

Green Concrete

Anupam Kumar

Department of Civil Engineering, MMMUT Gorkhpur

Abstract—The concrete which is made using wastes which is eco-friendly is called Green concrete. It is first invent in Denmark in the year 1998. The emission CO_2 inclusive production of cement between 0.1 and 0.2 per ton of concrete. Traditional Portland cements, and display very good strength and chemical resistance properties as well as a variety of other potentially valuable characteristics. It is widely known that the widespread uptake of geo-polymer technology Europe and North America, specifically those defining minimum clinker content levels or chemical compositions in cements. Geo-polymer concrete compliance with performance-based standards is comparable to that of most other high-strength concretes. There is considerable knowledge about how to produce concrete with a reduced environmental impact “green” concrete can be applied in practice in buildings and structure properties of green concrete, such as compressive strength, durability, fire performance, casting and execution, hardening, and curing are affected.

The green concrete of use a architecture and engineer in geo-polymer form of concrete. It is a normally concrete of ordinary Portland cement in high curing. The material of controlled of environment and global warming by reduce CO_2 Emission. In using of waste rubber particle at high strength of concrete.

The present of environment outdoor tyre. It is waste tyre rubber particle but problem rubber particle do not bond concrete particle. The affect of concrete properties. Most properties high strength under compression by replacing sand with rubber particle is decrease's then under compression. Rubber particle is a physically impossible for dispersion and group make psychical bond attachment the problem as chemical solution at K_2MNO_4 to threat rubber particle.

The reducing environment impact rubber particle in concrete vaccinating building against fire earthquake and explosions.

1. INTRODUCTION

The new composite material, which is more than twice as strong and four times more water resistant. It can be used directly by the construction industry on building sites.

“Green Concrete” It is a concept of thinking environment into concrete considering every aspect from raw materials manufacture over mix design to structural design, construction, and service life.

The uses of concrete wastes like slag, power plant wastes, recycled concrete, mining and quarrying wastes, waste glass, incinerator residue, burnt clay, sawdust, combustor ash and foundry sand. **Green Concrete** is a term given to a concrete

that has extra steps taken in the mix design and placement to insure a sustainable structure and a long life cycle with a low maintenance surface. e.g. Energy saving, CO_2 emissions, waste water

The goal of the Centre for Green Concrete is to reduce the environmental impact of concrete. To enable this, new technology is developed. The technology considers all phases of a concrete construction life cycle, i.e. structural design, specification, manufacturing and maintenance, and it includes all aspects of performance.

- Mechanical properties (strength, shrinkage, creep, static behavior etc.)
- Fire resistance (spalling, heat transfer)
- Workmanship (workability, strength development, curing)
- Durability (corrosion protection, frost, new deterioration mechanisms)
- Thermodynamic properties (input to the other properties).

2. MATERIALS OF GREEN CONCRETE:

Material choice depends on several factors, including cost, life cycle and performance for a specific application

- Recycled Demolition Waste Aggregate
- Recycled Concrete Aggregate
- Blast furnace Slag
- Manufactured Sand
- Glass Aggregate
- Fly ash



3. ADVANTAGES OF GREEN CONCRETE:

- Much change is not required for the preparation of green concrete compared to conventional concrete.
- Reduces environmental pollution.
- Have good thermal and acid resistance.
- Compressive and split tensile strength is better with some materials compared to conventional concrete.
- Reduces the consumption of cement overall.
- Green concrete is economical compared to conventional concrete.
- Green concrete having better workability than conventional concrete.

4. DISADVANTAGES OF GREEN CONCRETE:

- Structures constructed with green concrete have comparatively less.
- Life than structures with conventional concrete.
- Compressive strength and other characteristics are less compared to conventional concrete.
- Water absorption is high.
- Shrinkage and creep are high compared to conventional concrete.
- Flexural strength is less in green concrete.

The use of low energy cement, recycling of crushed concrete as aggregate, the use of fly ash and micro silica, etc. There is a description of among other things the possibilities of using “green” concrete within the existing standards and specifications.

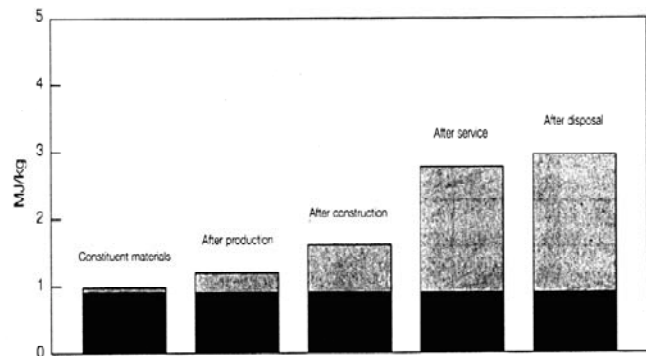
The main ingredient in concrete is cement and consists of Limestone. Approximately 1kg of cement releases about 900gms of carbon dioxide into the atmosphere.

5. APPLICATIONS

The major application of green concrete.

1. It is used the construction of bridge.
2. Can be used in road construction.

Use of building construction.



6. CONCLUSIONS

The present of review concrete is 2nd most consumed product in the world. The concrete industry is the largest user of natural resources in world. This report focuses on known benefits and limitations of a range of manufactured and recycled aggregates. Use of concrete product like green concrete in future will not only reduce the emission of CO₂ in environment and environmental impact but it is also economical to producing this use materiel of waste rubber particle. Rubber particle use in concrete the high strength of compressive.