

## Review of shredded rubber into portland cement concrete

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### Abstract:

The use of scrap tyre rubber in the preparation of concrete has been thought as an alternative disposal of such waste to protect the environment. In this study an attempt has been made to identify the various properties necessary for the design of concrete mix with the coarse tyre rubber chips as aggregate in a systematic manner. In the present experimental investigation, the M20 grade concrete has been chosen as the reference concrete specimen. Scrap tyre rubber chips, has been used as coarse aggregate with the replacement of conventional coarse aggregate Concrete is one of the most popular building materials. The construction industry is always increases its uses and applications. Therefore, it is required to find alternative materials to reduce the cost of concrete. On the other hand, Non-biodegradable waste i.e. water bottles, cool drink bottles and disposable glasses, shredded or crumbed rubber etc., is creating a lot of problems in the environment and its disposal becoming a great difficulty. The objective of this paper is to investigate the use of rubber pieces as coarse aggregate in the concrete. Concrete tested with varying percentages of rubber from 0 to 15% of normal aggregates. Compressive strength, of concrete is measured and comparative analysis is made.

**Keywords:** Rubberized concrete, Waste tyres, Shredded tyres.

### Introduction

The production of tyres has increased proportionally to the production of automobiles, in Turkey. In the year 2000, total sales of tyres was around 126,000 tons of which 86,000 tons were sold directly to vehicle owners; hence, the assumption that approximately 90,000 tons of rubber tyres are replaced annually. In addition to locally manufactured tyres, imported tyres are also sold in the domestic market. Thus, based on these figures, it is estimated that the total volume of waste tyres needing disposal is approximately 120,000 tons annually.

