

QUICK LIME (Ca O)

BASIC FACTS :

- Calcium oxide is produced in special kilns from lump of limestone by the reaction :
 $\text{Ca CO}_3 + \text{heat} \rightarrow \text{CaO} + \text{CO}_2\uparrow$.
- Most of the lime exits the kiln in lump form (called pebble lime) but some exits in dust and powder form (say, minus 3 mm).
- These fines hydrate quickly to calcium hydroxide (Ca (OH)_2), and the airborne dust is irritating to the eyes and throat. Hence fines cannot be sold with the pebble lime. Some lime companies find uses for the fines such as hydrating them and selling them for soil conditioners.

THE BRIQUETTING PROCESS :

- Quick lime will briquet without binder at high pressures. Additives like lubricants (stearate) can be used to help. Briquets are sometimes fragile and may break into pieces on a 1 or 2 meter drop. Hence handling them as gently as possible is important. Usually they are allowed to recrystallize on a belt conveyor for 5 to 15 minutes, then screened before returning them to the pebble lime stock.
- Our group has installed many units worldwide on Ca O.
- B400A is the most popular lime briquetter in the world. There are several design features that make the B400 particularly well suited for briquetting quick lime fines :
 - The rolls are cantilevered on the ends of the shafts, and the complete feed assembly slides away from the rolls on a keyed track.
 - Then the rolls are removed from the ends of the shafts without further disassembly of the machine. This design makes roll changes much easier, faster and more economical than any other type of briquetter design.
 - With vertically opposed rolls fed by a horizontal screw, the lime falls into the sides of the feeder screw (just as with a screw conveyor). This results in a much more predictable and consistent feed into the nip of the rolls than with a vertical screw.
 - This design of press can be used up to an hourly capacity of 3-4 tonnes. Beyond this level, we propose classical design of press with vertical feed.
 - All our presses are fitted with specially designed wear parts, adapted to the application and to the abrasion.