

RHA_SSA: PARTIAL CEMENT REPLACEMENT IN GREEN CONCRETE

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Sludge is an unavoidable product of wastewater treatment and creates disposal problems. For highly urbanized cities, sludge disposal by land filling might not be appropriate due to limitation of land. Using RHA_SSA, this study will encourage Malaysia to build more low carbon and sustainable building construction. Finding more alternative materials to enrich concrete structure in promoting the environmental sustainability is a must for Malaysia as developing country with increasing number of infrastructures built throughout the year.

This research studied the effect of partial replacement of cement by Sewage Sludge Ash (SSA) and Rice Husk Ash (RHA). The effects on the nature of concrete exhibited its mechanical properties such as compressive strength, water absorption, from a combination of sewage sludge ash and rice husk ash in different proportions. As a result, there is a potential to reuse this waste material as part of construction materials and for future waste minimization research. This project has won a gold medal in the International Innovation, Invention and Design Competition (INDES) 2020. This project was led by Nuraini Tutur and the team members were Nurakmal Hamzah, Nurhidayati Mat Daud and Hafizah Muhamad Azlan.

