Influence of Maximum Fatigue Load on Probabilistic Aspect of Fatigue Crack Propagation Life at Specified Grown Crack in Magnesium Alloys

Authors : Seon Soon Choi

Abstract : The principal purpose of this paper is to find the influence of maximum fatigue load on the probabilistic aspect of fatigue crack propagation life at a specified grown crack in magnesium alloys. The experiments of fatigue crack propagation are carried out in laboratory air under different conditions of the maximum fatigue loads to obtain the fatigue crack propagation data for the statistical analysis. In order to analyze the probabilistic aspect of fatigue crack propagation life, the goodness-of fit test for probability distribution of the fatigue crack propagation life at a specified grown crack is implemented through Anderson-Darling test. The good probability distribution of the fatigue crack propagation life is also verified under the conditions of the maximum fatigue loads.