

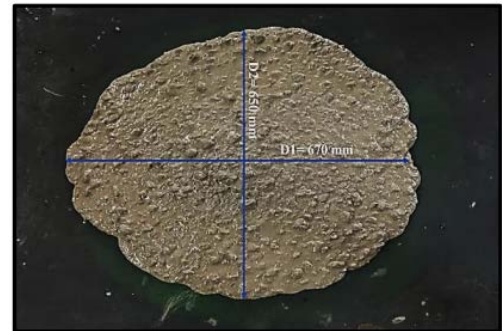
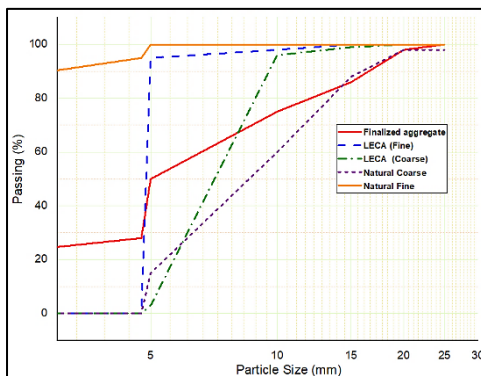
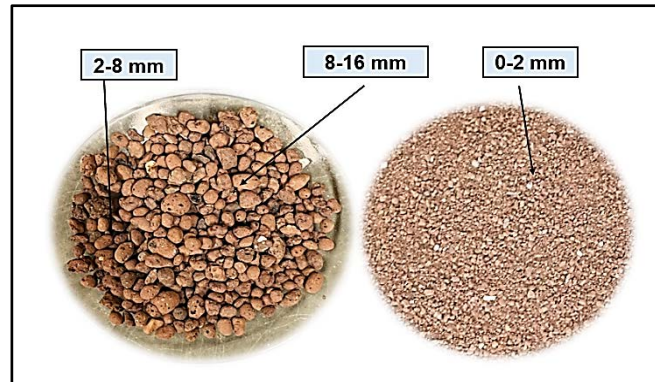
Specific Strength Attributed Self-Compacting Load Bearing Lightweight Roof/ Floor Screed Using Sintered Lightweight Aggregates

Technology in Brief:

This innovative Self-Compacting lightweight concrete mix was developed to solve a real-world challenge - creating a material that's not only strong but also lightweight and easy to work with. By blending **low carbon cement binder** (with clinker factor up to 50%) with **lightweight expanded clay aggregates (LECA)**, the team developed a self-compacting concrete that flows easily into place without needing vibration. A modern **superplasticizer/viscosity modifier** helps keep the mix smooth and stable, preventing clumps or cracks. What makes it truly special is how it balances performance and sustainability: it reaches a concrete matrix with **> 25 MPa strength**, reduces weight by up to 30%, cuts **CO₂ emissions by 16-20%**, and even lowers construction costs by around **13-15%**. It is a smart, eco-friendly solution—perfect for roofs and floors where reducing dead load matters, and ideal for today's energy-efficient buildings.

Salient Features/Advantages:

- Self-Compacting
- Lightweight Composition
- High Workability
- Dimensional Stability
- Adequate Compressive Strength
- Low Thermal Conductivity
- Eco-Friendly and Sustainable



Particle size distribution of Natural coarse and fine aggregates, LWA and finalized aggregate

Properties Standards	&	IS 9142, IS 2386 (Part 1 to 3)
End Product (s)		Self-Compacting Load Bearing Lightweight Roof/ Floor Screed
License/Commercialization		The technology is ready for licensing and commercialization.
TRL		7
Environmental Impact		Reduces CO ₂ emissions by 16-20%, lowers natural resource use, and enhances energy efficiency in buildings.
Linkedin Video Link		https://www.linkedin.com/posts/csircbri_sustainableconstruction-lightweightconcrete-ugcPost-7421763222707412992-3qvo?utm_source=share&utm_medium=member_desktop&rcm=ACoAAD_9kj4B2jUfyt81pCfAlZ1Ld-pdHpEo7m4

Youtube Video Link

<https://youtu.be/87b1Lj7XyBM?si=laK6rqApZBF5aSPv>