

Fatigue life prediction of austenitic Type 316L stainless steel using ABAQUS

ABSTRACT

This work has carried out on Type 316L stainless steel of hollow bar specimen. The aim of this work is to determine the fatigue life prediction using Finite Element Analysis (FEA). The simulation performed by applied the different stress level to predict the stress of operation to measured life at the measured of operation stress. The simulation emphasis is focused upon the importance of characterize the fatigue limit with compared to data experimental. Comparison of fatigue limit between both simulation and experiment is 150 MPa and 161 MPa, respectively which will provide good agreement in terms of accuracy prediction even various aspects should be taken into account in simulation.

Keyword: 316L stainless steel; Fatigue life; Fatigue limit; Yield strength