Development of simulation methods for non-linear elastomeric materials

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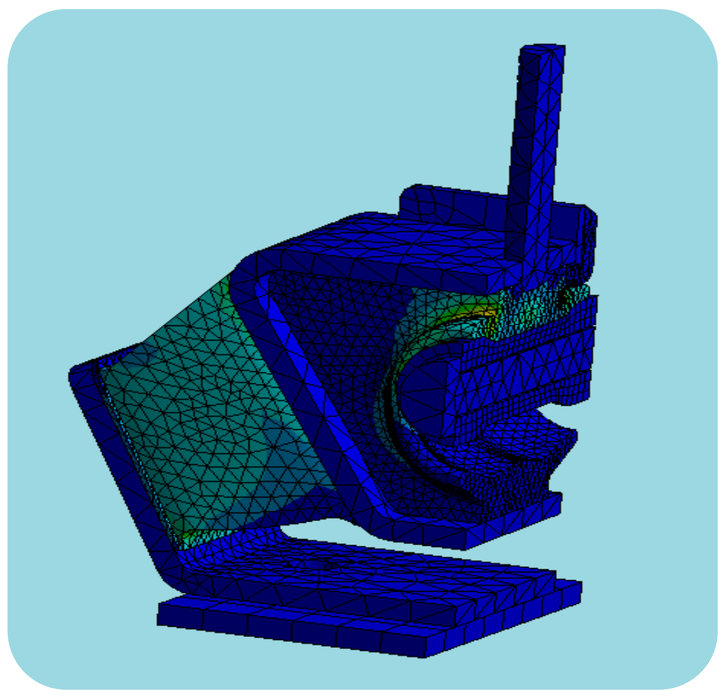
Company Profile

Pendle Polymer Engineering is a private owned, medium-sized company specialising in the manufacture of anti-vibration solutions and moulded rubber products ranging from anti-vibration mounts (such as ECU mounts and engine mounts) to fluid seals and bonded bushes.

Project Overview and Motivation

The company's current line of products cross a number of types and industry sectors but the largest existing market is in vibration isolation in automotive components. Some of the key customers for the company exist in this space, however with the potential success of the project, there is room to increase market share by offering enhanced capabilities and technical innovations.

During the project, material models will be generated by data obtained from physical testing and used on chosen material parameters. This is help bridge the gap between physical testing and computational analysis, leading to shorter design process time as well as saved costs.



The non-linear characteristics of the material used cannot be approximated due the large deformations

Outcomes

A successful project would lead to a positive reflection on the company's sales and marketing of the products, leading to expansion in new and existing markets as well as implementation of design analysis on new generation of products as well as pre-existing ones.

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