

The Future in Pipe Renovation™

Reduce your Pipe Repair Time By 80%



The patent-pending PipeMedic™ system developed by Professor Mo Ehsani offers significant advantages over the conventional wet lay-up technique that has been used for over a decade to repair and strengthen pipes.

PipeMedic™ is a pre-cured sheet of laminated carbon FRP with tensile strength about 4 times that of steel. The sheets are up to 4 ft. wide x 300 ft. long and are coiled for storage & transportation. Inside the pipe (or tank), the coil is released and PipeMedic™ snaps against the surface of the pipe like a loaded spring!

Bonding is achieved by applying a thin coat of epoxy to the back side of PipeMedic™. A packer device can also assist the installation.

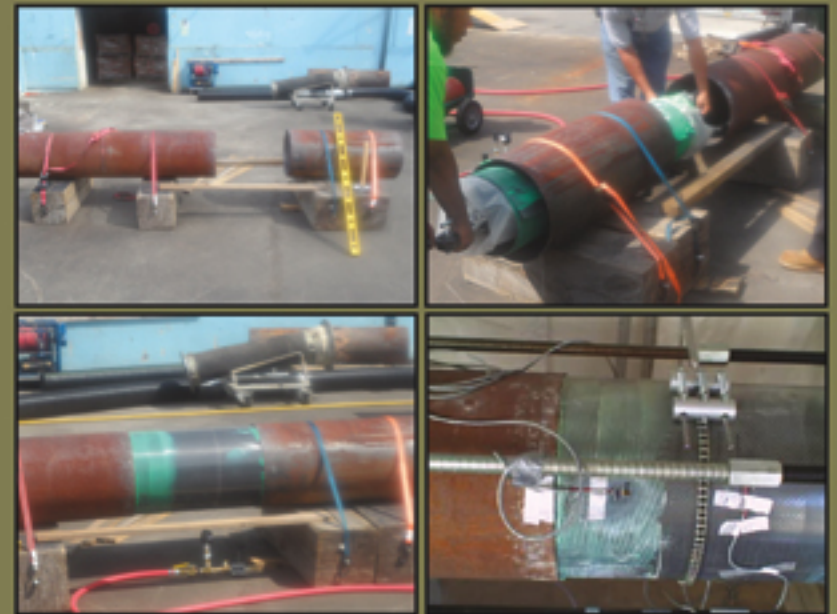


Advantages:

- Continuous or spot repair
- One size fits all pipes 3-inch in diameter or larger
- Repair pipes without traffic disruption
- Can be cut in the field to any width or length for easier handling
- Virtually no loss in diameter
- No annular space to grout
- Maintenance free

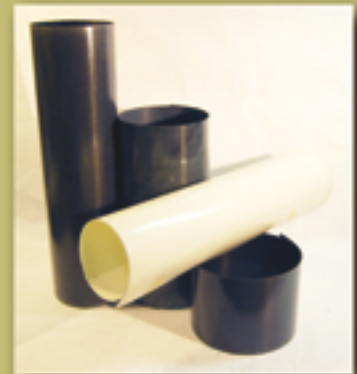
Tested by Gas Technology Institute

In an unusual application PipeMedic™ is used to bridge a 2-foot gap in steel pipes carrying natural gas. The system was tested by GTI and has been approved for 6-16 inch diameter pipes pressurized to **250 psi**. The product has been successfully installed in the field for some gas utility clients.



Sample Properties of PipeMedic™

Measurements per ASTM D303-09	PC40.2	PC26.16	PG16.15
Longitudinal Direction			
Tensile Strength (psi)	156,000	101,000	62,000
Modulus of Elasticity (ksi)	13,800	7,150	3,500
Transverse Direction			
Tensile Strength (psi)	9,300	64,000	60,000
Modulus of Elasticity (ksi)	1,190	2,940	3,650



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www.PipeMedic.com

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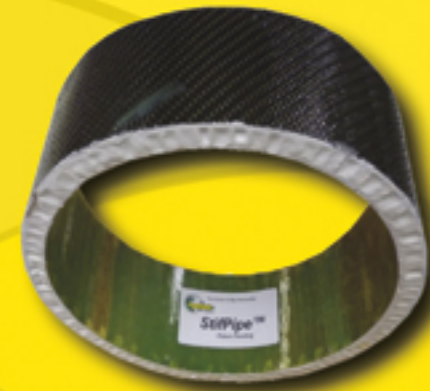
StifPipe™: For Repair of Pipes & Culverts

Break-through technology adds both **strength & stiffness** and can handle seemingly impossible projects.

StifPipe™ is the latest patent-pending product developed by Professor Mo Ehsani for retrofit of pipes & culverts subjected to external gravity loads & internal pressure. Instead of using multiple layers of expensive carbon fabric to build up thickness and stiffness of the liner, a special honeycomb core is used to provide stiffness; carbon fabric is used as the skin only and is designed to resist internal pressure.

Advantages:

- Can be made to any size
- Can be made to any shape (oval, egg-shape, etc.)
- Manufactured off-site to reduce onsite repair time
- Maximizes capacity by fitting tightly against host pipe
- Higher quality than conventional FRP liners
- Pipe sections can be tested for strength *before* they are installed
- Lower cost than conventional carbon FRP liners



StifPipe™ can be used to repair:

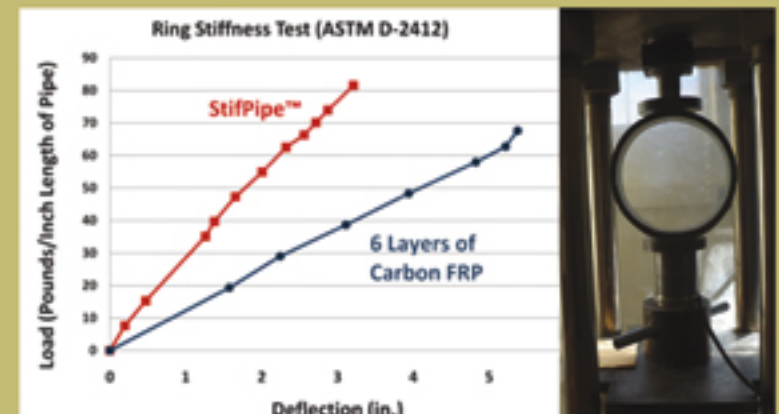
- Pipes subjected to gravity and traffic loads
- Pressurized pipes
- Corrugated Metal Pipe (CMP) culverts
- Collapsing sewer pipes
- Leaking joints in pipes and culverts



Corrosion-damaged oval-shaped CMP culverts are one of the many challenging problems that can be repaired with StifPipe™.

Ring Stiffness Test:

A project for repair of a 36-in Prestressed Concrete Cylinder Pipe (PCCP) required 6 layers of carbon fabric. Two samples of 36-inch pipes were constructed with 6 layers of carbon and StifPipe™ respectively. As the results indicate, the patent-pending StifPipe™ is more than twice stiffer than the liner constructed solely of carbon fabric. The StifPipe™ is a higher quality product that can be installed much faster and at a lower cost than a multi-layered carbon FRP liner.



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