

Case Study – 12” Pipe x 1 ft Repair near Flange

Cooling Tower Line Repair
Delaware, USA



OVERVIEW:

12” return water line from chiller unit.

THE PROBLEM:

The repair of thru wall defects near flange on a 12” carbon steel cooling tower waterline operating at 140 psi and 90°F.

THE SOLUTION:

Multi-sequence repair requiring depressurization of the line utilizing A+ Wrap in conjunction with epoxy putty and rubber . Contact for NE Region - John Wager (856-430-3247).

REPAIR PROCEDURE:

- Grinded all surfaces to clean steel
- Installed ¼' thick piece of rubber stopgap over defects. The rubber pieces were secured with galvanized banding strap. Traditional method of repair (filling pipe with putty stick) was not used due to extremely thin bottom.
- Covered the sharp sections of banding material and all transitions between welded plate to pipe, flange to pipe and rubber piece to pipe with fast set epoxy putty stick.
- Installed epoxy adhesive over entire repair.
- Due to location of repair area (tight against flange with bolts every 2”) a change was made from the suggested spiral wrap over the patch and tight against the flange.
- Two rolls were used making the repair six layers thick. A spiral wrap was done overlapping 2” of the hoop wrap with 3 rolls of material over the rest of the repair.
- Constrictor Wrap was applied over the material. Line was recharged 2 hours after completion. The temperature was of an estimated 78 degrees.



View of Thru wall defects



Pipe prepped for repair



View of Completed Repair



Repair Applied and Curing