

LIME SLAKING SYSTEMS

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Lime in the form of quicklime (calcium oxide) or hydrated lime (calcium hydroxide) is used in many chemical and metallurgical applications, either as dry powder, or as slurry in water. ProProcess can design systems for the storage, slaking, distribution and dosing of lime products for a variety of applications, whether they require dry lime or lime slurry.





Dry lime solids are delivered in diverse forms and formats. ProProcess supplies systems which cover a range of lime particle sizes and delivery formats. Systems for debagging lime from small bags and bulk bags, as well as decanting from bulk tanker trucks are commonly employed. Off-loading systems generally include pneumatic transfer to the client's bulk storage facility. Bulk storage typically consists of large silos which store many tons of dry lime solids for large consumers, or hoppers for smaller quantities.

Lime slurry from hydrated lime powder is easily prepared by mixing the dry powder in water. Quicklime on the other hand generates a lot of heat when it is mixed with water, in a process known as slaking, to produce slaked lime slurry. ProProcess designs cater for hydrated lime slurrying or slaking of quicklime in specialised lime slakers. Lime slakers are designed to suit specific quicklime products and include specialised lime slaking mills or detention slakers depending on the lime quality and client specifications.

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The storage, distribution and dosing of lime slurry is not trivial, with such systems being prone to high wear, scaling and blockages if not designed properly. Lime distribution networks are typically designed as ring-main systems, and dosing is performed by specialised dosing valves. Lime dosing is often used to control pH in a process, where the measurement and control of pH comes with its own challenges. ProProcess has the necessary expertise and experience to ensure that each lime dosing system is designed correctly for the specific application, taking into account the lime system as well as the primary process requirements.







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