



## 6 Top Tips to Avoid Concrete Cracking

With spring here and summer around the corner, we are entering a time when freshly laid concrete can crack shortly after placement. Warm days, dryer air, or a modest breeze can be enough to cause cracks, even when the conditions don't seem extreme.

To avoid the difficult discussions about why the concrete has cracked, and the time involved with investigations that follow, there are some best practice procedures to follow which can greatly minimise the risk that your concrete will crack early.

Plastic shrinkage cracks can occur on flat slabs of concrete in the early hours after placement while the concrete is still in a plastic state. This is caused by the concrete drying out before gaining enough strength due to the top surface drying faster than bleed water rising through the slab. In some cases, this can be noted when the surface looks ready for finishing, but the concrete feels spongy or like jelly underfoot.

### **Causes of Concern:**

- Warm or sunny weather
- Windy conditions or strong gusts forecasts
- Presence of additives suppressing bleed water, retarding set time or absorbing heat
- Use of non-standard admixtures, additives or supplementary cementitious materials
- Commercial grades of concrete
- Exposed sites

## **Best Practices:**

### **1. Anti-Evaporative Spray (Anti-Vap or Evaporation Retardant):**

- Slows moisture loss from the surface
- Doesn't need to be removed before finishing
- Re-apply after each finishing pass

### **2. Obstruction or Windbreaks:**

- Slows wind speed across the slab.

### **3. Polypropylene Fibres in Concrete Mix:**

- Stabilises the concrete surface and reduces cracking.

### **4. Moistening Subgrade and Forms:**

- Helps maintain moisture in the concrete.

### **5. Curing the Concrete:**

- Start curing as soon as finishing is complete.

### **6. Delay Pouring:**

- Consider postponing concrete pouring until conditions are more favourable.

By following these best practices, you can significantly reduce the risk of plastic shrinkage cracking in freshly laid concrete when the conditions are not optimal.

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