

Resort Hotel - Brighton Beach - NSW Australia - 1992**Basement**

The Hotel Complex was constructed in saturated sand and water leakage became an almost instant problem. The bottom level, 80 X 80 metres, was 50mm under water. The result was that the proprietor could not use the car park and therefore could not complete the project. Leakage in the 6 lift overrun pits threatened to stop the lifts and so disrupt the hotel's operation. This problem had existed for 2 years and Simpson Burke Pty Ltd Project Consultants identified five sources of water leakage:

- The vertical joints between the concrete retaining wall and the raft slab edge that formed the car-park floor.
- The pour strips joints in the raft slab that formed the car-park floor.
- The uncapped de-watering wells which flowed back into the sump.
- Porous and cracked lift overrun pits.
- Sundry and other minor construction joints and cracks.

Conventional water proofing methods were tried but failed. Simpson Burke concluded that Scem66 had the best potential for solving the problem and decided to test the product in the lift overrun pits. Several holes were drilled through the surrounding pit walls and floor. Scem66 was injected through these holes to form a solution with the incoming water at the sand/concrete interface. The water pressure then caused the emulsion to percolate slowly through the cracks and porous concrete. Coagulation of the Scem66 particles occurred over a period of days until the water passages were all blocked. The effect was comparable to applying a waterproof membrane to the soil side of the structure without the need for excavation. The successful result of the lift pits led to a performance based contract to seal the remaining area of the car park.

Within 4 weeks 90% of the leakage had been stopped and within 6 weeks the performance criteria set down in the contract had been bettered.