

## 2005 January: The Leak!

Things starting to cruise along nicely, Purple Queen Anthias feeding well, corals starting to take off again, starting to get somewhere .... then this happens :(

Just before Christmas, the 21st of December actually, I get out of bed one morning, walk into the lounge room to put some food in the tank for the fish .... squelch .... wet foot .... what the !?!?

Turned on the light, the actinics on the tank were on but they are insufficient to light up the floor enough to look, and there was a nicely soaked carpet on one end of the tank. Great, where is that coming from. Look over the tank, looks OK, isn't overflow. Pull off the door for the stand and check out around sump, everything looks fine there too. Where is it coming from? Tried to see if the water was running down the side of the stand, nope can't see anything there. Finally I look up at the front left hand corner of the tank and notice a dribble of water down the side! That was the culprit.

### The Leak!

I then recall the night before walking past the tank and feeling something cold/wet on my feet. At the time I had assumed it was the plastic that I have underneath the piece of carpet across the front of the tank (to protect the room carpet from spills etc), but it was the wet carpet. Damn, I could have stopped it much earlier.

My heart just sunk at that moment. Then the worry set in, what am I going to do about it. What ever it is, no way I can get to work today then, bummer ;-) So I called up Mark Dusting and asked his advice and after bit of a discussion of the problem I developed a game plan. The idea is to drain the tank until it is below where the leak was located. Wash the glass and joint well with pure water, clean out the joint then put in more silicone. Allow to cure for a couple of hours, then refill the tank. Since it is such a small leak that should hold fine.

Luckily I still have the three 200 litre tubs that I purchased a couple of years ago and used recently for cycling the new liverock in. They were in use to collect rainwater off the garage roof, so had to go out and drain them. Hauled them insiding into the lounge room, set them up with a pump in one and some heaters, then a heater in the second. The heaters are to keep the water temperature up while the silicone is curing. Also had to set up something similar for the main display tank the circulation pump prefilters are up near the water surface and would be sucking air. So put a PM-2100, with Aquaclear prefilter like I use elsewhere, up the left hand end of the tank to keep some water moving around and a heater up the other.

Tank half empty while allowing the silicone to dry for a couple of hours.

Drained the tank until it was about half empty, which was sufficient to get the water level below where it was leaking. This volume of water fitted well into the two 200 litre tubs. Don't really know how much water in all drained out, but it was probably in the region of 15-20 litres. Lucky for us it didn't happen the next week, as we were away from the house for 7 days, that would have been a mess for sure.

The leaking point, after half the water was drained.

Then could have a close look at the joint to see what may have caused it. Was a bit hard to see, but could see some

points where some algae was growing within the joint, obviously there was water penetrating into there and had been for some time. Plus there was a point where a small worm had set up home. There was no bubbles in the joint from the manufacturing of the tank, so the failure was due to something else. Over the last couple of weeks I have come to the conclusion that it is due to razor blading too close to the joint, and accidentally getting into the joint. Then with the flexing/stress of the front panel over time has opened it up further.

Close up of the leak point, water half drained from tank.

I then cleaned out as best I could around where it was leaking using a razor blade, digging out the silicone at that point. Then rinsed it well with pure water, since Mark mentioned that the silicone bonds very poorly with the glass if it has salt residue or water on it. Dried it with some paper towel then it was time to put in some more silicone.

Applied the silicone using my finger, squeezing it out of the tube onto my finger tip, then smoothing onto the joint. That worked quite well, with sufficient pressure and excess silicone was able to force it down into the joint, about half way through at all points. So, that was that for the moment.

During this time and during the subsequent drying period, about half to the corals in the tank were out of the water. So ever 5 minutes a cup of water was poured over each of the colonies. The idea was to keep them moist and hopefully reduce the stress of being out of the water for so long. In the next journal entry you will see that it did work, but not as well as I had hoped.

Then there was the wet carpet to clean up. Soaked up as much as I could using towels, standing on them to get best contact with the soaked parts, particularly under the pile. Then set up our large fan and directed it over the wet part. This then ran like that for the next four days, drying out the carpet. Not quite as efficient as the large blowers that carpet cleaning companies use, but it did a good enough job. At this point I am thinking when we move out of this house, we are renting, we will be replacing the carpet in the lounge room. Far too many water spills that was gone into the carpet under the tank, it ain't going to be pretty. Anyway, that was the risk I was taking and was well aware of it when I set the tank up there.

After watching three episodes of the X-Files it was time to fill the tank up. Pumped the water back in, set everything running again, such as the skimmer, lighting, circulation pumps etc. It was holding :) Thank God. That was a very stressful morning.

Kept an eye on the joint for the next couple of days and everything seemed to have worked. However, I was probably going to have to do something about getting a new tank. I would never feel comfortable with the tank again, even if the repair was perfect (which it isn't as wasn't done under great circumstances). At the end of the week it was Xmas, so we went off to our parents as we normally do and returned on Boxing Day night to check things out, everything was fine.

But, since this entry goes on further, the story doesn't end there. After returning from our holiday (to South Australia) during the day, that night I walk past the tank again .... squelch .... wet foot .... not again !?!

All things considered, probably couldn't have asked for a better timing for it to start leaking again. It did so just after the person dropped in to check on it and feed the fish then would have been in trouble. And it would have been a long drive back in one go to come back and fix it. But anyway, I was dreading having to drain the tank, put everything under such stress again and try to patch it up. Hmm, how about just going to buy a new tank and transfer it all over straight away? Nope, too late for the, shops are shut. Bugger! This time it was coming through the silicone at a lower point, but it is hard to say exactly where since there was a new layer of silicone put over it. It was probably just channeling it down from

where it came the first time.

What to do, what to do? Well, thought about it for awhile and recalled that I had just gotten a couple of sash clamps at the wood show last year that should be just about long enough. Run out to the shed, bring them in side, damn, not quite long enough. Hey ya nong, you can unscrew the ends of them and bingo, just long enough to reach across the tank :-)  
Put one just below where the leak was coming from, tightened it up ..... and it stopped! Whooho!

Clamps currently in place to stop the tank leaking any further.

So, now the tank has two clamps across one end to stop it from leaking any further. I need to think about what I am going to do about it and are currently undecided. But thankfully don't really have to rush it too much since the clamps are doing a very good job of stopping it from leaking any further. And they are reducing the stress on the joint, stopping it from failing any further. It is something that I am going to have to address in the never near future though.