SYLWRAP Case Study

Seawater Cooling Pipe Snapped Nozzle Repair

A petrochemical plant in Saudi Arabia make an urgent repair to a seawater cooling system pipeline after a nozzle snapped off leaving a 50mm hole

The pipe surface was damaged and weakened by the five metre jet of water spraying out the 50mm hole

A PTFE plug secured the hole before being permanently bonded in place using AB Original

The exposed top of the PTFE plug was protected by wrapping it in seven layers of SylWrap HD, creating a fully watertight seal

Further SylWrap HD was wrapped around the pipe diameter, creating a thick and robust outer shell which strengthened the weakened original wall

Defect

The 1500mm pipe was the main supply line for a cooling system extracting from the Red Sea. When the nozzle snapped off, it left a 50mm hole spraying water five metres into the air at 3 bar pressure.

Losing so much water impacted the efficiency of the system. It was also causing damage, discolouration and mould to appear where it saturated the line, weakening the exterior pipe surface in the process.

Solution

A PTFE plug was fixed permanently in place with **Sylmasta AB Original Epoxy Putty** to seal the hole.

AB Original easily bonded to the wet pipe surface, whilst its two-hour work time allowed for careful application without the worry of the Saudi climate curing off the putty too quickly.

The exposed top of the PTFE plug was then protected with seven layers of **SylWrap HD Pipe Repair Bandage** for a fully watertight seal.

When the line was put back into service, water and air were noticed bubbling at the pipe surface near the hole. Four more layers of SylWrap HD were applied around the pipe diameter to reinforce this section.

By the time SylWrap application was complete, the pipe was encompassed in a thick, rock-hard, robust shell strengthening the weakened outer wall.

Result

Completing the repair took under three hours, after which the system returned to operation at full capacity.

The repair saved the plant from a costly and time-consuming fitting of a replacement pipe section.

Tel: +44 (0)1444 831459 www.sylwrap.com Email: sales@sylmasta.com
Sylmasta Ltd, Halland House, Dales Yard, Lewes Road, Scaynes Hill, ENGLAND, RH17 7PG