**STUDY AND ANALYSIS OF A CAR BUMPER BY USING**

**DIFFERENT MATERIALS**

A Project Report

 Submitted in partial fulfillment of the requirement for the award of the degree of

**BACHELOR OF TECHNOLOGY**

**IN**

**MECHANICAL ENGINEERING**

**Submitted By**

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**DEPARTMENT OF MECHANICAL ENGINEERING**

**SIR C R REDDY COLLEGE OF ENGINEERING**

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**BONAFIED CERTIFICATE**

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 **ABSTRACT**

 Bumper is one of the main parts which are used as protection for passengers from front and rear collision. The aim of this study was to analyze and study the structure and material employed for car bumper in one of the car manufacturers.

 The simulation of a bumper beam is characterized by static modeling using a dedicated 3D modeling software CATIA V5 R20, meshing is done using HYPERMESH R10, static analysis is performed by using ANSYS software.

 In this project, static analysis is done on three materials. The materials used in this project are ABS plastic, S2 glass epoxy and Carbon fiber. The obtained results are compared with each other. From all the analysis and comparisons, it can be concluded that S2 glass epoxy is suitable to use in cars.

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