

Stress Corrosion Cracking, Parameters Affecting It, Problems Caused by It and Suggested Methods for Treatment: State of the Art

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Abstract : Stress corrosion cracking (SCC) may be defined as a degradation of the mechanical properties of a material under the combined action of a tensile stress and corrosive environment of the susceptible material. It is a harmful phenomenon which might cause catastrophic fracture without a sign of prior warning. In this paper, the stress corrosion cracking, SCC, process, the parameters affecting it, and the different damages caused by it are given and discussed. Utilization of shot peening as a mean of enhancing the resistance of materials to SCC is given and discussed. Finally, a method for improving materials resistance to SCC by grain refining its structure by some refining elements prior to usage is suggested.

Keywords : stress corrosion cracking, parameters, damages, treatment methods

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