

LECA® LIGHTWEIGHT AGGREGATE CONCRETE - LWAC

Leca® Lightweight Aggregate Concrete (4-10mm) is mainly used as an additive in industrially manufactured Concrete. One of the primary benefits of using **Leca® Lightweight Aggregate Concrete** in lightweight concrete production is its **reduced density**. The aggregate's unique porous structure **significantly decreases the overall weight of the concrete**, making them **easier to handle and transport**. This lightweight characteristic also translates into **improved thermal insulation** properties, ensuring optimal temperature regulation within buildings.

Leca® Lightweight Aggregate (LWA) is a natural, unique and sustainable lightweight clay aggregate. Leca® LWA has remarkable properties which ensure its versatility for use in Lightweight Aggregate Concrete (LWAC) applications.



Solutions

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Concrete can be considered Lightweight when its density is not more than 2200 kg/m³.

The notation LC for strength class is typically used in specification, e.g. LC 25/28 with a **cylinder strength 25 MPa** and a **cube strength of 28MPa**.

Typically, in **Leca® Lightweight Aggregate Concrete (LWAC)** concrete of same cylinder strength, the tensile strengths and strains and shear strengths are lower than Normal density concrete.

Primary properties

Structural applications where normal weight concrete is not the preferred solution, Leca® Lightweight Aggregate Concrete (LWAC) is the solution.

Leca® Lightweight Aggregate Concrete Characteristics

- Made of natural raw material
- Low density

- Improved thermal Properties
- A1 fire rating
- Frost resistant
- Reduce transport cost

Leca® Lightweight Aggregate Concrete Characteristics

- Less reinforcement required
- Lighter than Normal Density concrete
- Good workability
- Low thermal conductivity
- High Temperature resistance
- Potential reduction in depth of beam and slab
- Reduction in deadload
- Improved Homogeneous properties
- Can be pneumatically pumped/ delivered *

Technical Specifications

- **The product complies with:** EN 13055-1
- **Fraction:** 4-10 mm
- **Loose bulk density:** 272-368 kg/m³ (approx. 320 kg/m³ on average)
- **Crush resistance:** 1.07 N/ mm²
- **Thermal conductivity:** $\lambda =$ approx. 0.100 W/mK*
- **Reaction to fire:** class A1 (non-flammable)

* Leca LWAC concrete is usually less stiff, consideration needs to be given to the reduction of self-weight and the resulting reduction in the depth of a beam or slab. Creep and Shrinkage should be considered at design stages.