

ADVANCES IN THE REPAIR OF PIPELINES USING COMPOSITE MATERIALS

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ABSTRACT

For almost 20 years composite materials have been used to repair and reinforce transmission pipelines. This effort has been accompanied by an extensive array of engineering analysis and testing programs funded by pipeline companies, research organizations, and composite manufacturers. The original use of composite materials was for repairing corroded pipelines where the intent was to restore strength to the damaged section of the pipeline. In addition to repairing corrosion, composite materials have successfully been used to repair dents, wrinkle bends, induction bends, and pipe fittings including elbows and tees. A program was also sponsored by the Mineral Management Service and four manufacturers to evaluate the use of composites in repairing offshore risers. It is expected that as new materials are made available to industry, studies will continue to focus on meeting the ever-increasing demands for the long-term repair of pipelines and piping systems.

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