

# The Hydration Process

In the last century, hydrated lime was produced by filling a big pit with quicklime and water. Today, the highly exothermic reaction between lime and water must be carefully controlled in order to drive it towards the desired product quality and fineness.

The traditional 3-stages machine consists of:

- 1st stage: the reaction chamber
- 2nd stage: the mixing chamber
- 3rd stage: the seasoning chamber

In the first stage, the quicklime receives the hydration water from the water feed rack and is subject to a strong mixing action. At the end of the first stage, the lime falls into the second stage where the hydration reaction is mostly or wholly completed.

During the transformation of the calcium oxide into hydrate the apparent specific weight of the material is basically reduced to a half. For this reason, the second stage volume is twice as big as the one of the first stage.

The third stage is designed to further homogenise the finished product, or to allow an extra retention time to complete reaction for those quicklime qualities featuring medium or low reactivity.

