

# Leaking construction joints 101

## by Michael Salu

This is not an unusual occurrence in a concrete tank that has been emptied and then left empty for a period of time. Concrete shrinks and swells as it dries out and wets up, not unlike timber, but the shrinking and swelling occur much more slowly.

The length of time for the leaking to stop will depend on several factors, the main one being how long the tank was empty. As a rule of thumb, the longer the tank is left empty, the longer it will take for shrinkage cracks to close back up. One option for reducing leakage in the short term is to keep the water level just above the construction joint for as long as practical during renovation works. This will also assist a second mechanism, “concrete self-healing”, which also acts to close cracks in leaking concrete tanks.

Based on my experience, if a concrete tank has been emptied for say three months, then it will take at least three months for the tank to return to equilibrium, as drying out and shrinkage of concrete appear to progress faster than wetting up and swelling. Once the concrete has swelled back up, the leaking should stop with no outside intervention required.

In the (unlikely but not impossible) event that some leakage continues after the concrete has reached equilibrium, there will be several options to consider depending on the specific circumstances. External crack injection using a potable approved material such as Tam Pur 150 grout is a good workable solution, as the tank does not have to be taken out of service again for the procedure to be carried out.