

Plastic Cracking

It is the time of year when your concrete is at risk from plastic shrinkage cracking. This type of cracking occurs when the concrete you have just placed and finished is exposed to warm drying wind, and then develops cracking over the surface of the concrete. The plastic shrinkage cracks will appear in the first few hours of the slab's life. These cracks are either irregular in shape and appear as tears in the concrete, or they are extremely regular in that they follow the outline of the mesh and other reinforcing.

Factors which lead to plastic cracking:

- Warm wind
- Warm concrete
- Low humidity
- Low bleed concrete
- Exposed sites
- Broom finishes

How can I recognise the conditions likely to lead to plastic cracking?

AS A GENERAL RULE: If it is good weather to hang out washing to dry it is ideal weather for plastic cracking to occur as well. Visit our web www.alliedconcrete.co.nz/plastic_cracking.html to view the graph to enable you to assess your risk of cracking on any given day. Just enter

the weather data, concrete temperatures and assess the risk accordingly. When the concrete temperature is unknown, add 5 degrees to the air temperature if the sky is cloudy, or 10°C if it is a sunny day. These values are conservative and are likely to overstate the risk of plastic cracking. For greater certainty we recommend that a digital thermometer be bought to give a more accurate assessment of the plastic cracking risk.

How to minimise the risk of plastic shrinkage cracking.

- Do not place concrete when the weather conditions are too severe for you to control the evaporation rates of water from your concrete. This means that in high winds and warm temperatures, the pour should be delayed unless you can protect the slab accordingly.
- Moisten the sub-grade and forms prior to starting the pour.
- Use polypropylene fibres in your mix.
- Use an anti-evaporative spray to prevent excessive water loss from the slab.
- Cover the concrete with polythene or membrane cure immediately after finishing.

Consult your Allied Concrete representative for specialised information.

0800 4 ALLIED (0800 425 5433)
www.alliedconcrete.co.nz

Allied Concrete have endeavoured to present the best possible information. However, it disclaims any responsibility for the application of the principles discussed.

