

## **Strength of concrete based cement using recycle ceramic waste as aggregate**

### **Abstract**

The main focus of this research is to study the strength of concrete with ceramic waste as coarse aggregate. The sources of ceramic waste are obtained from the industrial in Malaysia. Presently, in ceramics industries the production goes as waste, which is not under going the recycle process yet. The potential of recycled ceramic waste as a substitute for coarse aggregates in concrete has been investigated. The recycle ceramic waste as aggregate was used. Concrete mixes with a 28 days characteristic strength of 20 MPa were prepared using water/cement ratio of 0.4, 0.5 and 0.7. The strength development of the concrete mixes containing recycled ceramic waste aggregates was compared to that of conventional concrete. The result show that the concrete mixes containing recycled ceramic waste aggregates achieve strength levels between 80 to 95% compared to the conventional concrete. This indicates that the recycled ceramic waste has a potentially to be used as coarse aggregates for concrete.

### **Keywords**

Coarse aggregate; Recycled ceramic waste; Water-cement ratio