

## Partial Replacement of Coarse Aggregated by Using E-Waste in High Strength Concrete

Seeking parties interested in licensing and commercializing of technology.

### Applications:

- In the concrete industry, as a replacement for conventional coarse aggregates by the coarse aggregates with partial mixture of e-waste.
- Recycling of the e-waste materials into coarse aggregates.

### Technology Description:

An improved concrete composition by partial replacement of coarse aggregate with e-waste, the composition comprises 20-30 % of m-sand which is used as fine aggregate; 40-50% of OPC grade 53; 20-30 % of Coarse aggregate of size 16mm; 20-30% of E-waste of size 16mm which used as coarse aggregate. In the above admixture 0%, 5%, 10%, 15% and 20% of coarse aggregate is replaced by e-waste. The Split tensile test conducted shows that all the concrete specimens of partial replaced concrete specimens have Similar resistance to tensile force. The compressive force conducted shows that all the specimen resisted compressive force above the targeted strength (i.e.) 68.25 N/mm<sup>2</sup>, compressive strength of concrete decreases when replacement percentage increased.

### Advantages of the Technology:

- Protects the environment from the depletion of natural aggregates.
- An optimal technique of utilizing the e-waste without causing damages to the environment.

### Development Status:

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### Inventors:

- M.Annapurani
- S.Gowtham
- R.Mahesh
- R.Suriya

**Technology Transfer from the institute:** For more details

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