



Composite Solutions for Piping and Structures
2701 State Highway 322 Longview, Texas 75603



PermaWrap™ & WeldWrap™

“The Next Generation Repair Systems”
Tested and Proven at the EXTREMES

- *“Smart Pig” Detectable • Diamond Lock Technology*
- *No Shutdown • No Hot Work • No Heavy Equipment*
- *D.O.T. Compliant • 2-Man 45 Minute Installation*

AN ADVANCEMENT IN PIPE REPAIR

Pipe Specimen: 12.75" O.D. x .375" Wall; API-5LX-52

Defect – 6.5" x 6.5" x .300" Deep

Completed Installation in 35 minutes

Pipe Body Failure @ 4,260 psi



PermaWrap™ Kit:

- ◆ **PermaWrap™ and WeldWrap™ Composite Sleeves – use a superior laminate construction with proven materials to form a high tensile strength rigid “magnetically detectable” fiberglass wrap for the PERMANENT structural reinforcement of “blunt” type external defects to piping with up to 80% wall loss.**
- ◆ **Two-part proprietary Adhesive System used to bond the PermaWrap™ Sleeve to the pipe surface and to composite layers to form a monolithic structure.**
- ◆ **Two-part proprietary high compressive strength Putty used to fill all cavities and tented areas to ensure a “load-transfer” path from the pipe surface to the PermaWrap™ Sleeve.**
- ◆ **Installation Accessory Kit provides all items to properly apply the PermaWrap™ System with minimal additional tooling.**
- ◆ **The PermaWrap™ System Repairs 4” thru 56” Diameter Piping.**
- ◆ **The PermaWrap™ Kit comes in five (5) standard widths – 6”, 9”, 12”, 15” & 18”.**
- ◆ **Manufactured under US Patent # 6,774,066**

Repair:

- ◆ **Corrosion Defects**
- ◆ **Blunt Dents and Gouges**
- ◆ **Girth Weld Zone Repairs**
- ◆ **Field Bends & Elbows (greater than 5 D)**
- ◆ **Vertical & Horizontal Piping**

Testing:

- ◆ **Cyclic Fatigue >100 psi to 2200 psi (72% SMYS)**
- ◆ **Hydrostatic Burst > Bare Pipe & Reinforced**
- ◆ **Adhesive Bond Testing**
- ◆ **Tensile Strength Evaluations**
- ◆ **Compressive Strength Evaluations**

Material Properties:

<i>Cure Time</i>	<i>2 Hours</i>
<i>Max Operating Temperature</i>	<i>130 °F</i>
<i>Chemical Resistance (pH range)</i>	<i>4-11</i>
<i>Tensile Strength (psi)</i>	<i>90 ksi</i>
<i>Tensile Modulus (psi)</i>	<i>5.5 msi</i>
<i>Flexural Strength (psi)</i>	<i>26 ksi</i>
<i>Flexural Modulus (psi)</i>	<i>2 msi</i>
<i>% Elongation @ 77 °F – Composite</i>	<i>1%</i>
<i>% Elongation @ 77 °F – Adhesive</i>	<i>40%</i>
<i>% Elongation @ 77 °F – Putty</i>	<i><1%</i>
<i>Lap Shear Strength @ 140 °F – Adhesive (psi)</i>	<i>1.6 ksi</i>
<i>Compressive Strength @ 140 °F – Putty (psi)</i>	<i>10 ksi</i>
<i>Hardness – Shore D</i>	<i>78</i>

For more information visit us at: www.wrapmaster.us or email us at: sales@wrapmaster.us