

## عنوان مقاله:

Composite repair of sea-water pipe with active leakage

## محل انتشار:

چهارمین کنفرانس بین المللی مهندسی مکانیک ، مواد و متالورژی (سال: 1399)

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## خلاصه مقاله:

An application of composite coatings for permanent repair of high-pressure gas and liquid transfer steel pipes, storage tanks and pressures vessels damaged by corrosion and environmental factors are considered instead of conventional approaches such as welding, cutting and replacement of pipes without interrupting the fluid flow. Glass reinforced plastic (GRP) is a type of composite coating material with a high corrosion resistance, high strength to weight ratio, consist of a polymer matrix (resin) and reinforcement layered sheet (fine glass). This paper covers the materials, and design requirements of a GRP system with the aid of engineering design and corresponding standards of ISO 24817 and ASTM PCC2. In this project, GRP composite coatings made of tape, woven and mat fibers in an epoxy vinyl ester are considered for repair active leakage of sea water pipe (20 in.) in Pars petrochemical company. For qualification check, hydro test was performed on the designed system at higher than the operating pressure up to 90 Bar. The results showed that the repaired pipe can revert to its original design pressure capacity of the system, when has been .designed appropriately and are able to sustain pressure fluctuations during the extended lifetime after repair

## کلمات کلیدی:

Composite coatings, Active leakage, Corrosion resistance

## لینک ثابت مقاله در پایگاه سیویلیکا:

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