

DEVELOPMENT OF STANDARDS FOR COMPOSITE REPAIR SYSTEMS

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ABSTRACT

A significant amount of work has transpired over the past several years in generating consensus-based standards that include ASME PCC-2 and ISO 24817 for developing composite repair systems. The intent in developing these standards has been to provide industry with guidelines for designing composite repair systems to ensure that damaged pipelines are safely and properly reinforced. With the numerous composite repair systems currently available to pipeline operators, the importance of evaluating the capabilities of each system cannot be overstated. The fundamental design variables available to manufacturers are stiffness, strength, and thickness of the composite. A properly-designed repair system ensures that strains in the reinforced steel and reinforcing composite material do not reach unacceptable levels. This article provides a basic overview of the design philosophy embedded into the current design codes, as well as presenting results associated with several specific studies that were conducted to evaluate composite repair performance.

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