

# **Influence of Recycle Concrete Aggregate and Steel Slag Powder on the Mechanical Properties of Concrete**

Prepared by: Lo Zi Soon

## **ABSTRACT**

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This paper represent the experimental result of a research project to produce concrete using waste material, recycle concrete aggregate and steel slag powder as cement and coarse aggregate partial replacement respectively. The purpose of this report is to investigate the effect of recycle aggregate and steel slag powder in concrete production to produce sustainable structure. The main objective of this report was to determine and compare the difference in mechanical properties of conventional concrete and concrete with recycle aggregate and steel slag powder. Utilizing recycle aggregate and steel slag powder in concrete production not only solves the problems of disposing these waste material but also helps conserving natural resource and it is more environmental friendly. In this research paper, workability test, compressive strength test and flexural strength test are reported. A total of 90 samples of control concrete and recycle aggregate and steel slag powder partial replacement by weight at 5%, 10%, 15% and 20% were fabricated and tested to determine the mechanical properties of concrete.

**Keywords:** Waste materials, recycle concrete aggregate, steel slag powder, mechanical properties