

4. Chen, J.-F., Teng, J.-G. Shear capacity of FRP-strengthened RC beams: FRP debonding. *Construction and Building Materials*. 2003.17(1). Pp. 27–41. DOI: 10.1016/S0950-0618(02)00091-0
5. Volkova, A., Rybakov, V., Seliverstov, A., Petrov, D., Smignov, A. Lightweight steel concrete structures slab panels load-bearing capacity. *MATEC Web of Conferences*. 2018. 245. 08007. doi.org/10.1051/mateconf/201824508008
6. Vatin, N.I., Velichkin, V.Z., Kozinets, G.L., Korsun, V.I., Rybakov, V.A., Zhuvak, O.V. Precast-monolithic reinforced concrete beam-slabs technology with claydit blocks. *Construction of Unique Buildings and Structures*. 2018. 70(7). Pp. 43–59. DOI: 10.18720/CUBS.70.4
7. Rybakov, V.A., Kozinets, K.G., Vatin, N.I., Velichkin, V.Z., Korsun, V.I. Lightweight steel concrete structures technology with foam fiber-cement sheets. *Magazine of Civil Engineering*. 2018. 82(6). Pp. 103–111. DOI: 10.18720/MCE.82.10
8. Shen, K., Wan, S., Mo, Y.L., Jiang, Z. Theoretical analysis on full torsional behavior of RC beams strengthened with FRP materials. *Composite Structures*. 2018. 183(1). Pp. 347–357. DOI: 10.1016/j.compstruct.2017.03.084.
9. Jariwala, V.H., Patel, P., Purohit, S.P. Strengthening of RC beams subjected to combined torsion and bending with GFRP composites. *Procedia Engineering*. 2013. 51(1). Pp. 282–289. DOI: 10.1016/j.proeng.2013.01.038
10. Amulu, C.P., Zeagu, C.A. Experimental and analytical comparison of torsion, bending moment and shear forces in reinforced concrete beams using BS 8110, euro code 2 and ACI 318 provisions. *Nigerian Journal of Technology*. 2017. 36(3). Pp. 705–711. DOI: 10.4314/njt.v36i3.7.
11. Alabdulhady, M.Y., Sneed, L.H., Carloni, C. Torsional behavior of RC beams strengthened with PBO-FRCM composite—An experimental study. *Engineering Structures*. 2017. 136(1). Pp. 393–405. DOI: 10.1016/j.engstruct.2017.01.044
12. Ameli, M., Ronagh, H.R., Dux, P.F. Behavior of FRP strengthened reinforced concrete beams under torsion. *Journal of Composites for Construction*. 2007. 11(1). Pp.192–200. DOI: 10.1061/(ASCE)1090-0268(2007)11:2(192)
13. Chalioris, C.E. Tests and analysis of reinforced concrete beams under torsion retrofitted with FRP strips. *Computational Methods and Experimental Measurements XIII*. 2007. 46(1). Pp. 633–642. DOI: 10.2495/CMEM070631
14. Hii, A.K.Y., Al-Mahaidi, R. Experimental investigation on torsional behavior of solid and box-section RC beams strengthened with CFRP using photogrammetry. *Journal of Composites for Construction*. 2006. 10(1). Pp. 321–329. DOI: 10.1061/(ASCE)1090-0268(2006)10:4(321)
15. Jing, M., Raongjant, W., Li, Z. Torsional strengthening of reinforced concrete box beams using carbon fiber reinforced polymer. *Composite Structures* 2007. 78(1). Pp. 264–270. DOI: 10.1016/j.compstruct.2005.10.017
16. Chalioris, C.E. Torsional strengthening of rectangular and flanged beams using carbon fibre-reinforced-polymers—experimental study. *Construction and Building Materials*. 2008. 22(1). Pp. 21–29. DOI: 10.1016/j.conbuildmat.2006.09.003
17. Deifalla, A., Ghobarah, A. Strengthening RC T-beams subjected to combined torsion and shear using FRP fabrics: experimental study. *Journal of Composites for Construction*. 2010. 14(1). Pp. 301–311. DOI: 10.1061/(ASCE)CC.1943-5614.0000091
18. Salom, P.R., Gergely, J., Young, D.T. Torsional strengthening of spandrel beams with fiber-reinforced polymer laminates. *Journal of Composites for Construction*. 2004. 8(1). Pp. 157–162. DOI: 10.1061/(ASCE)1090-0268(2004)8:2(157)
19. He, R., Sneed, L.H., Belarbi, A. Torsional repair of severely damaged column using carbon fiber-reinforced polymer. *Aci Structural Journal*. 2014.111(1). Pp. 705–716. DOI: 10.14359/51686627
20. Yang, Y., Sneed, L., Saïidi, M.S., Belarbi, A., Ehsani, M., He, R. Emergency repair of an RC bridge column with fractured bars using externally bonded prefabricated thin CFRP laminates and CFRP strips. *Composite Structures* 2015. 133(1). Pp. 727–738. DOI: 10.1016/j.compstruct.2015.07.045
21. Gonzalez-Libreros, J.H., Sneed, L.H., D'Antino, T., Pellegrino, C. Behavior of RC beams strengthened in shear with FRP and FRCM composites. *Engineering Structures*. 2017. 150(1). Pp. 830–842. DOI: 10.1016/j.engstruct.2017.07.084.
22. Ghobarah, A., Ghorbel, M.N., Chidiac, S.E. Upgrading torsional resistance of reinforced concrete beams using fiber-reinforced polymer. *Journal of Composites for Construction*. 2002. 6(1). Pp. 257–263. DOI: 10.1061/(ASCE)1090-0268(2002)6:4(257)
23. Hii, A.K.Y., Al-Mahaidi, R. An experimental and numerical investigation on torsional strengthening of solid and box-section RC beams using CFRP laminates. *Composite Structures*. 2006. 75(1). Pp. 213–221. DOI: doi.org/10.1016/j.compstruct.2006.04.050
24. Ganganagoudar, A., Mondal, T.G., Suriya Prakash, S. Analytical and finite element studies on behavior of FRP strengthened RC beams under torsion. *Composite Structures*. 2016. 153(1). Pp. 876–885. DOI: 10.1016/j.compstruct.2016.07.014
25. Al-Rousan, R., Abo-Msamh, I. Bending and Torsion Behaviour of CFRP Strengthened RC Beams. *Magazine of Civil Engineering*. 2019. 92(8). Pp. 62–71. DOI: 10.18720/MCE.92.8
26. Mahmood, M.N. Nonlinear analysis of reinforced concrete beams under pure torsion. *Journal of Applied Sciences*. 2007. 7(22). Pp. 3524–3529. DOI: 10.3923/jas.2007.3524.3529
27. Prabaghar, A., Kumaran, G. Theoretical study on the behavior of rectangular concrete beams reinforced internally with GFRP reinforcements under pure torsion. *International Journal of Civil and Structural Engineering*. 2011. 2(2). Pp. 570–594. DOI: 10.6088/ijcser.00202010134.
28. Elwan, S.K. Torsion strengthening of RC beams using CFRP (parametric study). *Journal of Civil Engineering*. 2017. 21(4). Pp. 1273–1281. DOI: 10.1007/s12205-016-0156-7.
29. Zojaji, A.R., Kabir, M.Z. Analytical approach for predicting full torsional behavior of reinforced concrete beams strengthened with FRP materials. *Scientia Iranica*. 2012. 19(2). Pp. 51-63. DOI: 10.1016/j.scient.2011.12.004.
30. Gesund, H., Schuette, F.J., Buchanan, G.R., Gray, G.A. Ultimate strength in combined bending and torsion of concrete beams containing both longitudinal and transverse reinforcement. *Journal of the American Concrete Institute*. 1964. 61(12). Pp. 1509–1522. DOI: 10.1680/mac.1968.20.64.155.
31. Jariwala, V.H., Patel, P.V., Purohit, S.P. Strengthening of RC Beams Subjected to Combined Torsion and Bending with GFRP Composites. *Procedia Engineering*. 2013. 51(1). Pp. 282-289. DOI: 10.1016/j.proeng.2013.01.038

Contacts:

Rajai Al-Rousan, rzalrousan@just.edu.jo
 Isra'a Abo-Msamh, iabomsamh@gmail.com