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# Lithkem

## **Powder set accelerator and early age strength enhancer for Portland and High alumina cement based binder systems.**

Lithkem is novel blend of inorganic compounds specifically designed to provide rapid set times and high early strengths in dry mortar mixes that are based on Portland cement and Alumina cements binder systems.

Lithkem has been developed as an alternative to Lithium based cement accelerators, which are currently subject to rapidly rising prices and reduced availability due to demand from global battery manufacturers.

Lithkem is a fine, free flowing powder which provides homogeneous dispersion in bagged cementitious mortars.

### **Action**

Lithkem is an extremely effective accelerator providing rapid early setting times and increased early age strengths.

The synergistic blend of ingredients in Lithkem have been designed to activate the hydration process more rapidly in both Portland and Alumina cement phases.

Conventional Lithium Carbonate accelerators tend to react solely with the High Alumina cement and have no effect on Portland cement hydration. This results in a large portion of the binder systems being unaffected and the action of standard accelerators being inefficient. Lithkem accelerates the hydration process in all cements, making it a much more efficient accelerator with performance being proportional to dosage rate.

### **Applications**

Lithkem is a set time accelerator and early age strength enhancer for fast setting cement based products such as tile adhesives, tile grouts, self levelling floor screeds and concrete repair systems. Predominantly, it's used in cement based systems where rapid fixing and laying is the main criteria.

### **Benefits**

- Provides rapid set times in OPC/HAC systems
- Enhanced early age strengths
- Improved performance in low temperatures
- Cost effective alternative to conventional accelerators

### **Properties**

Nature: Powder  
Colour: Off white  
Bulk Density (Loose) = 0.65 g/cm<sup>3</sup> ± 0.02g/cm<sup>3</sup>  
Bulk Density (Tapped) = 1.25 g/cm<sup>3</sup> ± 0.02 g/cm<sup>3</sup>

### **Addition rates**

Natural variations in cement, hydraulic binders and aggregates can affect the dosage rate required to achieve the desired set times and early strengths. CEMKEM always recommend lab trials should be carried out to determine the optimal dosage levels.

Addition level in the range of 0.1% - 0.5% on weight of formulation is recommended. Typically, Lithkem can be used as a straight replacement for Lithium Carbonate.

Please note that excessive levels of Lithkem will result rapid acceleration of setting times. For any queries, please consult CEMKEM technical department.

### **Compatibility**

Lithkem is suitable for use with all cement types and hydraulic binders, included ground granulated blast furnace slag, pulverised fly ash, hydrated lime and gypsum.

### **Storage**

Lithkem should be stored in cool, dry conditions. Unopened bags, if stored correctly, have a minimum shelf life of 12 months.

### **Handling**

Avoid contact with skin and eyes. Protective goggles and gloves should be worn at all times.

### **Packaging**

Lithkem is supplied in a 25kg sack with inner polyethylene liner. 40 x 25kg bags per pallets

### **Method of use**

Lithkem should be added to the blender following addition of sand and cement to provide homogeneous dispersion.



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