

REFERENCES

- Al-Joulani, N. M. A. (2019). Effect of Using Tertiary Treated Wastewater from Nablus Wastewater Treatment Plant (NWWTP), On Some Properties of Concrete. *International Journal of Innovative Technology and Exploring Engineering*, 8(11), 2460–2466. <https://doi.org/10.35940/ijitee.K1709.0981119>
- Anastasiou, E., Papachristoforou, M., Anesiadis, D., Zafeiridis, K., & Tsardaka, E.-C. (2018). Investigation of the Use of Recycled Concrete Aggregates Originating from a Single Ready-Mix Concrete Plant. *Applied Sciences*, 8(11), 2149. <https://doi.org/10.3390/app8112149>
- Andrew, R. M. (2019). *Global CO₂ emissions from cement production, 1928–2018*. Energy and Emissions. <https://doi.org/10.5194/essd-2019-152>
- Borger, J., Carrasquillo, R. L., & Fowler, D. W. (1994). Use of recycled wash water and returned plastic concrete in the production of fresh concrete. *Advanced Cement Based Materials*, 1(6), 267–274. [https://doi.org/10.1016/1065-7355\(94\)90035-3](https://doi.org/10.1016/1065-7355(94)90035-3)
- Brito, J., & Saikia, N. (2013). Industrial Waste Aggregates. In J. Brito & N. Saikia, *Recycled Aggregate in Concrete* (pp. 23–80). Springer London. https://doi.org/10.1007/978-1-4471-4540-0_2
- British Standard Institute (2000). *BS EN 12390-2:2000 Testing hardened concrete – Part 2: Making and curing specimens for strength tests*. British Standards Institution.
- British Standard Institute (2002). *BS EN 12390-3:2002 Testing hardened concrete – Part 3: Compressive strength of test specimens*. British Standards Institution.
- British Standard Institute (2009). *BS EN 12350-2:2009 Testing fresh concrete – Part 2: Slump test*. British Standards Institution.
- British Standard Institute (2013). *BS EN 206-1:2013 Concrete – Specification, performance, production and conformity*. British Standards Institution.
- British Standard Institute (2015). *BS 8500-2:2015 Concrete – Complementary British Standard to BS EN 206 – Part 2: Specification for constituent materials and concrete*. British Standards Institution.
- Bu, C., Liu, L., Lu, X., Zhu, D., Sun, Y., Yu, L., OuYang, Y., Cao, X., & Wei, Q. (2022). The Durability of Recycled Fine Aggregate Concrete: A Review. *Materials*, 15(3), 1110. <https://doi.org/10.3390/ma15031110>
- Cartuxo, F., De Brito, J., Evangelista, L., Jiménez, J., & Ledesma, E. (2016). Increased Durability of Concrete Made with Fine Recycled Concrete Aggregates Using Superplasticizers. *Materials*, 9(2), 98. <https://doi.org/10.3390/ma9020098>
- Cerchione, R., Colangelo, F., Farina, I., Ghisellini, P., Passaro, R., & Ulgiati, S. (2023). Life Cycle Assessment of Concrete Production within a Circular Economy Perspective. *Sustainability*, 15(14), 11469. <https://doi.org/10.3390/su151411469>
- Chauhan, S., Kotte, L., Barse, Y., Meshram, H., Gedam, P., & Bandekar, P. (2023). Comparative Study of Concrete Using Recycled Fine Aggregate. *International*

- Journal for Research in Applied Science and Engineering Technology*, 11(6), 679–685. <https://doi.org/10.22214/ijraset.2023.53726>
- Chen, C.-H., Lee, C.-M., Tung, W.-C., Wang, J.-H., Hung, C.-H., Hu, T.-H., Wang, J.-C., Lu, S.-N., & Changchien, C.-S. (2010). Evolution of full-length HBV sequences in chronic hepatitis B patients with sequential lamivudine and adefovir dipivoxil resistance. *Journal of Hepatology*, 52(4), 478–485. <https://doi.org/10.1016/j.jhep.2010.01.006>
- Correia, S. L., Souza, F. L., Dienstmann, G., & Segadães, A. M. (2009). Assessment of the recycling potential of fresh concrete waste using a factorial design of experiments. *Waste Management*, 29(11), 2886–2891. <https://doi.org/10.1016/j.wasman.2009.06.014>
- De Weerd, K., Haha, M. B., Le Saout, G., Kjellsen, K. O., Justnes, H., & Lothenbach, B. (2011). Hydration mechanisms of ternary Portland cements containing limestone powder and fly ash. *Cement and Concrete Research*, 41(3), 279–291. <https://doi.org/10.1016/j.cemconres.2010.11.014>
- Delnavaz, M., Sahraei, A., Delnavaz, A., Farokhzad, R., Amiri, S., & Bozorgmehrnia, S. (2022). Production of concrete using reclaimed water from a ready-mix concrete batching plant: Life cycle assessment (LCA), mechanical and durability properties. *Journal of Building Engineering*, 45, 103560. <https://doi.org/10.1016/j.jobbe.2021.103560>
- Demirel, C., & Şimşek, O. (2018). Using Waste Concretes as Recycling Aggregate in Concrete Production and Sustainability. In S. Firat, J. Kinuthia, & A. Abu-Tair (Eds.), *Proceedings of 3rd International Sustainable Buildings Symposium (ISBS 2017)* (Vol. 6, pp. 3–10). Springer International Publishing. https://doi.org/10.1007/978-3-319-63709-9_1
- El-Hawary, M. M., & Al-Otaibib, S. F. (2017). On the Durability of Recycled Aggregates Concrete. *International Journal of Structural and Civil Engineering Research*, 1–4. <https://doi.org/10.18178/ijscer.6.1.1-4>
- El-Hawary, M. T., Koenke, C., El-Nemr, A., & Hanna, N. F. (2021). Using Recycled Concrete as a Replacement for Coarse Aggregate in the Production of Green Concrete. In H. Shehata & S. El-Badawy (Eds.), *Sustainable Issues in Infrastructure Engineering* (pp. 127–151). Springer International Publishing. https://doi.org/10.1007/978-3-030-62586-3_9
- Fernández, Á., García Calvo, J. L., & Alonso, M. C. (2018). Ordinary Portland Cement composition for the optimization of the synergies of supplementary cementitious materials of ternary binders in hydration processes. *Cement and Concrete Composites*, 89, 238–250. <https://doi.org/10.1016/j.cemconcomp.2017.12.016>
- Ferrari, G., Miyamoto, M., & Ferrari, A. (2014). New sustainable technology for recycling returned concrete. *Construction and Building Materials*, 67, 353–359. <https://doi.org/10.1016/j.conbuildmat.2014.01.008>
- Fraile-Garcia, E., Ferreiro-Cabello, J., López-Ochoa, L., & López-González, L. (2017). Study of the Technical Feasibility of Increasing the Amount of Recycled Concrete

- Waste Used in Ready-Mix Concrete Production. *Materials*, 10(7), 817. <https://doi.org/10.3390/ma10070817>
- Frondistou-Yannas, S., & Itoh, T. (1977). Economic Feasibility of Concrete Recycling. *Journal of the Structural Division*, 103(4), 885–899. <https://doi.org/10.1061/JSDEAG.0004613>
- Ghrai, A. M., Heath, A., Paine, K., & Al Kronz, M. (2020). Waste Wash-Water Recycling in Ready Mix Concrete Plants. *Environments*, 7(12), 108. <https://doi.org/10.3390/environments7120108>
- Gómez-Soberón, J. M. (2002). Shrinkage of Concrete with Replacement of Aggregate with Recycled Concrete Aggregate. *SP-209: ACI Fifth Int Conf Innovations in Design with Emphasis on Seismic, Wind and Environmental Loading, Quality Con.* SP-209: ACI Fifth Int Conf Innovations in Design with Emphasis on Seismic, Wind and Environmental Loading, Quality Con. <https://doi.org/10.14359/12516>
- Graneva, A. V., Lushin, K. I., Pulyaev, I. S., & Kudryavtseva, V. D. (2024). Circular economy in recycling concrete and reinforced concrete waste. *Nanotechnologies in Construction A Scientific Internet-Journal*, 16(1), 50–58. <https://doi.org/10.15828/2075-8545-2024-16-1-50-58>
- Gursel, A., Masanet, E., Horvath, A., & Stadel, A. (2014). Life-cycle inventory analysis of concrete production: A critical review. *Cement and Concrete Composites*, 51, 38–48. <https://doi.org/10.1016/j.cemconcomp.2014.03.005>
- Hafez, H., Kurda, R., Kurda, R., Al-Hadad, B., Mustafa, R., & Ali, B. (2020). A Critical Review on the Influence of Fine Recycled Aggregates on Technical Performance, Environmental Impact and Cost of Concrete. *Applied Sciences*, 10(3), 1018. <https://doi.org/10.3390/app10031018>
- Iizuka, A., Sakai, Y., Yamasaki, A., Honma, M., Hayakawa, Y., & Yanagisawa, Y. (2012). Bench-Scale Operation of a Concrete Sludge Recycling Plant. *Industrial & Engineering Chemistry Research*, 51(17), 6099–6104. <https://doi.org/10.1021/ie300620u>
- Kashef-Haghighi, S., Shao, Y., & Ghoshal, S. (2015). Mathematical modeling of CO₂ uptake by concrete during accelerated carbonation curing. *Cement and Concrete Research*, 67, 1–10. <https://doi.org/10.1016/j.cemconres.2014.07.020>
- Kazaz, A., Ulubeyli, S., Er, B., Arslan, V., Arslan, A., & Atici, M. (2015a). Fresh Ready-mixed Concrete Waste in Construction Projects: A Planning Approach. *Procedia Engineering*, 123, 268–275. <https://doi.org/10.1016/j.proeng.2015.10.088>
- Kazaz, A., Ulubeyli, S., Er, B., Arslan, V., Arslan, A., & Atici, M. (2015b). Fresh Ready-mixed Concrete Waste in Construction Projects: A Planning Approach. *Procedia Engineering*, 123, 268–275. <https://doi.org/10.1016/j.proeng.2015.10.088>
- Kou, S., Zhan, B., & Poon, C. (2012). Feasibility study of using recycled fresh concrete waste as coarse aggregates in concrete. *Construction and Building Materials*, 28(1), 549–556. <https://doi.org/10.1016/j.conbuildmat.2011.08.027>
- Kumar Sharma, P., & Tripathi, B. (2021). Properties of concrete containing industrial waste as a fine aggregate: A review. *IOP Conference Series: Earth and*

- Environmental Science*, 796(1), 012040. <https://doi.org/10.1088/1755-1315/796/1/012040>
- Los Santos-Ortega, J., Fraile-García, E., & Ferreiro-Cabello, J. (2024). Environmental and Economic Viability of Using Concrete Block Wastes from a Concrete Production Plant as Recycled Coarse Aggregates. *Materials*, 17(7), 1560. <https://doi.org/10.3390/ma17071560>
- Lye, C.-Q., Dhir, R. K., & Ghataora, G. S. (2016). Shrinkage of recycled aggregate concrete. *Proceedings of the Institution of Civil Engineers - Structures and Buildings*, 169(12), 867–891. <https://doi.org/10.1680/jstbu.15.00138>
- Mahakud, J., Mishra, S. P., Mohanty, R. C., & Panda, S. (2021). Management of Construction and Demolished Waste as an Aggregate Substitute in Cement Concrete. *International Journal of Environment and Climate Change*, 122–137. <https://doi.org/10.9734/ijecc/2021/v11i530415>
- Marinković, S., Radonjanin, V., Malešev, M., & Ignjatović, I. (2010). Comparative environmental assessment of natural and recycled aggregate concrete. *Waste Management*, 30(11), 2255–2264. <https://doi.org/10.1016/j.wasman.2010.04.012>
- Marsh, A. T. M., Velenturf, A. P. M., & Bernal, S. A. (2022). Circular Economy strategies for concrete: Implementation and integration. *Journal of Cleaner Production*, 362, 132486. <https://doi.org/10.1016/j.jclepro.2022.132486>
- Marshall Raman, J. V. (2017). Study on Replacement Level of Concrete Waste as Fine Aggregate in Concrete. *International Journal for Research in Applied Science and Engineering Technology*, V(II), 241–246. <https://doi.org/10.22214/ijraset.2017.2038>
- Martins, J. V., Garcia, D. C. S., Aguilar, M. T. P., & Dos Santos, W. J. (2021). Influence of replacing Portland cement with three different concrete sludge wastes. *Construction and Building Materials*, 303, 124519. <https://doi.org/10.1016/j.conbuildmat.2021.124519>
- Memon, B., Oad, M., & Buller, A. H. (2023). Effect of Fine Aggregate Type on Workability and Compressive Strength of Recycled Aggregate Concrete. *International Journal of Research and Review*, 10(4), 152–162. <https://doi.org/10.52403/ijrr.20230420>
- Mohammed, D., Tobeia, S., Mohammed, F., & Hasan, S. (2018). Compressive strength improvement for recycled concrete aggregate. *MATEC Web of Conferences*, 162, 02018. <https://doi.org/10.1051/mateconf/201816202018>
- Morandau, A., Thiéry, M., & Dangla, P. (2014). Investigation of the carbonation mechanism of CH and C-S-H in terms of kinetics, microstructure changes and moisture properties. *Cement and Concrete Research*, 56, 153–170. <https://doi.org/10.1016/j.cemconres.2013.11.015>
- Nikam, P. A., Dwivedi, A. K., & Ahirrao, S. P. (2024). A Review Paper on Assessing the Environmental Impact of Recycled Aggregate Production and Use. *Current World Environment*, 18(3), 1138–1153. <https://doi.org/10.12944/CWE.18.3.18>

- Paolini, M., & Khurana, R. (1998). Admixtures for recycling of waste concrete. *Cement and Concrete Composites*, 20(2–3), 221–229. [https://doi.org/10.1016/S0958-9465\(97\)00066-8](https://doi.org/10.1016/S0958-9465(97)00066-8)
- Pepe, M. (2015). Concrete Industry: Waste Generation and Environmental Concerns. In M. Pepe, *A Conceptual Model for Designing Recycled Aggregate Concrete for Structural Applications* (pp. 7–16). Springer International Publishing. https://doi.org/10.1007/978-3-319-26473-8_2
- Poon, C. S., Kou, S. C., & Lam, L. (2007). Influence of recycled aggregate on slump and bleeding of fresh concrete. *Materials and Structures*, 40(9), 981–988. <https://doi.org/10.1617/s11527-006-9192-y>
- Purushothaman., R., & Mani, S. (2014). STUDIES ON FRESH AND HARDENED PROPERTIES OF RECYCLED AGGREGATE CONCRETE WITH QUARRY DUST. *ACI Materials Journal*, 111(3). <https://doi.org/10.14359/51686507>
- Puthussery, J. V., Kumar, R., & Garg, A. (2017). Evaluation of recycled concrete aggregates for their suitability in construction activities: An experimental study. *Waste Management*, 60, 270–276. <https://doi.org/10.1016/j.wasman.2016.06.008>
- Rana, A., Kalla, P., & Csetenyi, L. J. (2017). Recycling of dimension limestone industry waste in concrete. *International Journal of Mining, Reclamation and Environment*, 31(4), 231–250. <https://doi.org/10.1080/17480930.2016.1138571>
- Rao, A., Jha, K. N., & Misra, S. (2007). Use of aggregates from recycled construction and demolition waste in concrete. *Resources, Conservation and Recycling*, 50(1), 71–81. <https://doi.org/10.1016/j.resconrec.2006.05.010>
- Rughooputh, R., Rana, J. O., & Joorawon, K. (2017). Possibility of using fresh concrete waste in concrete for non structural civil engineering works as a waste management strategy. *KSCE Journal of Civil Engineering*, 21(1), 94–99. <https://doi.org/10.1007/s12205-016-0052-1>
- Safiuddin, Alengaram, U. J., Salam, A., Jumaat, M. Z., Jaafar, F. F., & Saad, H. B. (2011). Properties of high-workability concrete with recycled concrete aggregate. *Materials Research*, 14(2), 248–255. <https://doi.org/10.1590/S1516-14392011005000039>
- Sealey, B. J., Phillips, P. S., & Hill, G. J. (2001). Waste management issues for the UK ready-mixed concrete industry. *Resources, Conservation and Recycling*, 32(3–4), 321–331. [https://doi.org/10.1016/S0921-3449\(01\)00069-6](https://doi.org/10.1016/S0921-3449(01)00069-6)
- Segadães, A. M. (2006). Use of phase diagrams to guide ceramic production from wastes. *Advances in Applied Ceramics*, 105(1), 46–54. <https://doi.org/10.1179/174329006X82927>
- Sharma, J., & Singla, S. (2014). Influence of Recycled Concrete Aggregates on Strength Parameters of Concrete. *International Journal of Civil Engineering*, 1(4), 20–24. <https://doi.org/10.14445/23488352/IJCE-V1I4P104>
- Singh, S., Suraj Kumar Singh, Kumar, R., Shrama, A., & Kanga, S. (2022). Finding Alternative to River Sand in Building Construction. *Evergreen*, 9(4), 973–992. <https://doi.org/10.5109/6625713>

- Supar, K., Rani, F. A. A., Mazlan, N. L., & Musa, M. K. (2021). Partial Replacement of Fine Aggregate Using Waste Materials in Concrete as Roof Tile: A Review. *IOP Conference Series: Materials Science and Engineering*, 1200(1), 012008. <https://doi.org/10.1088/1757-899X/1200/1/012008>
- Tam, V. W. Y., & Tam, C. M. (2007). Assessment of durability of recycled aggregate concrete produced by two-stage mixing approach. *Journal of Materials Science*, 42(10), 3592–3602. <https://doi.org/10.1007/s10853-006-0379-y>
- Tsimas, S., & Zervaki, M. (2011). Reuse of waste water from ready-mixed concrete plants. *Management of Environmental Quality: An International Journal*, 22(1), 7–17. <https://doi.org/10.1108/14777831111098444>
- Vaičiukynienė, D., Pundienė, I., Kantautas, A., Augonis, A., Janavičius, E., Vaičiukynas, V., & Alobeid, J. (2020). Synergistic effect of dry sludge from waste wash water of concrete plants and zeolitic by-product on the properties of ternary blended ordinary Portland cements. *Journal of Cleaner Production*, 244, 118493. <https://doi.org/10.1016/j.jclepro.2019.118493>
- Van Den Heede, P., & De Belie, N. (2012). Environmental impact and life cycle assessment (LCA) of traditional and ‘green’ concretes: Literature review and theoretical calculations. *Cement and Concrete Composites*, 34(4), 431–442. <https://doi.org/10.1016/j.cemconcomp.2012.01.004>
- Vieira, L. D. B. P., De Figueiredo, A. D., Moriggi, T., & John, V. M. (2019). Waste generation from the production of ready-mixed concrete. *Waste Management*, 94, 146–152. <https://doi.org/10.1016/j.wasman.2019.05.043>
- Worrell, E., Price, L., Martin, N., Hendriks, C., & Meida, L. O. (2001). CARBON DIOXIDE EMISSIONS FROM THE GLOBAL CEMENT INDUSTRY. *Annual Review of Energy and the Environment*, 26(1), 303–329. <https://doi.org/10.1146/annurev.energy.26.1.303>
- Xuan, D., Poon, C. S., & Zheng, W. (2018). Management and sustainable utilization of processing wastes from ready-mixed concrete plants in construction: A review. *Resources, Conservation and Recycling*, 136, 238–247. <https://doi.org/10.1016/j.resconrec.2018.04.007>
- Xuan, D., Zhan, B., Poon, C. S., & Zheng, W. (2016). Innovative reuse of concrete slurry waste from ready-mixed concrete plants in construction products. *Journal of Hazardous Materials*, 312, 65–72. <https://doi.org/10.1016/j.jhazmat.2016.03.036>
- Younes, A., Elbeltagi, E., Diab, A., Tarsi, G., Saeed, F., & Sangiorgi, C. (2024). Incorporating coarse and fine recycled aggregates into concrete mixes: Mechanical characterization and environmental impact. *Journal of Material Cycles and Waste Management*, 26(1), 654–668. <https://doi.org/10.1007/s10163-023-01834-1>
- Zega, C. J., & Di Maio, Á. A. (2011). Use of recycled fine aggregate in concretes with durable requirements. *Waste Management*, 31(11), 2336–2340. <https://doi.org/10.1016/j.wasman.2011.06.011>

- Zhang, H., Wang, Y.-Y., Lehman, D. E., & Geng, Y. (2020). Autogenous-shrinkage model for concrete with coarse and fine recycled aggregate. *Cement and Concrete Composites*, 111, 103600. <https://doi.org/10.1016/j.cemconcomp.2020.103600>
- Zhang, J., & Fujiwara, T. (2007). Concrete Sludge Powder for Soil Stabilization. *Transportation Research Record: Journal of the Transportation Research Board*, 2026(1), 54–59. <https://doi.org/10.3141/2026-07>