

Design and Analysis of Insulation of Pipe Carrying Hot Fluid Using Composite Materials

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Abstract: *Fiber-reinforced composites are a well-recognized option for repair and rehabilitation of the pipelines for the oil and gas industry. The filled composite sleeve system provides an effective rehabilitation solution, where the sleeve acts as prime reinforcement without any direct contact with steel. However, the long-term performance of the repair is dependent, in part, on the effect of hydrothermal ageing of the composites. In this publication, the main application of the insulation pipe is taken as used in Industry. The CFD analysis is performed on the normal pipe without insulation and then performed with insulation of composite material like glass fiber. Compared the temperature results of 2 iterations and evaluated the optimized model for the insulation pipe.*

Keywords: Fibre-reinforced Composites, Hydrothermal Ageing, CFD, Simulation, etc.

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