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 **LIGHTWEIGHT
CONCRETE**



 **CEMEX**
Building a better future

LIGHTWEIGHT CONCRETE by CEMEX



CEMEX Lightweight concrete technology incorporates advanced admixture technology with a special aggregate and additives to produce mixes with much lower densities than normal concrete.

Structural lightweight concrete has strengths comparable to normal weight concrete, yet is typically 25% to 30% lighter. Structural lightweight concrete offers design flexibility and substantial cost savings by providing less dead load, decreased story height, smaller size structural members, less reinforcing steel, and lower foundations costs.

Structural lightweight concrete has an density on the order of 1600 to 1900 kg/m³ compared to normal weight concrete a density in the range of 2250 to 2500 kg/m³. For structural applications the concrete strength should be greater than 20.0 MPa.

Non structural lightweight concrete has densities varying from 500 kg/m³ to 1600 kg/m³ and the type of the lightweight concrete required depends upon the application requirements such as load bearing capacity required, presence of point loads, exposure conditions, surface Finish (Tiles, Flooring) etc. Limitations on imposed dead loads will determine the density of the LWC to be used.



KEY FEATURES AND BENEFITS

- Improves Plastic and Hardened properties of concrete:
- High workability
- Suitable for pumping
- Excellent acoustic properties
- Improved thermal properties
- Improved fire resistance
- It reduces dead loads in structures
- Recycled materials
- Aggregate stable at elevated temperatures
- Same compressive strength as normal weight aggregates
- Less shrinkage cracking potential

Economical Benefits

- Up to 60% lighter (Nonstructural)
- Up to 30% lighter (Structural)
- Reduction in dead loads making savings in foundations and reinforcement.
- Provides greater resistance to diagonal tension in the walls
- Reduction in formwork and propping.
- Environment-friendly because it promotes energy savings
- Its high workability promotes insertion operations and eliminates the use of vibrators
- It can be placed finished and compacted like normal concrete.

Applications

- Elevated and Mezzanine decks
- Screeds and thickening for general purposes especially when such screeds or thickening and weight to floors roofs and other structural members.
- Screeds and walls where timber has to be attached by nailing.
- Casting structural steel to protect its against fire and corrosion .
- As a covering for architectural purposes.
- Heat insulation on roofs.
- Insulating water pipes.
- Construction of partition walls and panel walls in frame structures.
- General insulation of walls.
- Surface rendered for external walls of small houses.
- It is also being used for reinforced concrete.

TECHNICAL DATA

Concrete Grade (N/mm ²)	5 to 45
Durability ¹ (RCP, WP, WA)	Not Required
Workability Slump (mm)	150 to 200
Workability Retention (Hours)	1 to 3
Maximum Aggregate Size (mm)	5, 8 and 14
Typical Hardened Density (Kg/m ³)	1000 to 2000
Cement Types ²	OPC, SRC, MSRPC
Supplementary Cementitious Materials ³	DURACEM [®] / Microsilica
Colours	Grey

PERFORMANCE FOOTPRINT

