

## **Development of concrete eco-paving blocks using crumb rubber granules and Eco-Processed Pozzolan**

### **ABSTRACT**

This study entails processing and developing end materials in order to create reusable eco-friendly paver block products. The concepts of recycling, reuse, and recovery are critical to reduce the amount of environmental damage caused by indiscriminate trash disposal. As the necessity to recover maximum profits from the management approach is applied while guaranteeing environmental sustainability, the concept of waste to wealth emerges. The objectives of this research are to produce an "eco-friendly paver block" for pedestrian walkways formulated from waste materials such as Eco-Processed Pozzolan (EPP) and crumb rubber from waste tyres. Although the strength of the eco-paver blocks incorporating used EPP and crumb rubber increased by 33%, with water cement ratio is fixed at 0.5. The compressive strength of eco-paver blocks is higher when the EPP and crumb rubber contents are lesser. The strength increased by 35% when EPP and crumb rubber were lesser used. EPP and rubber crumb usage based on M1 design are recommended to use which only 33% of EPP content allowed. Therefore, incorporating EPP and crumb rubber as a component for cement-sand paver block allowed a more sustainable and low-cost paving blocks to be produced.