

Life prediction of rubber automotive components using finite element method

ABSTRACT

The usage of rubbers has always been so important, especially in automotive industries. Rubbers have a hyper elastic behavior which is the ability to withstand very large strain without failure. The normal applications for rubbers are used for shock absorption, sound isolation and mounting. In this study, the predictions of fatigue life of an engine mount of rubber automotive components were presented. The finite element analysis was performed to predict the critical part and the strain output were incorporated into fatigue model for prediction. The predicted result shows agreement in term of failure location of rubber mount.

Keyword: Rubber; Life prediction; Repeated loading; Fatigue failure