

## **A Composition of Geopolymer Clinker Aggregate and A Process Thereof**

**Seeking parties interested in licensing and commercializing of technology.**

### **Applications:**

- In the concrete industry, as a replacement for conventional Portland cement coarse aggregates by the geopolymer clinker aggregate.

### **Technology Description:**

The composition of geopolymer clinker aggregate comprises an alkaline Solution; Fly ash; GGBS (Ground Granulated Blast-furnace Slag); Fine aggregate; Sodium Hydroxide solution and Sodium silicate solution. The mixture is mixed with water, Portland cement and adsorbents to form a concrete mix to produce the geopolymer clinker aggregates. The process for the preparation of geopolymer clinker aggregate comprises the steps of mixing an alkaline solution; fly ash; fine aggregate; sodium hydroxide solution, sodium silicate solution with water; Portland cement and adsorbents to form a concrete mix. The mortar is then cast in the moulds and compacted. It is then demoulded after 24 hours. The above moulded mixture is kept in ambient condition for about 28 days to form geopolymer clinkers. The clinkers are then subjected to crushing, sieving, and collecting aggregates. The proportions of the components are 0.01-0.05% of Alkaline solution; 20-25% of Fly Ash; 10-15% of GGBS (Ground Granulated Blast-furnace Slag); 40-45% of Fine Aggregate; 5-10% of Sodium Hydroxide 5 solution and 10-15% of Sodium Silicate Solution.

### **Advantages of the Technology:**

- The geopolymer clinker aggregate will reduce the exploitation of natural resources and emission of CO<sub>2</sub>.
- The usage of geopolymer clinker aggregate in construction reduces the water requirement.

### **Development Status:**

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