SYLWRAP Case Study

900mm Leaking Steel Water Main Flange Repair

A 900mm water main in an underground chamber flooded by water leaking from cracks around a flange undergoes an ‘impossible’ repair in Malaysia

Pressurised water spraying from cracks in the main as the flooded chamber was drained before repair

Superfast Steel filled the cracks in the pipe, fixed the plastic plugs in place and encompassed the flange

A valve was fixed in place with epoxy to channel water escaping through a gap between flange and pipe

The ‘impossible’ repair completed with a tap fitted

Defect

Corrosion had caused cracks around a stub flange, through which water was escaping at high pressure. A clamp could not be fitted and there was no space between the water main and the ground to wrap tapes or bandages.

With no visible way of isolating the main, flow could not be shut off or reduced. The pipe was therefore considered impossible to repair and left to leak, flooding the chamber.

Solution

Water was pumped from the chamber. An engineer then hammered plastic plugs into sizable cracks along the flange, reducing the amount of water escaping to allow for a proper inspection.

A stopcock was spotted down the pipe. With flow turned off, **Superfast Steel Epoxy Putty** was used to fill in visible cracks and encompass the flange, permanently fixing the plugs in place.

The main was left for 24 hours. All remaining small leaks were sealed with more putty the next day, leaving one area needing attention where water was jetting from a gap between flange and pipe.

To arrest this, the engineers used further Superfast Steel to fix a valve in place. Any water trying to escape would now be channelled to the valve.

Result

The water company responsible for the main had originally wanted to reduce the amount of water being lost. Instead, the determined engineering company sealed the pipe, completing the ‘impossible’ repair over two days.

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