

SYLWRAP Case Study

UAE Chilled Water System Repair Testing

Rigorous testing in the UAE results in SylWrap repairs being approved for use on leaking ABS pipe joints in a chilled water cooling system at a luxury complex



Three ABS pipe test rigs were built with a deliberately weakened flange end. When pressured reached 4 bar, the weak joint began leaking. It could then be repaired using Superfast Aqua PW and SylWrap HD



Superfast Aqua PW was applied all around the joint to seal it. SylWrap HD then reinforced a 250mm area of the pipe by creating a thick, robust shell.



Pressure was increased to over 8 bar after repair and the test rig left for 18 hours. All pipes were inspected with no visible signs of cracks, leaks, deformations or damage - passing the test for use at the complex

Defect

Sylmasta were contacted by an engineering company responsible for district air conditioning cooling a luxury complex containing over 500 apartments, a leisure centre, shops, restaurants and a 5-star hotel.

They were looking for a quick and easy repair for sealing leaking joints in the ABS pipe network which pumped chilled water around the entire complex.

Solution

To evaluate Sylmasta products, the company built 50mm, 100mm and 150mm ABS pipe test rigs. Each rig was one-metre long, and connected with stub flange sets and MS end flange ends.

One side of the flange ends was made intentionally weak. When the pipe was filled with water, this flange end began leaking once 4 bar pressure was reached.

It was sealed by applying **Superfast Aqua PW Epoxy Putty** all around the joint. **SylWrap HD Pipe Repair Bandage** was then wrapped across a 250mm area.

Each repair was given 90 minutes to reach working strength. Pressure was then increased to over 8 bar and the pipe left for 18 hours before inspection.

Result

When all pipes were inspected after repair, there were no visible cracks, leaks, deformations or damage.

In their report, the engineers wrote: "The materials adhered well to the pipe surface and withstood the specified pressure with no signs of any leakage, failure or abnormal pressure fluctuations."

"We therefore consider this repair suitable for any leakage on ABS pipes in chilled water systems."