

## 차량용 스프링강재의 부식특성에 미치는 영향평가

김동욱<sup>†</sup>(부경대 원) · 박경동<sup>\*</sup>(부경대)**An Evaluation on Effect of Spring Steel for Automobile on Corrosion Characteristics**

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**Key Words:** Shot Peening(쇼트피닝), Corrosive Potential(부식전위), Intergranular Corrosion(입계부식), Pitting Corrosion(공식), Weight Loss(무게감소량).

**Abstract :** Antifatigue failure technology take an important the part of current industries. Currently, the shot peening is used for removing the defect from the surface of steel and improving the fatigue strength on surface. In this study, the influence of shot peening and corrosive condition for corrosion property was investigated on immersed in 3.5% NaCl, 10% HNO<sub>3</sub> + 3% HF, 6% FeCl<sub>3</sub>. The immersion test was performed on two kind of specimen. The immersion periods was performed 30days, 90days. Corrosion potential, weight loss were investigated from experimental results.

## 고온 배관 T-부 잔여수명 평가

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**Key Words:** T-pipe (T-배관), Limit Load (한계하중), Reference Stress (참조응력), Elastic Creep Analysis (탄성크리프 해석), Rupture Reference Stress (국부크리프 파단응력)

**Abstract :** For the maintenance purpose the critical locations such as butt welds, T-piece pipe and so on are usually focused to assess the residual life of the steam pipe in power plants. In this study, two cases of the elastic stress evaluation for a T-piece pipe are performed to predict the residual life considering internal pressure and system load. Elastic-creep behavior is estimated in weld part in T-piece pipe and residual creep rupture life was also calculated using the stress analysis results. It was argued that the calculated life is reasonably same as the measured one. And the rupture reference stress are obtained by using R5 high-temperature assessment procedure to compare with the results of elastic-creep analysis. The results shows that rupture reference stress is a appropriate approach and can be reduced a conservative estimation and analysis time compared to the elastic creep analysis.