

## MESSAGE TO CONCRETTERS:

# ALL CONCRETE NEEDS CURING

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Most concreters know that good durable concrete is made with the lowest slump having the **lowest** water content practicable for reasonably easy placement and it is then **cured** by them.

The binder or glue for concrete is made by a chemical reaction between water and cement. This liquid glue mixture first of all sets in about 3-4 hours at 23°C and then *slowly* hardens by increasing in strength.

*The glue becomes strongest if the water content compared with the cement is kept relatively **low** and if the water is kept **available** over time for this **continuing** chemical reaction ie the mix water is prevented from evaporating from the concrete by a suitable curing procedure - to be started **immediately** after setting.*

## WHAT IS CURING?

A *procedure* adopted by Concreters to prevent the evaporation of the concrete's mix water immediately after it sets for at least seven (7) and preferably **more** days. (28 days is really good!) Perhaps by applying a single coat or layer of Ability's 'Duro-Seal' Clear curing compound.

## WHY CURE CONCRETE?

- ✿ It's **LESS** likely to crack!

This will be particularly so if :

- 1) the concrete is compacted to remove air bubbles which reduce strength.

- 2) an **adequate** number of joints are saw-cut into the concrete within 8 hours of the concrete setting.

- ✿ It becomes more **WATER PROOF AND WEATHER PROOF, MORE DURABLE** and will **LAST LONGER**.
- ✿ The concrete will be **STRONGER** and have a dustless, **HARDER**, more **WEAR RESISTANT** surface.
- ✿ It will be more **IMPACT** and **KNOCK RESISTANT**.
- ✿ **LOSING** strength and wasting money **WON'T** occur.
- ✿ The owner will be **HAPPIER!**
- ✿ Your **NAME** and **GOOD REPUTATION** will be enhanced.

In *hot* weather, AND/OR during *high* winds and *low* humidity even before it sets, concrete can easily lose its water by evaporation and dry out. **In these conditions it pays to take extra care and make the decision to proceed to cure**, ie if you do provide a good curing procedure it is unlikely you will lose money. Your payments will not be withheld and you will **NOT** have to stand the inconvenience and **HIGH COST** of rectification work.

## TO PREVENT PLASTIC CRACKING :

In hot weather to avoid cracking *before* the concrete sets, spray on ALIPHATIC ALCOHOL to reduce evaporation of water from the concrete. This may need

to be done SEVERAL times whilst finishing by trowelling.

#### HOW TO CURE:

Curing is achieved by adopting a suitable procedure to *prevent* moisture loss from the concrete – *immediately* after completing the finishing operation and the concrete setting. The most common methods of curing are explained below.

#### METHODS OF CURING:

❖ **LIQUID MEMBRANE CURING COMPOUNDS\*** such as Ability's 'Duro-Seel' Clear are used. Many concreters consider this to be the easiest and **most practical method** of curing. You can efficiently include the cost of this type of curing in your quotation for the job. If the client doesn't want it, you can reduce your price accordingly – and you're in the clear if he/she rejects the concrete.

**\*MEMBRANE (OR THICK ONE (1) COAT) FILM FORMING LIQUID CURING COMPOUNDS SUCH AS ABILITY'S 'DURO-SEEL' CLEAR IF APPLIED LIBERALLY ENOUGH ALLOW EFFICIENT CURING FOR 28 DAYS AND LONGER!**

❖ Another way of curing concrete is, **immediately** after the concrete has set, is to *constantly* APPLY to its exposed surfaces a FINE MIST SPRAY OF WATER. However this moisture will evaporate quickly and this method is usually cost-impractical – especially to keep the concrete damp and retain the mix water within the concrete for seven (7) days!

❖ As soon as its sets, concrete can be quickly covered with wet woven hessian fabric ('burlap') or a 50mm layer of wet sand – either of which *must* be **kept** damp – otherwise this method is INEFFECTIVE!

❖ Another alternative is to quickly cover the set concrete with **thick** 200µm polythene plastic sheets - properly lapped and held down to substantially reduce the water loss occurring by evaporation.

❖ Ponding with water. This is where the concrete is flooded with water to a depth of about 20-50mm and regularly 'topped up'.



THE MOST IMPORTANT THING ABOUT THE PROCEDURE OF CURING IS TO **KEEP THE CONCRETE MOIST AT ALL TIMES** – COMMENCING IMMEDIATELY AFTER IT HAS SET.

HOSING WITH WATER IN THE MORNING AND THEN AT NIGHT IS NO GOOD IF THE CONCRETE IS ALLOWED TO DRY OUT IN BETWEEN TIMES!



#### WHEN TO CURE:

Curing should be carried out just after finishing the surface of the wet plastic concrete, **AS SOON AS THE CONCRETE WILL NOT BE DAMAGED** by the selected curing procedure.

The commencement of curing should be *no later* than when the concrete sets.

#### HOW LONG TO CURE:

- ❖ Residential concrete jobs should be cured for **at least** three (3) days and commercial and/or industrial concrete preferably for **at least** seven (7) days.
- ❖ For **better** strength and durability, cure concrete for 14 days.
- ❖ The **LONGER** concrete is cured. The **stronger** and **more durable** it will be!

**REMEMBER, IF YOU LET THE WATER EVAPORATE OUT OF CONCRETE, IT'S LIKE LEAVING THE HARDENER OUT OF AN EPOXY!**

**YOU NEED THE WATER TO REACT WITH THE CEMENT FULLY TO GET FULL STRENGTH.**

#### FOR MORE INFORMATION:

Contact: Anna, Dorothy, Bea, Michael, Peter or Robert at Ability Building Chemicals Co on PH: (03) 9457 6488 or email [service@abilityproducts.com.au](mailto:service@abilityproducts.com.au) or go to our website : [www.abilityproducts.com.au](http://www.abilityproducts.com.au).

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