DESIGN AND ANALYSIS OF HELICAL SPRINGS IN TWO WHEELER SUSPENSION SYSTEM

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ABSTRACT

The present work is carried out on modeling and analysis of suspension spring is to replace the existed steel helical spring used in popular two wheeler vehicle. The stress and deflections of the helical spring is going to be reduced by using the new materials. The comparative study is carried out between existed spring and new material spring. Static analysis determines the stress and deflections of the helical compression spring in finite element analysis. The analytical modal is used to test the spring under different loading conditions. Finite element analysis methods (FEA) are the methods of finding approximate solutions to a physical problem defined in a finite region or domain. FEA is a mathematical tool for solving engineering problems. In this the finite element analysis values are compared to the analytical values and are successfully validated. A typical two wheeler suspension spring is chosen for study. The modeling of spring is developed on pro/E 5.0 analysis is carried out on Ansys 14.

KEYWORDS: Helical Compression Spring, Stress, Deflection, Analysis, Proe-5, Ansys 14