A Study on Buckling Behavior of Column Filled with Rubber and Graphite Powder

D.G.S.Nivedha[1], A.Geetha Selvarani[2], V.Yamini[3], M.Sridhar[4]

[1,3,4]Assistant Professor, [2]Professor, Department of Civil Engineering, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology
nive.jas92@gmail.com

ABSTRACT

The main objective of the study is to reduce the dead load and to determine the strength of column using concrete filled with rubber and graphite powder. At present the disposal of waste tyres is becoming a waste management problem in the world. It is estimated that 1.2 billions of waste tyre rubber produced globally per year. In this 11% of post used tyres are exported and 27% are sent to landfill, stockpiled or dumped illegally and only 4% is used for civil engineering projects. Several studies have been conducted to use various applications of recycled tyre rubber. Rubber powder is a waste material that is ideal for use in concrete applications. It reduces the usage of natural aggregates in the production of concrete. A study is carried out on a concrete containing waste chipped rubber & graphite powder filled pvc pipe. The specimens were casted, tested and compared with conventional concrete in terms of workability and strength. The standard sizes of 1000*150*150 mm of columns were used with a curing period of 7, 14 and 28days to determine the buckling strength of concrete.

Keywords: *buckling strength, rubber powder, graphite powder, pvc pipe, dead load.*