

PENDING

(IN202411048001)

Structural grade lightweight concrete using sintered flyash lightweight aggregate and process thereof

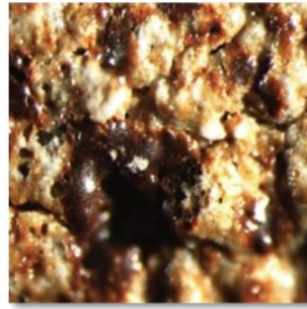


Figure-4 Microstructure of sintered flyash lightweight aggregate (10 μ m and 1.5x)

NEED

Lightweight concrete is often prone to strength issues due to improper aggregate absorption characteristics. The traditional mix designs fail to address water absorption variations, leading to inconsistencies and reduced structural integrity.

TECHNOLOGY OVERVIEW

This technology offers an advanced method for mix design of structural grade lightweight concrete using sintered flyash aggregates. The process corrects water absorption variations in aggregates, ensuring a stable, high-strength final product. It enhances the performance and reliability of lightweight concrete in construction applications.

TECHNOLOGY KEY FEATURES

The method corrects water absorption of sintered flyash aggregates by accurately adjusting the water-to-cement ratio. The optimized mix ensures stable compressive strength and reduces segregation, offering improved performance compared to traditional concrete.

[Read more here](#)

MARKET ANALYSIS

The global construction materials market is projected to grow at a CAGR of 5.1% until 2033 (source: MarketsandMarkets). Demand for high-performance concrete is rising due to infrastructure development.

Target Industries

1) Concrete manufacturers, 2) Construction material suppliers, 3) Civil engineering firms focusing on sustainable infrastructure development.

AT A GLANCE

- SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

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