



## Light industry program fact sheet

# Concrete batching and cement product manufacturing

Concrete batching involves producing, batching and loading concrete for transport. Cement product manufacture refers to making products where cement or concrete is the main ingredient.

Concrete is a mix of cement, sand, aggregate and water. Cement products contain argillaceous (containing clay) and calcareous (chalky) materials.

## Concrete batching and cement product manufacturing Regulations

Concrete batching and cement product manufacturing are regulated by the Department of Water and Environmental Regulation under the [Environmental Protection \(Concrete Batching and Cement Product Manufacturing\) Regulations 1998](#) (the Regulations).

Concrete dust is a respiratory health hazard and needs to be managed to protect workers as well as neighbouring premises. Additionally, liquid waste discharges from the concrete manufacturing process can be highly alkaline and harm the environment.

The Regulations are intended to ensure people undertake concrete batching or cement product manufacturing activities in a manner which minimises risks to public health and the environment. All premises where concrete batching or cement product manufacturing occur are subject to the requirements of the Regulations, which are outlined in this fact sheet.



## Registration and licence

Concrete batching or cement product manufacturing of 100 tonnes or more per annum is considered a prescribed activity under Category 77 of the Environmental Protection Regulations 1987. It is therefore subject to registration, works approval or licence. Further information is available online at [Licences and works approvals for prescribed premises](#).

## Dust control

Visible dust must not cross the boundary of premises where concrete batching or cement product manufacturing is being done. If no defined boundary exists, visible dust must not enter any area accessible to the public, such as roads or footpaths.



## Roads and trafficable areas

Ensure all parts of the premises accessible to vehicles are paved or sealed to control dust. Control measures such as regular application of water or a dust suppressant are required for any trafficable areas not paved or sealed.

All roads must be swept, hosed or otherwise cleared of any loose aggregate, sand, cement, concrete or other material as often as is necessary to prevent any loose material adhering to vehicles.

## Vehicles

Do not allow any vehicles carrying concrete or any ingredients of concrete to leave the site until they have been washed free of any cement slurry or dust.

## Storage of materials

**Aggregate and sand** must be kept in storage bins or bays which are designed to minimise airborne dust. If it is not practicable to use bins or bays, aggregate and sand may be stored in stockpiles on the ground.



The height of aggregate or sand must not exceed the height of the storage bin or bay, including any windshields fitted.

If sand and aggregate is stored in stockpiles on the ground, it must be kept covered or damp to minimise airborne dust.

If any visible dust escapes during unloading of aggregate or sand, stop immediately and do not resume until steps are taken to prevent the dust. This may include using water or other surfactants to control the dust or unloading in a covered area while using a dust extraction system.

**Cement** must be kept in bags or cement storage silos. Store bags in a way that prevents any visible cement dust from escaping.

All inspection ports, hatches and other openings to a cement storage silo must be closed while cement is being unloaded into the silo. If any visible cement dust escapes, the operator must stop unloading until appropriate prevention measures have been taken.

Cement storage silos must be fitted with an air cleaning system. When the silo is being filled, all air should pass through the system before being discharged into the environment. This air cleaning system can be either:

- a mechanical rapping air cleaning system with a minimum filter system of 23m<sup>2</sup> or



- a reverse pulse air cleaning system which reduces dust emissions to less than 50mg of particulate matter per cubic metre which discharges into a weigh hopper or an outlet one metre off the ground.

The air cleaning system for a cement storage silo must be inspected at least once a week. If it is not working, no cement can be unloaded into the silo until it is repaired.

Filters and gauges (if the system is fitted with pressure gauges for the detection of blockages or leaks) must also be checked at least weekly and immediately cleaned, repaired or replaced if blocked, damaged or excessively filled with dust.

Spare filters to replace bags or cartridges used in the air cleaning systems of all cement storage silos on the site should be kept in an easily accessible location.



A level indicator system must include an audible alarm which sounds if cement reaches 0.6m below the inlet to the silo's air cleaning system or two tonnes less than the maximum capacity. The level indicator must also have a test circuit which indicates whether the indicator and alarm are working correctly. The test circuit must be activated before a load of cement is unloaded into the silo.

A relief valve may be used instead of a level indicator and must be designed to automatically prevent the level of cement in the silo rising above 0.6m below the inlet to the silo's air cleaning system or two tonnes less than the silo's maximum capacity, so any excess cement is piped into a weigh hopper or an outlet within one metre of the ground.

A weigh hopper means equipment for weighing the ingredients of concrete before loading into an agitator. An agitator means a tank attached to a concrete mixing truck or other plant in which the concrete ingredients are mixed.

## Moving materials and loading agitators

An operator must not use a hopper, conveyor, chute, bucket elevator or transfer point to move material on the site unless the area is enclosed, fitted with wind shields, water sprays or a dust extraction system, or is designed in some other way to prevent the escape of visible dust.

Additionally, an operator must not load an agitator unless the area is enclosed, fitted with wind shields, water sprays or a dust extraction or other design system to prevent the escape of visible dust. It is important to maintain these dust prevention systems in good working order.

## Cleaning premises

An operator must regularly clean all inside areas on the premises to prevent the accumulation of dust on any surface. Water should not be used for this cleaning unless all fittings and electrical installations in the area are waterproof or able to withstand water.



## Wastewater management

All water must drain into a slurry pit from:

- any area where agitators, mixers or moulds are loaded
- any area where concrete is batched
- washing out agitators, mixers or moulds
- cleaning up spilt material
- sealed or paved areas of the premises likely to contain waste material.

Settled material in the slurry pit must be at least 30cm below the top of the pit walls and should not dry out unless the pit is being dried to allow the material to be removed.

Any water removed or which might overflow from a slurry pit needs to drain into a settling pond. The pond must be large enough to contain all water which might drain into it for long enough to allow all particulates to settle out.



No water used in concrete batching or cement product manufacturing can be discharged from the premises until it has been through a silt trap or contained in a settling pond for long enough to allow all particulate matter to settle out. Additionally, if the water is likely to contain hydrocarbons it also needs to go through an oil interceptor.

The slurry pits, settling ponds, silt traps and oil interceptors must be maintained and emptied or cleaned as often as necessary to ensure their efficient operation.

## Waste disposal

All waste created during concrete batching or cement product manufacturing including material removed from slurry pits, settling ponds, silt traps and oil interceptors, must be recycled or disposed of at an appropriate landfill facility.

## Penalties

Authorised officers employed by the department may issue infringements or instigate legal action against any person or company in breach of the Concrete Batching and Cement Product Manufacture Regulations, or any other legislation the department administers.

Infringement penalties of \$250 (first infringement notice) and \$500 (subsequent infringement notices) apply. If dealt with in a court of law, the maximum penalty for an individual is \$5,000 or \$25,000 for a body corporate.