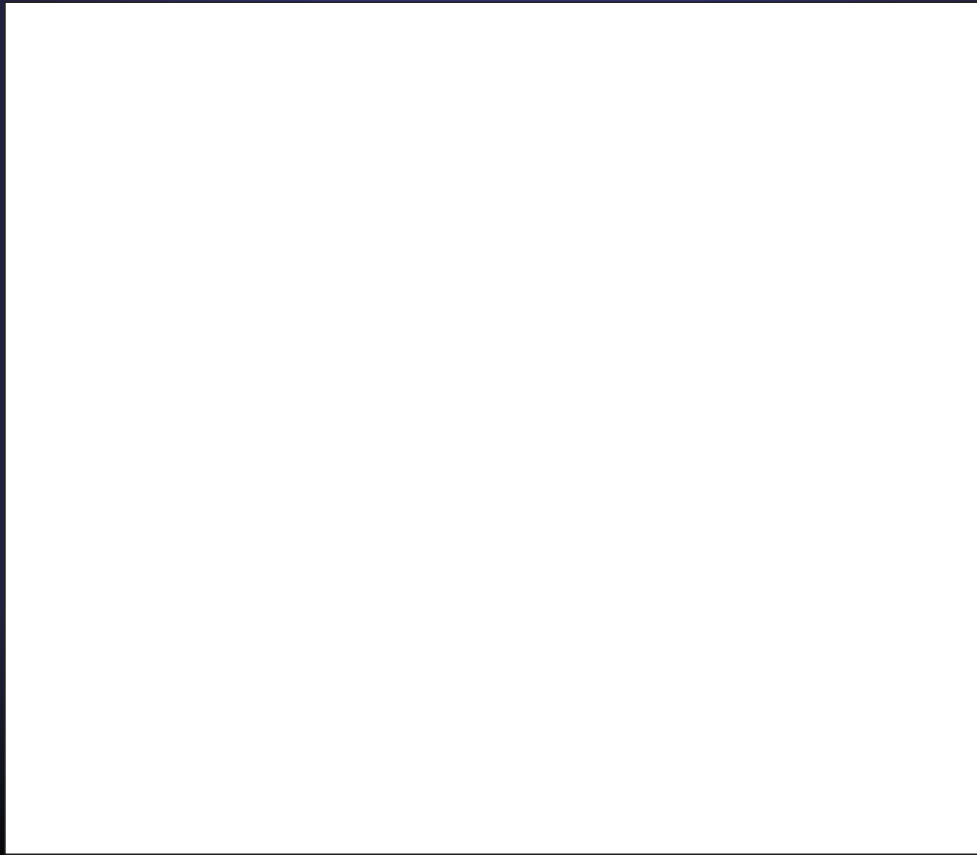


PermaCarbon™



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

STRONGEST CARBON SYSTEM IN THE MARKET

- *D.O.T./CSA/ASME PCC-2/ISO TS-24817 Compliant* • *No Shutdown*
- *No Hot Work* • *No Heavy Equipment* • *30 Minute Installation*
- *“Smart Pig” Detectable*



THE COMPOSITE TECHNOLOGY COMPANY
2701 State Highway 322 Longview, Texas 75603



IC-QM-2405237

AN ADVANCEMENT IN PIPE REPAIR



GENERAL DESCRIPTION

The PermaCarbon™ System is the “***STRONGEST CARBON SYSTEM IN THE MARKET***” for the critical high stress conditions of piping structures. The PermaCarbon™ System is a conformable carbonfiber-epoxy wet lay-up solution for on-site repair. The PermaCarbon™ System provided in pre-measured 2-part dump kits easy for field impregnation of the fabric material. The PermaSeal System is compliant with both ASME PCC-2 and ISO 24817 Design & Testing Standards.

MECHANICAL PROPERTIES	UNITS	ASTM TEST METHOD	VALUES
Tensile Strength – Hoop	PSI	D3039, A370, E8	219,000 (1,5101 MPa)
Tensile Strength – Axial	PSI	D3039, A370, E8	61,000 (421 MPa)
Tensile Modulus	PSI	D3039	13,060x10 ³ (90,045 MPa)
Interlaminar Shear	PSI	D5379	3,540 (24,407 MPa)
Shear Modulus	PSI	D5379	801x10 ³ (5,522.7 MPa)
Thermal Expansion	µin/in/°F	E831-6	-13.49
Poisson's Ratio		D3039	0.160
Glass Transition (T _g)		ISO 11357-2	216 °F (102 °C)
Hardness, Shore D		D 2240	90

PHYSICAL PROPERTIES

Fabric Widths	4", 6" & 12" (10cm, 15cm & 30,5cm)
Fabric Architecture	Biaxial
Ply Thickness	0.018 inches (0.45mm)

GENERAL PARAMETERS

Maximum Operating Temperature	184 °F (84 °C)
Working Time (Temp Dependent)	40 minutes @ 77 °F
Set Time	1 Hour
Application Conditions	Above 55 °F (13 °C) Up to 120 °F (49 °C)
Cure Time	24-72 Hours
Chemical Resistance	Acetone, Ethyl Alcohol, Gasoline, MEK and other Hydrocarbons
Shelf Life	One Year @ 40 °F to 75 °F

BASE KIT CONTENTS

- ◆ Carbon Fiber Fabric
- ◆ Resin – Part A & Part B (pre-measured)
- ◆ Filler Kit – Part A & Part B (pre-measured)
- ◆ Adhesive Primer Kit
- ◆ Wet-out Kit (mixing tools, gloves)
- ◆ Constrictor Wrap

ADD KIT CONTENTS

- ◆ Carbon Fiber Fabric
- ◆ Wet-out Kit (mixing tools, gloves)

BENEFITS

- ◆ Quick & Easy Field Impregnation Process
- ◆ Conformable
- ◆ Pre-measured Resin Systems
- ◆ Adaptable to Field Conditions
- ◆ Wide range of T_g achieved with single system
- ◆ Both Structural & Leak Containing

TYPICAL USES

The PermaCarbon™ System is used on piping systems exposed to corrosion or mechanical damage or defects associated with fabrication. The PermaCarbon™ System is used to repair the following:

- ◆ Leaks
- ◆ External Corrosion
- ◆ Mechanical Damage (Dents, Gouges and Scratches)
- ◆ Weld Defects, Wrinkle Bends, Inclusions and other Fabrication Defects

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

