



Epoxy Putty Case Study

Seawater Cooling System GRP Return Pipe Repair

A leaking 3 metre diameter GRP return pipe in a seawater cooling system is repaired in just two days, keeping downtime at an oil refinery to a minimum



The line was isolated, excavated and re-pressurised. So much water escaped that the hole dug to access the pipe became instantly flooded



Superfast Copper sealed smaller holes in the line in five minutes



AB Original was used for larger leak areas because its longer work time allowed more putty to be mixed without the threat of premature curing



The line successfully sealed prior to being re-buried

Defect

The oil refinery in Saudi Arabia processed 400,000 barrels per day. Cooling processes on-site relied on water extracted from the Red Sea and transported by 3 metre diameter underground GRP pipes.

When the ground above a return pipe was noticed to be wet, the line was isolated and excavated. Once accessed, the line was re-pressurised. So much water escaped from several areas that the hole dug to reach the pipe was instantly flooded.

Solution

The line could not go back into service leaking such levels of water. All the while it remained out of use, the refinery could not produce oil at full capacity.

Needing a rapid repair, two epoxy putties were used to seal the pipe. **Superfast Copper Epoxy Putty Stick** was pushed into the smaller holes.

The five-minute work time of Superfast Copper was accelerated by the climate. A putty with a longer work life was required for the bigger holes.

With a two-hour work time, **Sylmasta AB Original Epoxy Putty** enabled more putty to be mixed and applied without the threat of premature curing.

Result

Both putties achieved full properties after 24 hours. The line was then turned back on. No water was escaping, meaning the repair was a success and the pipe could be re-buried.

Refinery downtime was restricted to just two days and the repair cost less than £100 to make, a huge saving compared to replacing the leaking section.