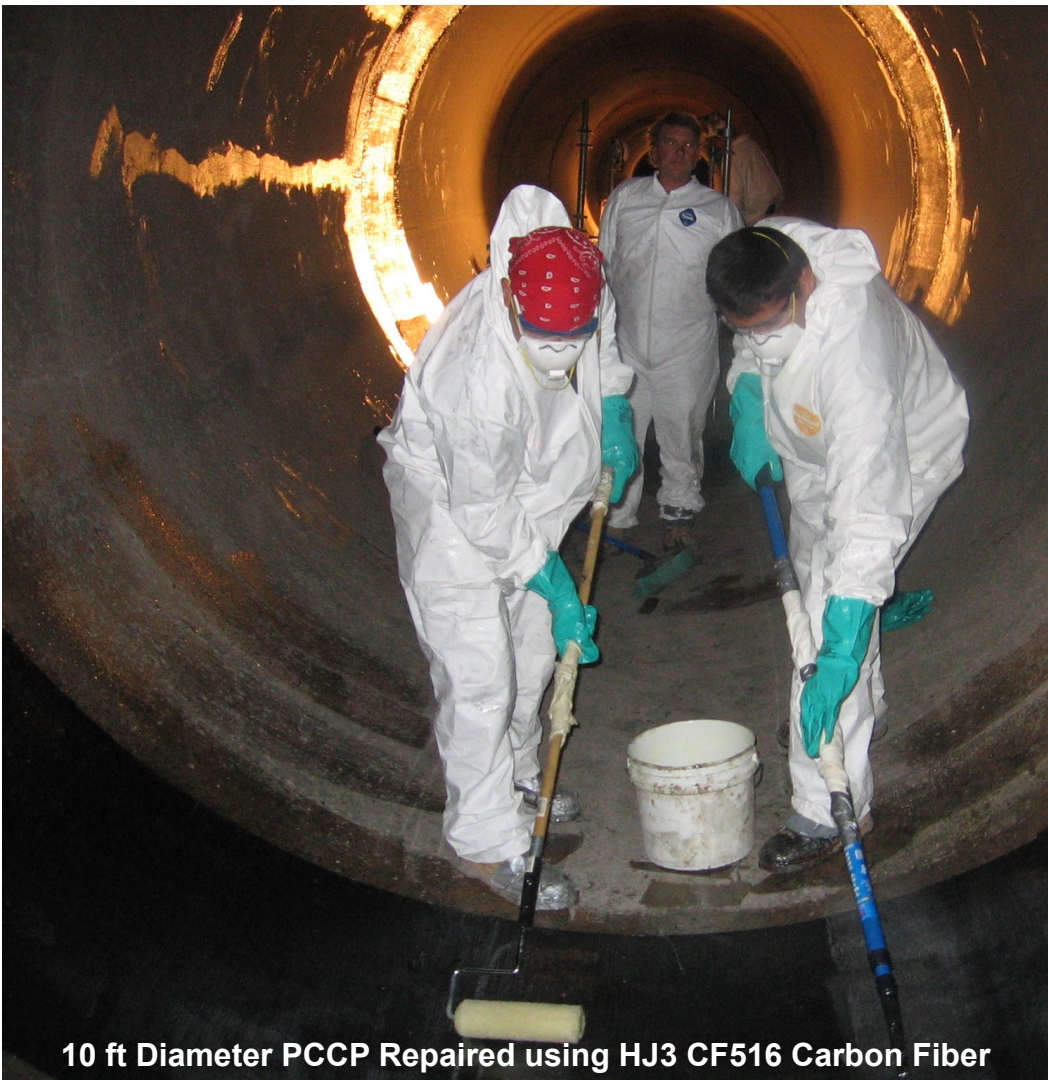


HJ3™
Composite
Technologies



The Strongest Name in Carbon Fiber

PIPE REPAIR



**CONCRETE, STEEL
& CLAY**

Advantages

- 5 to 10 times stronger than steel
- Weighs 4 ounces per square foot
- Corrosion Resistant
- Chemical Resistant to Acidic & Alkali Environments
- Minimizes Downtime
- 30% to 40% Cost Savings over alternative repairs or replacement!

10 ft Diameter PCCP Repaired using HJ3 CF516 Carbon Fiber



STEEL PIPE

Corrosion of steel reduces pipe strength and service life. Traditionally, owners are forced to replace the damaged pipe, requiring extensive downtime, the use of heavy equipment and excavation. **HJ3 Composite Systems™** structurally repair damaged pipe. Installed internally or externally, **HJ3 Composite Systems™** return the pipe to its original design strength without costly downtime, heavy equipment or excavation.

HOW IT WORKS

HJ3 Composite Systems™ are reinforced with high tensile strength fibers. When these fibers are bonded to the circumference of the pipe they resist the internal hoop stress from the pipe operating pressure. The cured **HJ3 Composite System™** also protects the pipe from further corrosion and impact.

PCCP & RCP

HJ3 Composite Systems™ are excellent repair solutions for damaged pipes below grade with limited access and can be used to repair Pre-stressed Concrete Cylinder Pipe and Reinforced Concrete Pipe. In both PCCP & RCP repair applications the carbon fiber replaces the tensile strength lost by corrosion of the existing steel pre-stressing wires or steel rebar.

HOW IT WORKS

HJ3 Composite Systems™ can be installed on the internal or external face of the pipe to create proper tensile reinforcement necessary to repair cracks, increase flexural and shear capacity, and provide a waterproofing membrane to the internal pipe surface. **HJ3 Composite Systems™** can also be used to increase the compressive strength of pipe to overcome loads such as soil and mobile equipment.



HJ3 Quikfix™ STOPS LEAKS

HJ3 Composite Systems™ are now available in easy to use kits. These kits provide carbon or glass materials that are 2-inches to 10-inches wide. The carbon or glass fabrics are pre-impregnated with a water activated urethane and vacuum packaged. To install the urethane carbon or glass systems simply dip the rolls in water for 30 seconds, wrap the pipe and allow the system to cure for 30 minutes. The carbon or glass fabrics can also be packaged in 5 gallon buckets with the traditional HJ3 resins, mixing tools and application tools necessary to install the wet lay up systems.

HOW IT WORKS

The Quikfix™ repair systems are perfect for repair of small diameter pipe, pipe joints and riser pipes.

