MCORABILITIES™

CASE STUDY

SERIES

PROJECT: Natural Gas Pipe Repair

OWNER: Florida Power and Light Power Plant, Fort Lauderdale, Florida

DATE: December 2015

PRODUCTS: MCOR™ 3115 | mClad™ mFill™

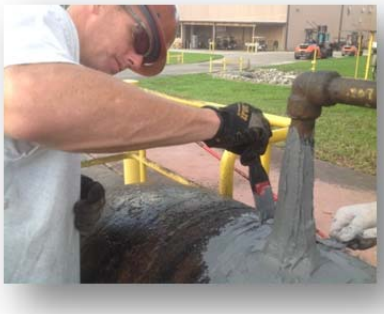
When Surface Prep Is Not an Option, MCOR™ 3115 Can Do the Job

In late 2015, MCOR™ assisted in rehabilitating a natural gas pipe at a Florida Power & Light (FPL) power plant located in Fort Lauderdale, Florida. This twenty-inch (20”) natural gas pipe with two standoff one inch (1”) pipes was in need of immediate repair. Both standoff pipes, along with their attachments to the main pipe, suffered from extreme erosion, and this effect was compounded by Corrosion Under Insulation (CUI). In addition to the corrosion issues, the surface was cold and constantly damp due to the condensation.

To gain more information about the substrate, including the wall thickness, FPL performed sonogram and X-ray tests as a preliminary step. The results showed that typical surface preparation methods could not be utilized due to the risk of further metal loss. The probability and risk associated with abrasive blasting or grinding tools puncturing through the pipes were too high; therefore, the possibility of getting the surface ready to accept any type of polymer

coating near typical NACE or SSPC standards was eliminated. The facilitating contractor, W9Y Construction, was faced with the challenge of finding a product that would be reliable, cost effective, and surface tolerant.

W9Y Construction contacted MCOR™, manufacturer of advanced mechanical polymers, to determine if any coating solutions were available for this difficult scenario. The solution came from MCOR's™ 3115 | mClad™ mFill™ multipurpose, structural-grade metal filler and metal repair paste.

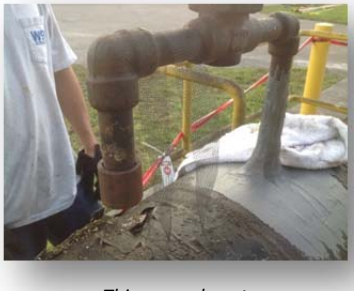


Applying the first coat of MCOR 3115

The mClad™ mFill™ provides point-of-use application, and it is highly tolerant in challenging areas, such as damp substrates. This two-component, fast-set epoxy paste is packaged in a convenient 1:1 mix ratio. This high-strength epoxy is an excellent solution for reclaiming, resurfacing, and patch filling metal. Epoxy-based and highly modified with fibers and ceramics, the material is a durable, sealed protective solution to combat corrosion. The MCOR™ 3115 along with a mesh reinforcement provided an exceptional solution in this case for both adhesion and rebuilding metal walls with a reinforced polymer exhibiting structural-grade properties and high flexural strength to ensure lasting durability. It provided a long-term repair until the power company was ready to replace the pipe. In addition, it also protected the area from CUI should the pipe be insulated again.

To begin the repair, the deteriorated section was isolated, providing a dry substrate. With two men on the job and the ambient temperature in the low 80°F range, the first coat was applied and allowed to cure overnight.

Reinforcement mesh was applied the next day after the area was thinly coated with a second coat of the MCOR™ 3115, allowing it to work its way through the mesh. A third coat was applied to finish the application.



Thin second coat

Application of mesh

Final coat

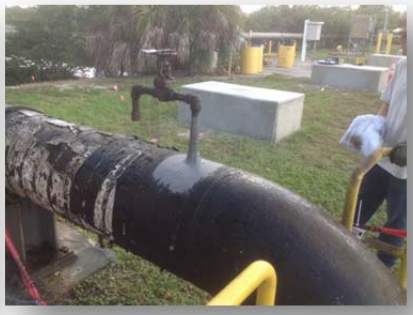
MCOR™
Advanced Mechanical Polymers

1.888.961.MCOR
mcor.net

MCORABILITIES™

CASE STUDY SERIES

This repair provided an immediate solution, savings in both labor and product costs, and minimal down time. In addition, the product is easy to use and safe because it eliminates any welding or Volatile Organic Compound (VOC) issues.



To learn more about MCOR™'s 3115 | mClad™ mFill™ visit mcor.net/mcor-3115-mclad-mfill
To learn more about MCOR™ visit mcor.net

For more information, please contact your local MCOR™ consultant

MCOR™
Advanced Mechanical Polymers

1.888.961.MCOR
mcor.net