**LPG Storage Tank**

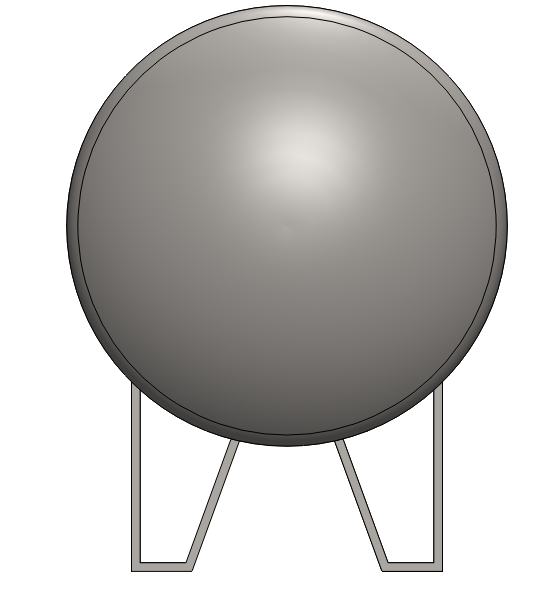
***By: Saroj Basnet(077BME037)***

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| --- | --- |
|  | |
| **Specification** | **Value** |
| Capacity | 1000 Ltr + |
| Type | Horizontal Cylindrical with Torispherical Ends |
| Outer Diameter (D) | 1.0 m |
| Straight Cylinder Length (Lc) | 1.28 m |
| Total Tank Length (Lt) | 1.78 m (including end caps) |
| Wall Thickness (t) | 10 mm |
| End Cap Type | Torispherical |
| End Cap Depth (h) | 0.3 m (on both sides) |
| Shell Material | Stainless Steel 304 |
| Inside Pressure | 15 bar |
| LPG density | 530 kg/m^3 |
| Liquid LPG Level | 0.4 m high from center of cylinder |

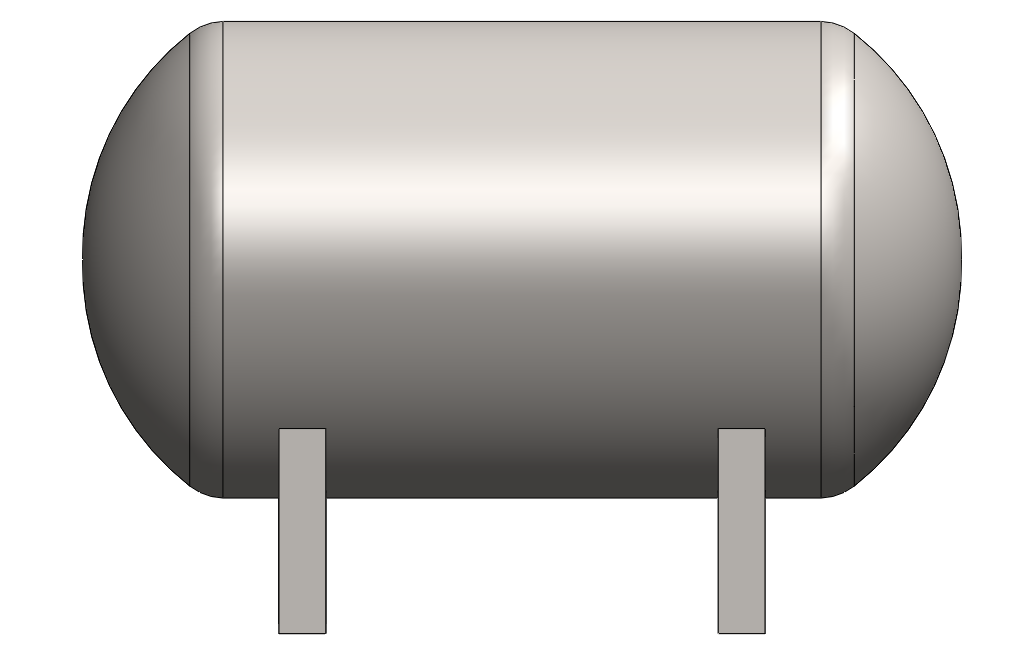
**Gemoetry:**

In SolidWorks 2024

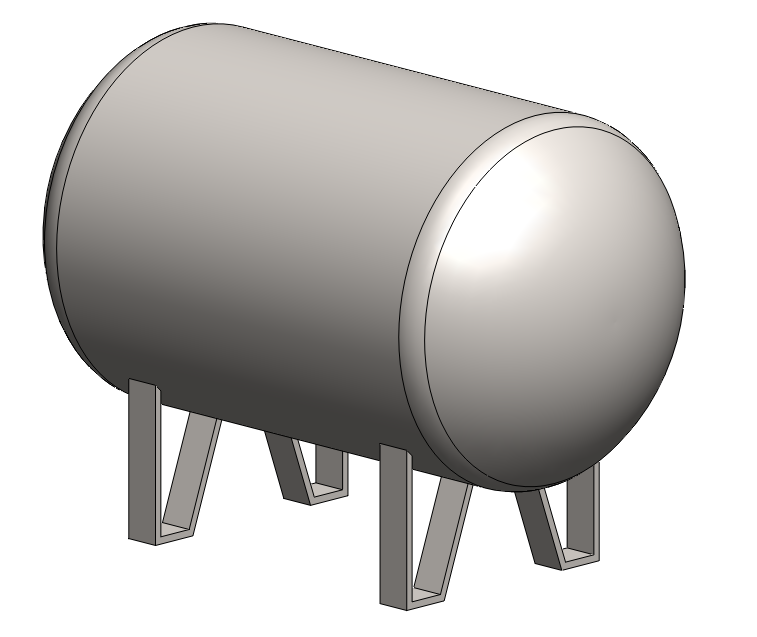
Side view:



Front View:



Isometric view:



**Simulation:**

In ANSYS 2024R1.

Material: Stainless steel

Bottom face of 4 leg is fixed.

Atmospheric pressure is applied from outer surfaces.

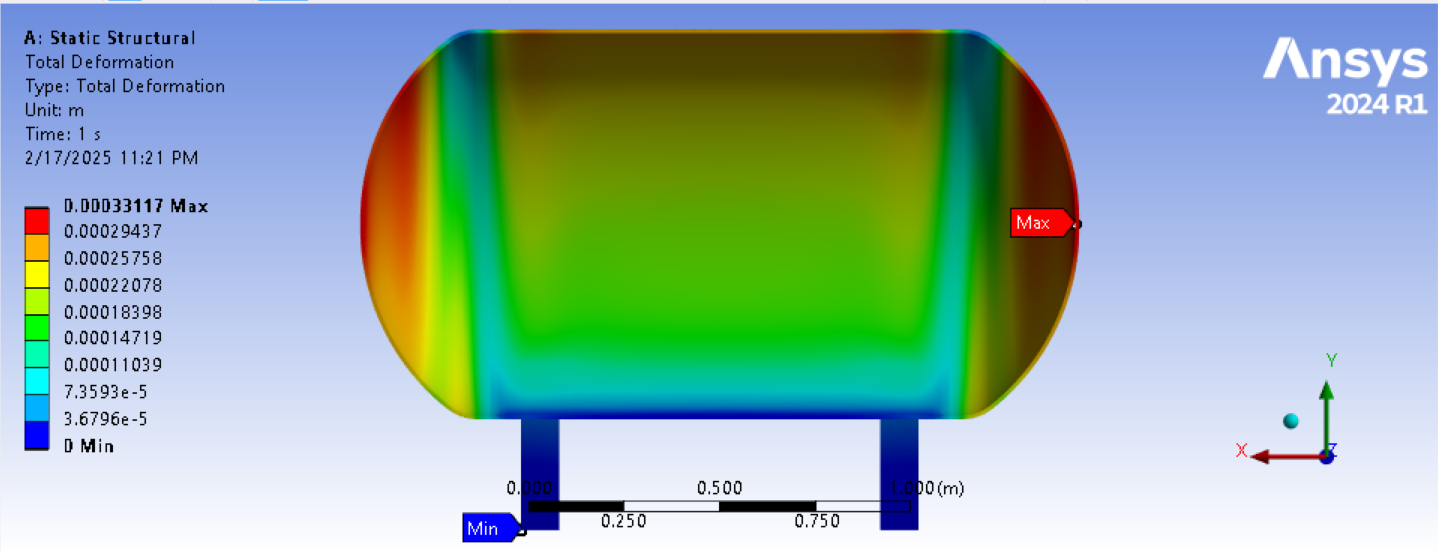
Standard earth gravity and Hydrostatic pressure is applied.

**Deformation:**

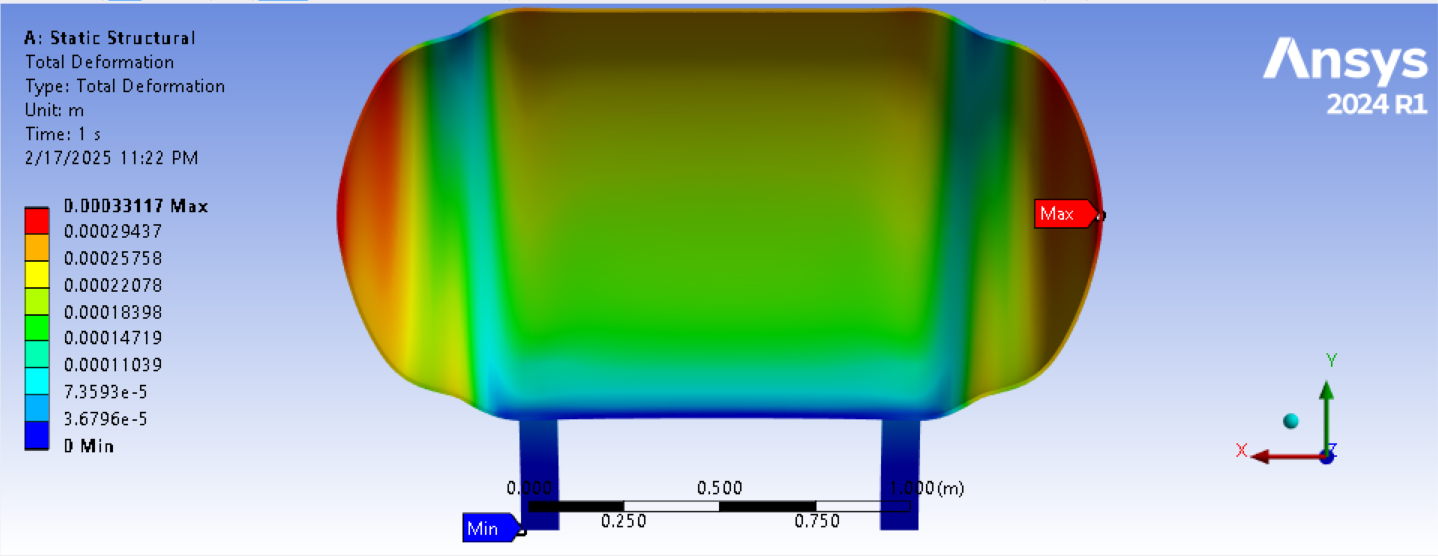
Maximum deflection: 3.3117e-004 m at center of Torispherical face.

Average deflection: 1.9081e-004 m

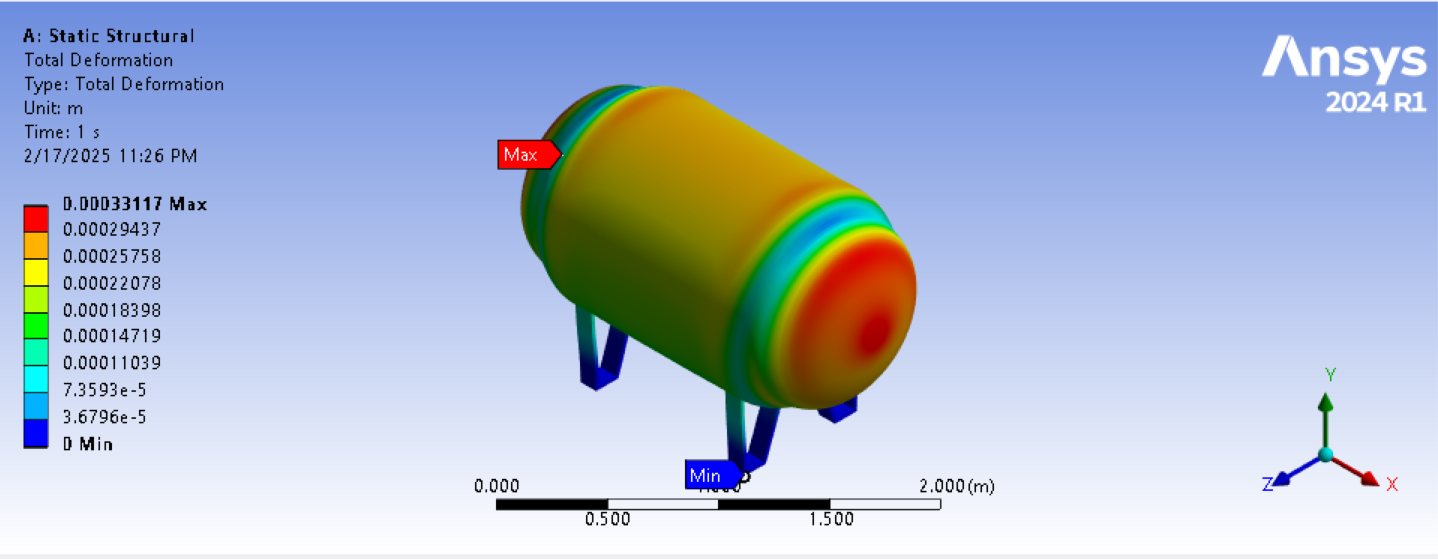
Scale: 1(true scale)



Scale: 200x



Isometric view.



**Stress:**

