

## Small Cracks in Pool Render

### Symptoms

- Small cracks – hairline cracks. Often calcium builds up in the crack.
- Plastic shrinking cracks can appear in the surface of cement renders and slabs within a few hours of placing, sometimes very soon after final troweling and frequently before troweling.
- They are often not noticed until the next day as they can develop after the tradesmen have left the site.
- They rarely impair the strength of the work, but they commonly form a tree-branch pattern, a network of ‘mudcracks’, or sometimes tend to be straighter, in a pattern across the surface.
- They can be very short, i.e. about 50mm, but can be up to 1 metre or more in length.

### Possible Causes

- Pool took too long to fill (should be completely filled within 36 hours)
- Pool finished on a hot, dry (low humidity) or windy day.
- Normal cement shrinkage, primarily caused by rapid drying of the surface of the mix. When the render is applied, a layer of fines and cement and water rises to the surface. This is known as bleed water. Under conditions of rapid drying, this bleed water may evaporate before the render hardens, causing the surface of the concrete to dry. Water within the concrete is drawn to the surface and evaporates. When this happens, the render near the surface shrinks and may crack, even though it may not have set.
- High suction through porous shell.

### Prevention

- Seal concrete pool shell with appropriate material to reduce suction.
- Ensure sufficient wetting of the concrete pool shell, use of a shade cloth, leave shade cloth up until pool is filled up, acid wash as soon as possible and fill quickly.
- Prevent surface from drying.
- When rapid drying conditions prevail, ALL surfaces should be inspected periodically until the render/concrete is quite hard. This will allow any cracks to be closed by trowelling. Such trowelling has to be vigorous enough to close the crack for its full depth.

## **Possible Remedies**

### **BEFORE POOL IS FILLED**

- Rub the cement and fine sand components of dry cement pool render, such as Aristone into the crack after the acid wash (area should be wet).
- Brush off and remove excess then fill pool as normal.
- It may be necessary to return and rub the treated area around 2 weeks after acid wash to further blend in the repaired area.

### **AFTER POOL IS FILLED**

- After pool has been filled for 2 weeks return to rub fines of cement pool render, such as Aristone, mix with water proof bonding agent and with the aid of a large syringe work into crack.