))
- Pane, F. P., Tanudjaja, H., & R.S. Windah. (2015). Pengujian Kuat Tarik Belah Dengan Variasi Kuat Tekan Beton. *Jurnal Sipil Statik*, 3(5), 313–321.
- Polii, R. A., Sumajouw, M. D. J., & Windah, R. S. (2015). Kuat Tekan Beton Dengan Variasi Agregat Yang Berasal Dari Beberapa Tempat Di Sulawesi Utara. *Jurnal Sipil Statik*, 3(3), 206–211. <https://ejournal.unsrat.ac.id/index.php/jss/article/view/8159>
- Putri, F. R. H., Alami, F., & Purwanto, E. (2019). Perilaku Respon Lekatan Tarik Antara FRP (Fiber Reinforced Polymer) dengan Beton Normal. *Jrsdd*, 7(1), 11–20.
- Realfonzo, R., & Napoli, A. (2011). Concrete confined by FRP systems: Confinement efficiency and design strength models. *Composites Part B: Engineering*, 42(4), 736–755.

<https://doi.org/10.1016/j.compositesb.2011.01.028>

- Rodiawan, R., Suhdi, S., & Rosa, F. (2017). Analisa Sifat-Sifat Serat Alam Sebagai Penguat Komposit Ditinjau Dari Kekuatan Mekanik. *Turbo : Jurnal Program Studi Teknik Mesin*, 5(1), 39–43. <https://doi.org/10.24127/trb.v5i1.117>
- Saidi, T., Amalia, Z., Hasan, M., Hasanuddin, I., Salvana, W., & Akram. (2021). An experimental study on bond strength of abaca fiber as natural FRP material. *IOP Conference Series: Materials Science and Engineering*, 1087(1), 012020. <https://doi.org/10.1088/1757-899x/1087/1/012020>
- Sangappa, Rao, B. L., Asha, S., Kumar, R. M., & Somashekar, R. (2014). Physical, chemical, and surface properties of alkali-treated Indian hemp fibers. *Composite Interfaces*, 21(2), 153–159. <https://doi.org/10.1080/15685543.2013.855485>
- Santos, P. M. D., & Júlio, E. N. B. S. (2013). A state-of-the-art review on roughness quantification methods for concrete surfaces. *Construction and Building Materials*, 38, 912–923. <https://doi.org/10.1016/j.conbuildmat.2012.09.045>
- Sciolti, M. S., Frigione, M., & Aiello, M. A. (2010). Wet Lay-Up Manufactured FRPs for Concrete and Masonry Repair: Influence of Water on the Properties of Composites and on Their Epoxy Components. *Journal of Composites for Construction*, 14(6), 823–833. [https://doi.org/10.1061/\(asce\)cc.1943-5614.0000132](https://doi.org/10.1061/(asce)cc.1943-5614.0000132)
- Senobaan, E. (2016). *Metode Perkuatan Girder Jembatan Menggunakan Lembaran FRP Akibat Retakan Geser (Studi Kasus: Jembatan Malelleng)*.
- Seracino, R., Oehlers, D., & Raizal Saifulnaz, M. (2005). *Towards a generic model of the intermediate crack debonding resistance of plates adhesively bonded to concrete*.
- Serbescu, A., Guadagnini, M., & Pilakoutas, K. (2013). Standardised double-shear test for determining bond of FRP to concrete and corresponding model development. *Composites Part B: Engineering*, 55, 277–297. <https://doi.org/10.1016/j.compositesb.2013.06.019>
- Shrestha, J., Zhang, D., & Ueda, T. (2017). Bond-Slip Models for FPR-Concrete Interfaces Subjected to Moisture Conditions. *International Journal of Polymer Science*, 2017. <https://doi.org/10.1155/2017/4031565>
- Siddika, S., Mansura, F., Hasan, M., & Hassan, A. (2014). Effect of reinforcement and chemical treatment of fiber on The Properties of jute-coir fiber reinforced hybrid polypropylene composites. *Fibers and Polymers*, 15(5), 1023–1028. <https://doi.org/10.1007/s12221-014-1023-0>
- Silva, M. A. G., & Biscaia, H. (2008). Degradation of bond between FRP and RC beams. *Composite Structures*, 85(2), 164–174. <https://doi.org/10.1016/j.compstruct.2007.10.014>

- Sumekto, W., & Rahmadiyanto, C. (2001). *Teknologi Beton*.
- Tampi, R. W., Parung, H., Djamaluddin, R., & Amiruddin, A. A. (2019). FLEXURAL BEHAVIOR OF REINFORCED CONCRETE BEAM USING ABACA FIBER. *International Journal of Civil Engineering and Technology (IJCIET)*, 10(10), 54–63.
- Toutanji, H., & Ortiz, G. (2001). The effect of surface preparation on the bond interface between FRP sheets and concrete members. *Composite Structures*, 53(4), 457–462. [https://doi.org/10.1016/S0263-8223\(01\)00057-5](https://doi.org/10.1016/S0263-8223(01)00057-5)
- Vijayalakshmi, K., Neeraja, C. Y. K., Kavitha, A., Hayavadana, J., & Professor, A. (2014). Abaca Fibre. *Transactions on Engineering and Sciences*, 2(9), 16–19.
- Widyaningsih, E., Herbudiman, B., & Hardono, S. (2016). Kajian Eksperimental Kapasitas Sambungan Material Fiber Reinforced Polymer. *RekaRacana: Jurnal Teknik Sipil*, 2(3), 29. <https://ejurnal.itenas.ac.id/index.php/rekaracana/article/view/1119>
- Wong, K. J., Yousif, B. F., & Low, K. O. (2010). The effects of alkali treatment on the interfacial adhesion of bamboo fibres. *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 224(3), 139–148. <https://doi.org/10.1243/14644207JMDA304>
- Yuan, H., Teng, J. G., Seracino, R., Wu, Z. S., & Yao, J. (2004). Full-range behavior of FRP-to-concrete bonded joints. *Engineering Structures*, 26(5), 553–565. <https://doi.org/10.1016/j.engstruct.2003.11.006>