

METHODS OF CURING CONCRETE

WHY CURE

The New Zealand Building Code requires all concrete to be cured.

Curing allows concrete to gain its full potential strength, and is therefore one of the most important stages of concrete construction (see Fig 1).

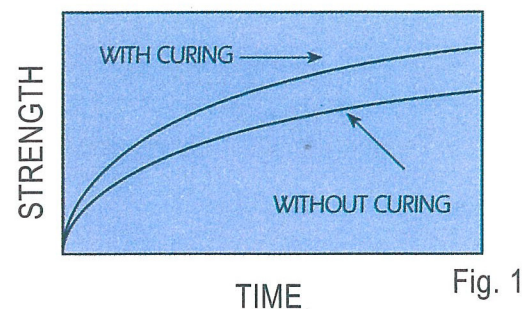


Fig. 1

Concrete that is cured properly, can be 15 times more resistant to chemical attack and wear, and is more watertight (see Fig 2).

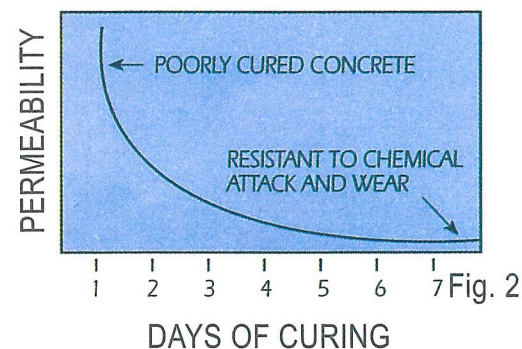
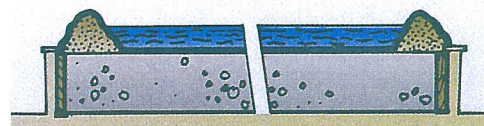


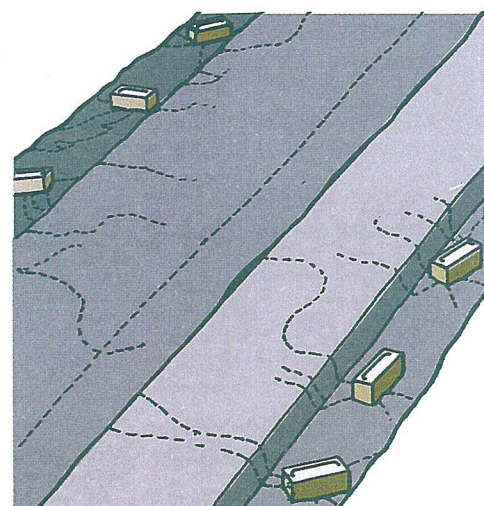
Fig. 2

Formed surfaces, such as columns should be cured as soon as formwork is removed.

Unformed surfaces should be cured as soon as the surface has hardened and been finished.



PONDING



POLYTHENE ON SLAB



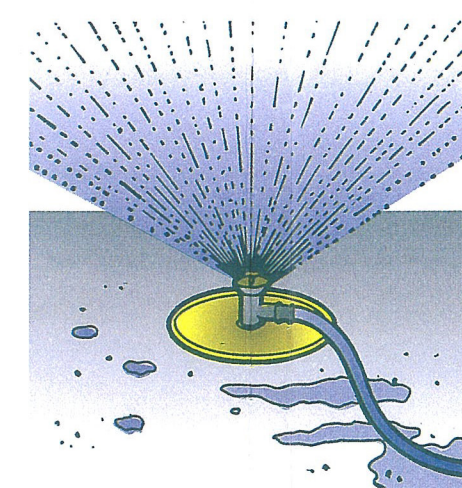
SPRAYING

WATER CURING METHODS

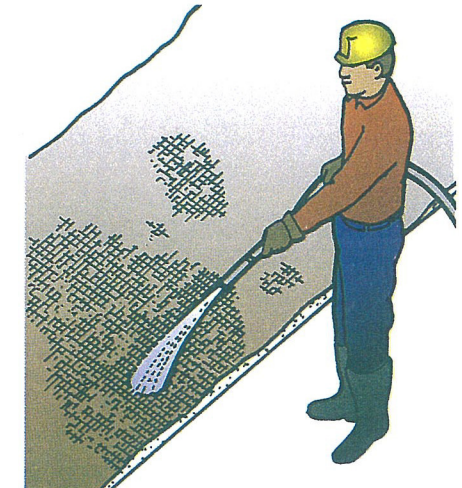
Ponding: On flat surfaces such as pavements, footpaths, and floors, concrete can be cured by ponding (see picture, left)

Sprinkling: A fine spray of water applied continuously through a system of nozzles provides a constant supply of water (see picture, right)

Wet Coverings: Wet hessian, other moisture-retaining fabrics, or sand can be laid onto the concrete as soon as it has hardened enough to prevent surface damage (see picture, far right).



SPRINKLING



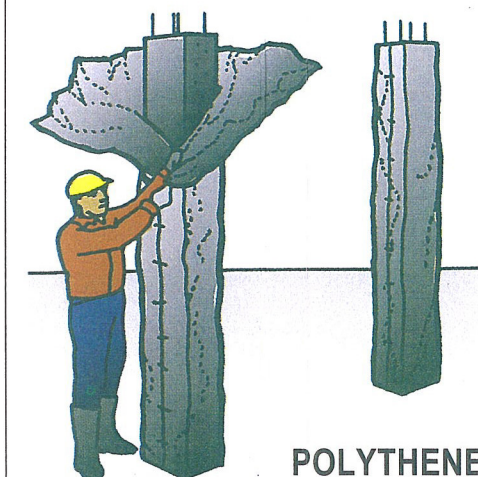
WET COVERINGS

SHEET CURING METHODS

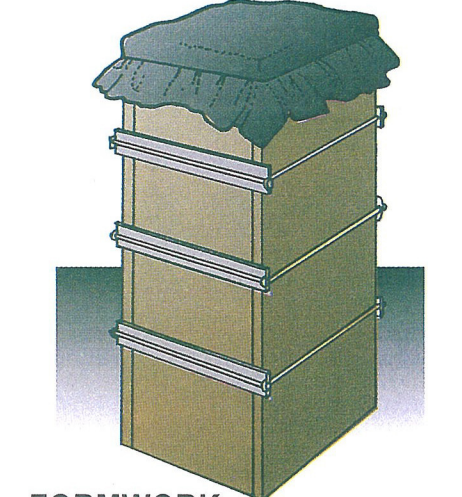
Watertight sheets are placed over and around concrete to prevent water from escaping. Polythene and/or formwork are often used for this task.

Polythene: This should be put in position as soon as possible after finishing (see pictures left and right).

Formwork: When left in place, formwork gives a barrier which stops water evaporating in the same way that polythene does. Polythene may be needed over the ends of some members (see picture, far right).



POLYTHENE AROUND COLUMNS



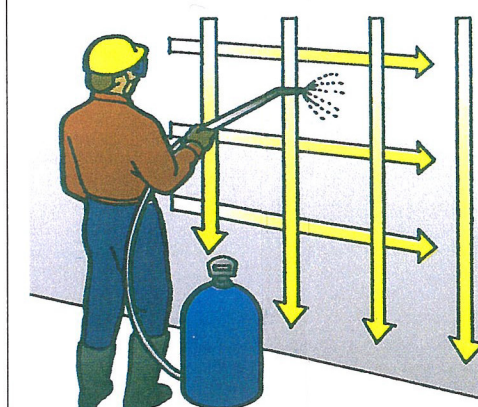
FORMWORK

MEMBRANE CURING METHODS

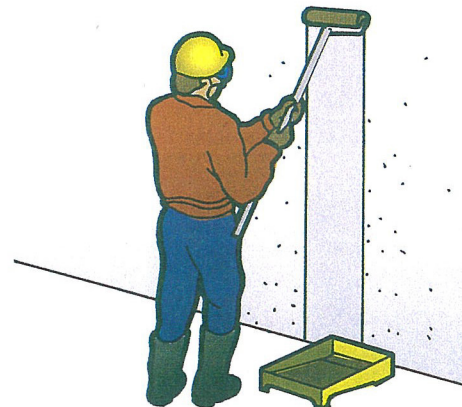
Curing compounds are either sprayed or rolled onto the concrete and are suitable for vertical and horizontal surfaces.

Spraying in a set pattern: This will help to make sure that the whole surface is covered evenly (see picture, right). Some compounds contain a dye that quickly lets you see if an all-over layer has been applied.

Roller application: In windy conditions it may be better to apply the compound with a roller than a sprayer (see picture, far right).



EVEN COVERAGE



ROLLER APPLICATION