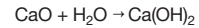


AN EFFICIENT SOLUTION: CODECAL® LIME TO DELAY AND CONTROL REACTIVITY



Quicklime reacts in the presence of water to form hydrated lime:

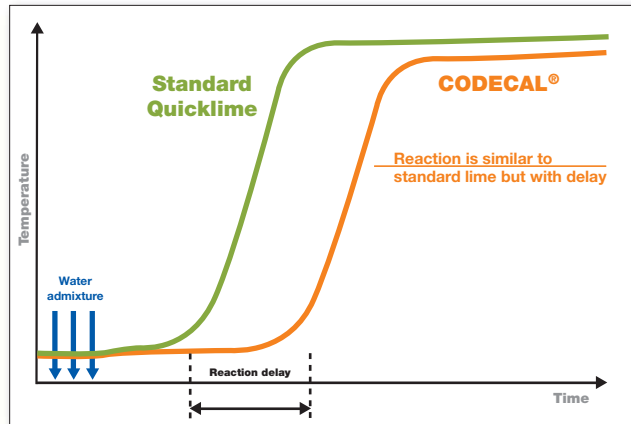


For standard quicklime, this chemical reaction is very quick and generates a lot of heat (i.e. exothermic) which makes quicklime very difficult to add to the treatment system.

CODECAL® offers the possibility to make quicklime additions without the problems which standard quicklime brings by delaying the reaction time for conversion of the **CODECAL®** to hydrate without hindering reactivity.

CODECAL® is:

- A high calcium quicklime with up to 85% available lime for hydration
- A lime with an optimized particle size for its use
- And last but not least, a lime with a specific **delayed and controlled reactivity**



For further information :



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CARMEUSE S.A.

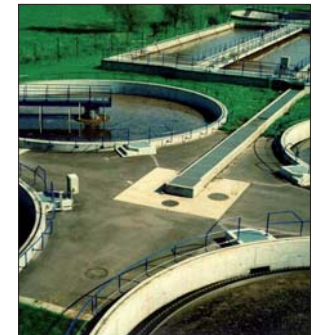
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CODECAL®

...efficiency in treating waste water sludge



www.codecal.com

CODECAL®: Controlled reactivity



CODECAL®, THE SOLUTION FOR SLUDGE LIMING

CODECAL® has all the advantages inherent to lime :

- **Conditioning** (coagulation and flocculation)
- **Hygienisation (sanitisation)**, immediate and long-term
- **Elimination** of bad odours
- **Agricultural recycling**

CODECAL® is a Carmeuse lime product and process to improve sludge treatment. This process is an efficient and proven solution, which can easily be implemented on existing installations

OPTIMISES SLUDGE TREATMENT PERFORMANCE

- Provides an **homogeneous and controlled mixture**, through mixing in liquid phase and by monitoring pH of the filtrate
- Improves the **physical condition of sludge** (finely devised structure with a 45° angle of repose)
- **Reduces sludge volume** through a 3 to 7 % increase of DS content on equivalent material
- **Reduces phosphorous content in the releases** of the waste water plant



OPTIMISES SLUDGE TREATMENT COSTS AND SIMPLIFIES THE PROCESS

CODECAL® lime offers many advantages in filtration processes :

- **Increase of productivity** due to improved filterability and increased yield
- **Decrease of costs** :
 - decreased consumption of reagents (lime, polymers)
 - decrease of the quantity of sludge to recycle
 - reduction of sludge storage space for treated sludge
 - choice of cheaper recycling path due to better sludge quality
 - reduction on maintenance costs, especially on post-liming equipment
 - reduction of operation costs (less manpower, less water consumption, less energy...)
 - reduction of capital costs
- **Adapted to all dewatering processes**
 - Admixture directly in liquid sludge **without immediate hydration reaction** : easier mixing **without using a milk of lime** solution
- **Suppression of post-liming** and its associated sludge de-structuring
- **Safe in use** as there are no immediate exothermic reaction and no dust emissions

