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Effect of Heat Treatment on the Corrosion Behaviour of GTM-SU-718 Superalloy in NaCl, HCl and H₂SO₄ environments

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Abstract : Nickel-based superalloys are extensively used in marine gas turbine applications. One such superalloy namely, GTM-SU-718 is designed to resist a wide range of severely corrosive environments. This alloy can be double-aged for hardening by precipitation. But the corrosion properties of the alloy may then get effected. This paper is aimed at evaluating the effect of heat treatment on the corrosion behaviour of GTM-SU-718. These studies were carried out with the potentiodynamic polarization techniques at ambient temperature in various environments viz. NaCl, HCl and H₂SO₄ solutions with different concentrations.

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