

# Understanding Advanced Composites for In-Service Pipeline Repairs



**Why:** The number of pipeline defects being found is increasing exponentially along with the costs for effective remediation and/or repair. Composite materials were first successfully introduced into the Pipeline Industry with the advent of the ClockSpring™ product. Further research and advancements beyond fixed laminar composites has resulted in new, stronger, more flexible and easier to install “composite wraps” These new wrap products have proven to be “faster, cheaper and better” than steel sleeves or any of the other traditional repair methods and thus are now preferred by Industry. Most importantly composite wraps can be installed while the pipeline is in operation, under water, on elbows, Tees or other unusual configurations.

**Benefits:** Reduced pipeline remediation and repair costs.

**Objective(s):** To provide an understanding of alternative pipeline repair methods, alternative costs for repair compared to composite wraps and to qualify each student for the proper evaluation, preparation and installation of “most available brands” of composite wraps.

**The Course is Designed for:** Corrosion engineers and field personnel interested in composite wrap repairs for in-service or out of service pipelines. The course would also be of interest to engineers, technologists, and scientists in other disciplines.

**Instructor: Geert Bontekoe** -Mr. Bontekoe has 15 years of experience in the oil, gas and the fiber optic industry. From 2001 to 2004 Mr. Bontekoe worked for A. Hak in the Netherlands as an Inspection Supervisor for Inline Inspections. His areas of responsibility included the maintenance, repair and operation of smart pigs. He executed over 50 projects during this period.

From 2005 until 2007 Mr. Bontekoe served as VP Development for Technologia Para Corrosion. Since 2007 he has been employed by TechCorr USA LLC, heading the R&D Department and the Pipeline Inspection Department. During his time with TechCorr, he has developed various machines to provide unique solutions for clients. These include the Eddy Current Spinner and the Umbilical Riser UT Tool. He is also the company specialist in the application of composite wrap repair systems and responsible for developing solutions to inspect and clean un-piggable pipelines.

He is TechCorr's specialist in challenging repair installations.

**Where:** Technical Toolboxes  
3801 Kirby Dr. #501  
Houston, TX 77098

**When:** One (1) Day Training Course  
Month date to date, year 8:30AM  
ending approximately 5:00PM

**Price:** \$495 per person includes all supplies for example repairs

**Agenda/Outline**

- I. Introduction to Composites Technology**
  - A. General overview
  - B. Current Industry Regulations for Inspection and Maintenance Requirements
  - C. Evolution of the products
  - D. Applications Potential
  
- II. Alternative Composite Wrap Products/Systems**
  - A. Description and Analysis of the “Products” and “Systems”
  - B. Individual Components
  
- III. Evaluation of the Application(s)**
  - A. Assessment
  - B. Determination of the optimum solution
  - C. Calculations for re-enforcement/Repair
  
- IV. Preparation of Repair Area**
  
- V. Installation Instructions-All Components**
  
- VI. Open Question and Answer Session**
  
- VII. In-Shop, Hands-On Installation of all System Components**
  
- VIII. Return To Classroom For Final Questions**



**Please complete the attached form  
and fax to TTI at 713-630-0560**

**Course Cost: \$495.00**

**Course Date:**

**Name** \_\_\_\_\_

**Company** \_\_\_\_\_

**Address** \_\_\_\_\_

**Address** \_\_\_\_\_

**City, State, ZIP** \_\_\_\_\_

**Country** \_\_\_\_\_

**Phone/Mobile** \_\_\_\_\_

**Fax** \_\_\_\_\_

**E-mail** \_\_\_\_\_

**Payment by Credit Card**

**Circle One: VISA MasterCard AMEX**

**CC Number** \_\_\_\_\_

**Expiration Date** \_\_\_\_\_

**Signature\*** \_\_\_\_\_

**\* By signing above I commit to paying the course fee when invoiced**

**Terms and Conditions:** One registration is required per person. Upon receipt of your above registration an invoice will be generated for payment. Payment is due 30 days from receipt.

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