

**Shri B.V.V Sangha's
BASAVESHWAR ENGINEERING COLLEGE
(AUTONOMOUS), BAGALKOT-587102**



**2011-2012
DEPARTMENT OF MECHANICAL ENGINEERING
A Project Report On**

**“DESIGN AND ANALYSIS OF NEW MATERIAL FOR LPG
CYLINDER USING FEA”**

**A dissertation submitted to Basaveshwar Engineering College
(Autonomous), Bagalkot, in the partial fulfillment of the requirements
for the award of the degree of**

**Bachelor of Engineering
In
Mechanical Engineering**

Submitted By

Name of the Students

University Seat No

Mr. Devaraj M Tirumali

2BA08ME023

Mr. Nagarjunsingh

2BA08ME055

Mr. Nikhil S Kinagi

2BA08ME060

Mr. Pradeepkumar A Tumbagi

2BA08ME068

Project Guide

Dr.S.G.Saraganachari

Coordinator

Dr.V.R.Kabadi

H.O.D

Dr.S.N.Kurbet

ABSTRACT

Aim of the project is to reduce the tare weight of Liquid Petroleum Gas (LPG) cylinder. So the finite element analysis of liquefied petroleum gas cylinder made of steel and fiber reinforced composites (FRC) has been carried out. Finite element analysis of composite cylinder subjected to pressure is to be performed. Layered element of a versatile finite element analysis package ANSYS has been used to model the shell with FRC.

A parametric study is done by considering fiber orientation in layers, number of layers and thickness of the layers to study the stresses and deformations due to pressure loading inside the cylinder. Variations of stresses and deformation throughout the cylinder made of steel and FRC are studied.