

# LIME PROCESSING PLANTS



**TRANSMIN**

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Since inception in 1987, Transmin has been designing systems to handle, store and process lime products, predominantly to the gold, minerals processing and water industries.

We are the largest specialist supplier of lime plants in Australia. 100's of successful installations have been completed in Australia and Overseas.

Generally, customers will be using hydrated or quicklime (Calcium oxide) within their process to control pH. Transmin has supplied numerous installations from simple lime silos to complete turnkey lime slaking facilities.

We have developed a range of efficient cost effective slaking systems complete with roller mounted ball mills. Classification is carried out where necessary by cyclones included within the circuit.

A full turnkey service is available from concept development through design, manufacture, installation and commissioning including electrical controls and civil works.

In addition to supplying systems for lime, Transmin has also successfully adapted the concept for cement, dolomite, soda ash, magnesium oxide and other mineral powders and reagents.

## Benefits:

The benefits of using lime processing plants:

### ► Processing

Slaking and grinding mills of the roller mounted style. Grind performance to suit client process requirements.

### ► Receival

Intake of lime via bulk bag, pressurised vehicle or hopper/feeder.

### ► Storage

Single or multiple silos dependent upon site storage requirements.

### ► Wetting

Pre-wetting prior to mill for control of dust.

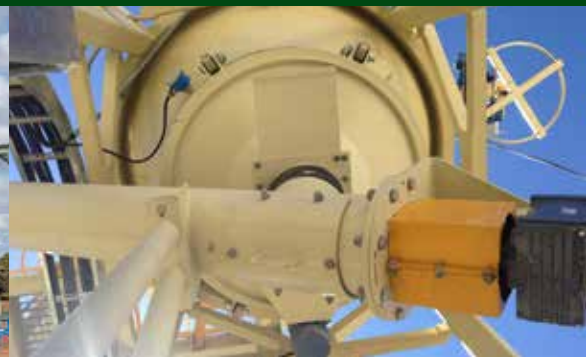
### ► Limestone

Separate limestone grinding facilities available.

### ► Milk of Lime Storage

Tankage is either site built or supplied complete.





## Hydrated Lime Mixing Facilities

Simple and cost effective, Transmin has a range of components available to custom design a hydrated Lime Mixing Plant to meet any requirement.

Depending on the system capacity and the preferred method of storage, the system can accept product from pressurised road tanker or bulka-bag, with total storage capacity to suit the plant's individual needs. Transmin's extensive range of bag breakers, pneumatic transfer systems and pre-wetting units will ensure reliable trouble free operation.

High accuracy mixing can be achieved using loss-in-weight or weigh screw feeder systems to dose the lime in to the slurry mixing tank.

## Full Lime Slaking Plants

For those installations requiring a greater production of Milk of Lime (MOL) a complete Lime Slaking Plant may be the preferred option. These systems will typically receive quicklime from a pneumatic road or rail tanker and total site storage can range from fifty to several thousand tonnes of dry quicklime.

The dry product is automatically metered into the Lime Slaking Ball Mill by the integrated PLC control system. This system maintains the water set point and adjusts the feed rate of quicklime to maintain an efficient Slaking reaction temperature. Depending on site requirements, either an open or closed loop grinding system can be offered.

As part of the package, a full compliment of agitated mixing, storage and ageing tanks is available, complete with transfer pumps, piping, valving and level control instrumentation and monitoring. An option for automatic MOL pipeline flushing is also available.

High efficiency pre-wetting units and fume extraction scrubbers are a standard feature of all Transmin Ball Mill slaking plants.

## Other Lime Applications

- ▶ Flue Gas Desulphurisation (FGD) lime dosing systems.
- ▶ Dry lime dosing onto Mill Feed Belts for pH control.
- ▶ Heap Leach MOL dosing for pH control.
- ▶ Calcined lime grinding, conveying and storage systems for lime manufacturers.
- ▶ Large capacity lime ageing tanks.
- ▶ Sea container unloading facilities - separate brochure available.
- ▶ Limestone feeding, grinding & mixing systems.
- ▶ Water treatment pH Control.
- ▶ Waste water treatment neutralisation.



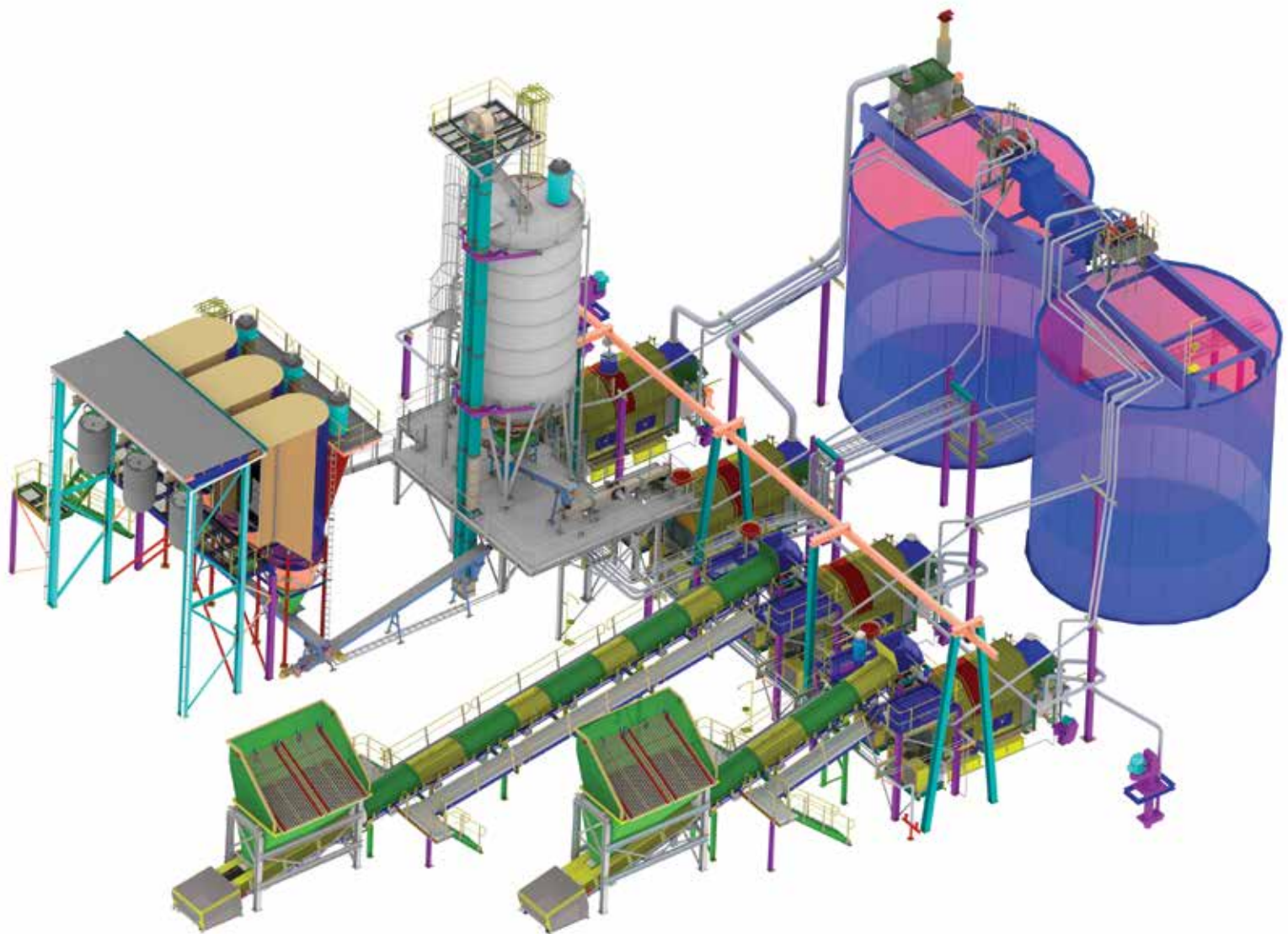
## Roller Mounted Ball Mills

Transmin Roller Mounted Ball Mills are a low cost, easily installed and maintained solution for many small capacity wet grinding operations. Designed for either closed or open circuit grinding.

Also available is the new Trunion drive model with a simplified drive mechanism incorporating a Trunion ring on the front face.

F80 = 2mm P80 = 75µm		
MILL MODEL	STANDARD DRIVE (kW)	QUICKLIME AVERAGE THROUGHPUT (t/h)
1.0 x 1.5	11	0.45
1.2 x 3.0	45	2.0
1.6 x 3.6	90	5.5
1.8 x 3.6	132	8.0
2.0 x 4.0	132 + 75 <sup>#</sup>	12.0
2.2 x 4.4	185 + 75 <sup>#</sup>	18.0

\*Other sizes/duties are available upon request.  
#Primary and secondary drive sizes.



## Case Study:

# QUICKLIME SLAKING PLANT FOR WORLD'S LARGEST COPPER-COBALT MINE



### Location:

**Democratic Republic of the Congo (DRC), Africa**

### Operation Type:

**Copper, Cobalt Mine**

### Equipment Solution:

**Quicklime Slaking Plant**

### Year:

**2006**

### Scope of Project:

Due to Transmin's broad base bulk bag knowledge, we were approached to design, engineer, fabricate and install a lime slaking system for the world's largest copper-cobalt resources located in southern Congo, Africa.

The client requested that Transmin would supply the whole lime slaking plant.

### The Solution:

Fabricated at Transmin's workshop in Malaga, it took 20 weeks for the Transmin team to build and factory test each piece of equipment before it was shipped of to Durban and installed in the Congo.

The quicklime is delivered in 1 or 2t Bulk Bags and is lifted into any of the three bag breakers and then lowered onto their spike via the hoists.

The quicklime is transferred via a common screw feeder beneath each bag breaker to another screw conveyor which transfers the quicklime to a bucket elevator outside of the building. The bucket elevator lifts the quicklime into the 100m<sup>3</sup> silo for storage.

The quicklime is transferred out of the silo into the ball mill using bin activator, screw feeder, and vibrating conveyor.

Lime is then slaked via a ball mill (closed circuit) at a design rate of 11t/h.

A milk of lime (MOL) slurry of 20% w/w is produced and then stored in an agitated tank (by others) where it is then dosed into the plant.

The Lime Slaking System operates as required to ensure that the MOL tank remains sufficiently full.





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