**61. Design and analysis of multi layer pressure vessel**

**Abstract:**

A pressure vessel is a container designed to hold gases or liquids at a pressure substantially different from the ambient pressure.

The applications of pressure vessel are in wide range, Pressure vessels are used in a variety of applications in both industry and the private sector. They appear in these sectors as industrial compressed air receivers and domestic hot water storage tanks. Other examples of pressure vessels are diving cylinders, recompression chambers, distillation towers, pressure reactors, autoclaves, and many other vessels in mining operations.

The pressure differential is dangerous, and fatal accidents have occurred in the history of pressure vessel development and operation. Pressure vessels can theoretically be almost any shape, but shapes made of sections of spheres, cylinders, and cones are usually employed. A common design is a cylinder with end caps called heads. Head shapes are frequently either hemispherical or dished. More complicated shapes have historically been much harder to analyze for safe operation and are usually far more difficult to construct.

In this project we model a multi layer pressure vessel is modeled used solid works 2016 design software and static analysis is carried out by various materials in ansys work bench software.