



PENDING

(IN202411030230)

Method for mixing concrete with fine recycled concrete aggregate

NEED

India generates over 150 million tonnes of construction and demolition waste annually. Poor recycling methods reduce concrete strength by up to 30%, causing structural risks and material rejection. What if recycled aggregates could meet industry-grade strength with a simple remixing protocol?

TECHNOLOGY OVERVIEW

This patented method improves concrete mix quality using fine recycled aggregates (FRCA) by optimizing water absorption ratios during mixing. It ensures better cement bonding and structural consistency using FRCA sourced from crushed stone sand concrete, reducing environmental load and improving mix integrity for structural use.

TECHNOLOGY KEY FEATURES

Optimized water absorption ratios, FRCA particle size 150 μm –4.75 mm, coarse aggregate 4.75–63 mm, 10-minute soak protocol, sequential mixing, 50–100% absorption-based hydration, consistent cement slurry formation.

[Read more here](#)

MARKET ANALYSIS

The global recycled construction materials market is projected to reach \$150B by 2033, growing at a 9.2% CAGR. Key drivers include urban demolition, material circularity mandates, and sustainable infrastructure goals. [Source: IMARC Group, 2024]

Target Industries

Construction material producers and/or green concrete formulation developers, and/or sustainability-focused infrastructure and civil engineering R&D firms targeting eco-certified projects

AT A GLANCE

SDG 11 (Sustainable Cities), SDG 12 (Responsible Consumption), SDG 9 (Industry, Innovation & Infrastructure)

Technology is available for licensing/ co-development.

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