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Question 1 (a) continued...

because small iterations can be made to the existing model. This can include changes not only the physical features of the component, but also through small iterations to the calculations including mesh size, element quality and through optimisation techniques such as topology and shape optimisation.

Question 1

- (b) Depending on the industry for which the component is being developed, it may still be necessary for physical prototypes to be made. This is to allow for components to be physically tested. Often safety is a major requirement for components used within the automotive industry, for example therefore may require certification and sign off as proof of achieving particular ISO or British standards. Such testing may include simple measuring devices like a DTI gauge or strain gauges. Other methods of testing may include using load cells or accelerometers.

Question 1

- (c) Correlation is needed between test and FEA to ~~proof~~ prove the accuracy of your results. FEA is an approximation therefore you must check that any assumptions that have been made have not had any detrimental impacts on your results. FEA calculations are a result of the data inputted by