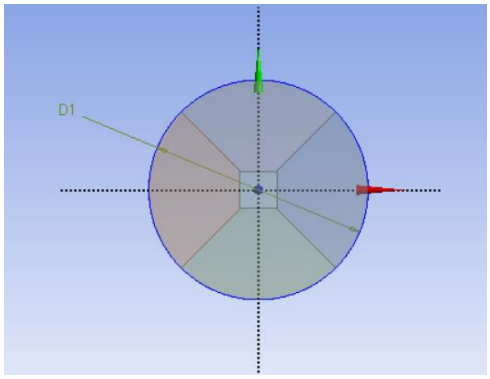
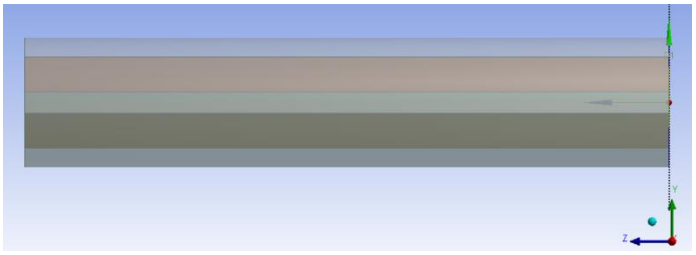
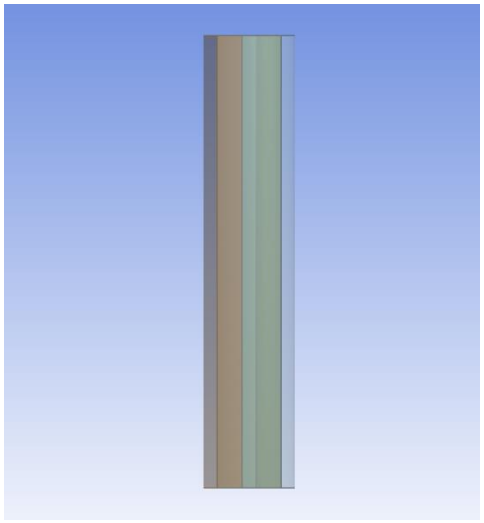
Q1) Mesh the geometry



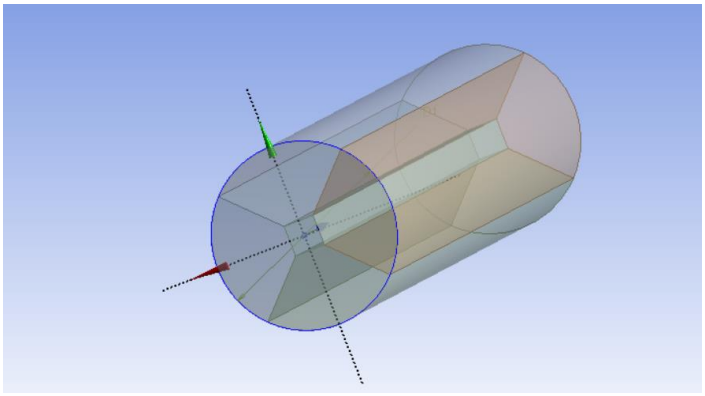
FRONT VIEW



SIDE VIEW



TOP VIEW



ISOMETRIC VIEW

Details of Meshing with Mesh methods body sizing inflation layer details & Mesh statistic

Meshing Details

1. Meshing Methods= Tetrahedrons (Patch Conforming)

2. Body Sizing 3. Element Size= 2mm

Inflation layer

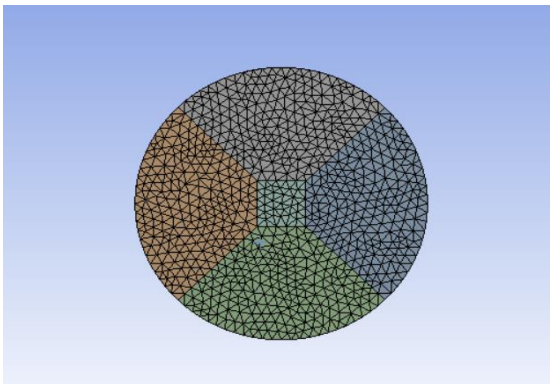
1. Max layer=10

2. Growth-rate=1.2

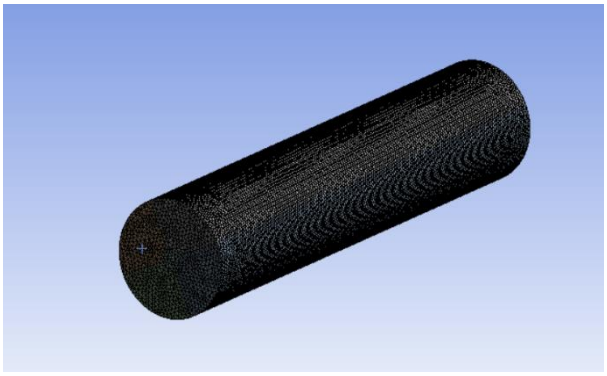
Mesh Statistics

Nodes = 1317957, Elements = 925625

Images after meshing



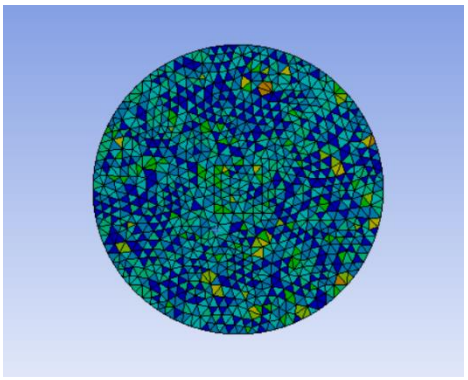
FRONT VIEW



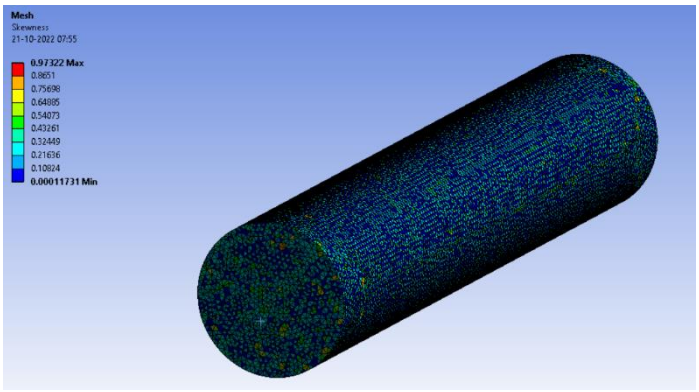
ISOMETRIC VIEW

Mesh quality parameter (Graphs of Skewness, Element quality, Orthogonal Quality)

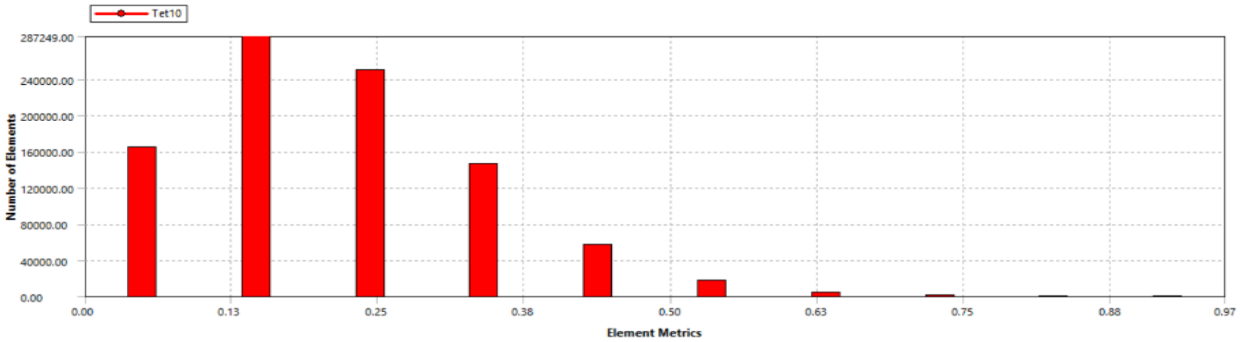
1. SKEWNESS



TOP VIEW

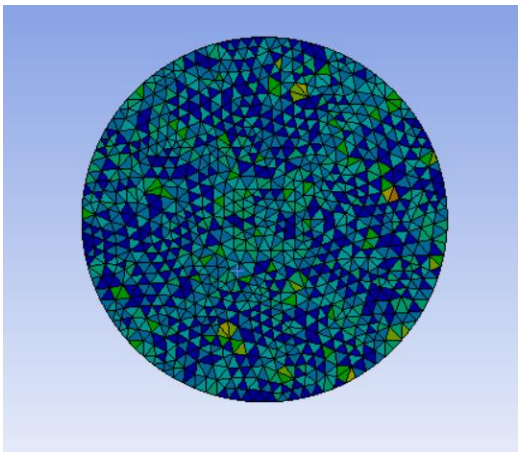


ISOMETRIC VIEW

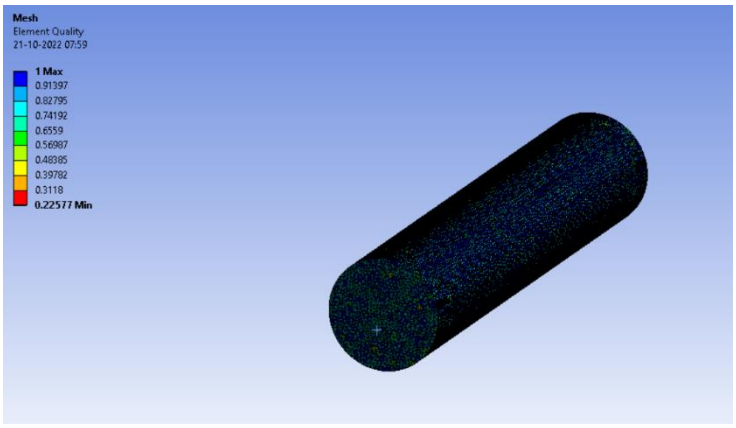


GRAPH OF SKEWNESS

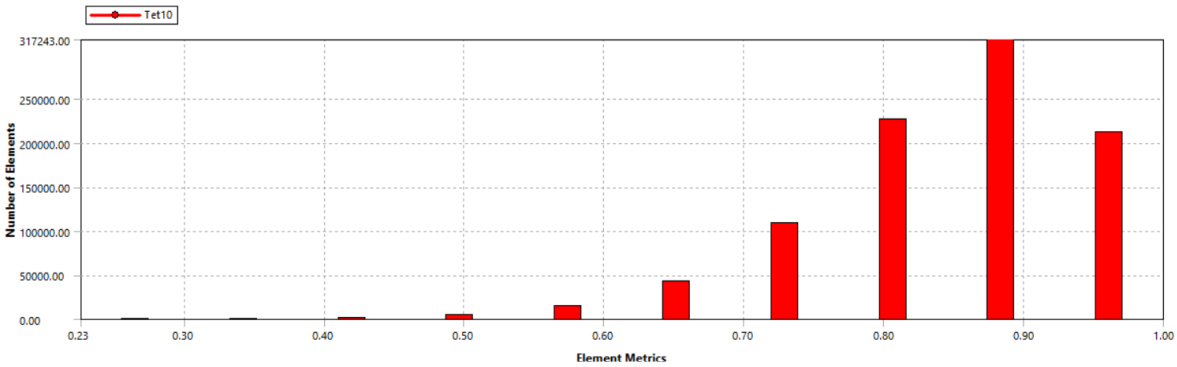
2. ELEMENT QUALITY



TOP VIEW

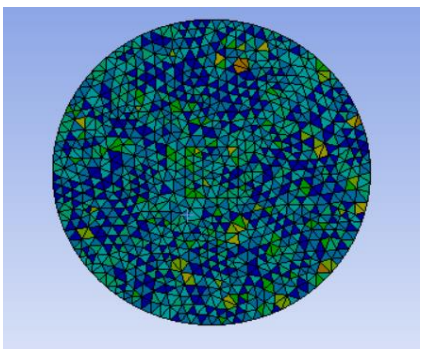


ISOMETRIC VIEW

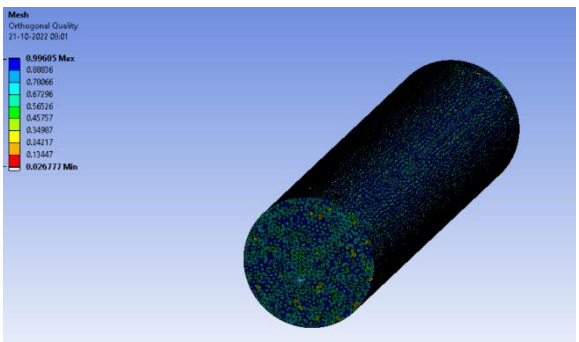


GRAPH OF ELEMENT QUALITY

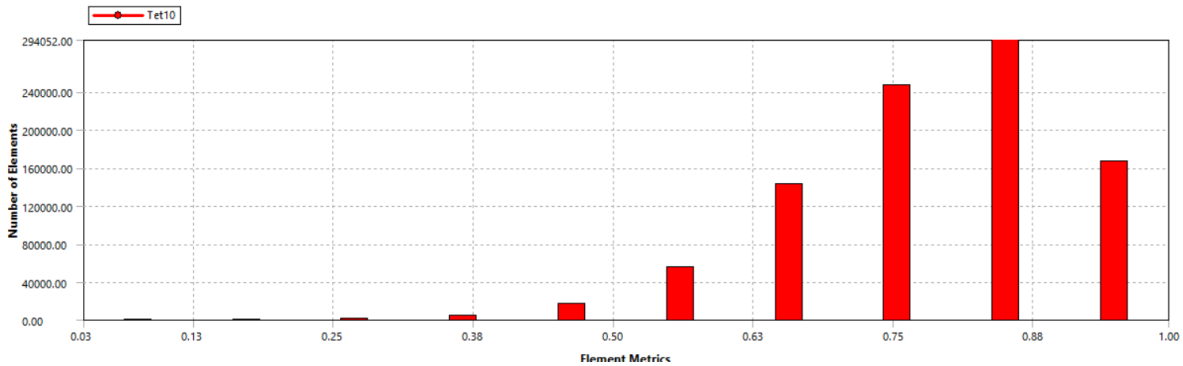
3. ORTHOGONAL QUALITY



TOP VIEW



ISOMETRIC VIEW

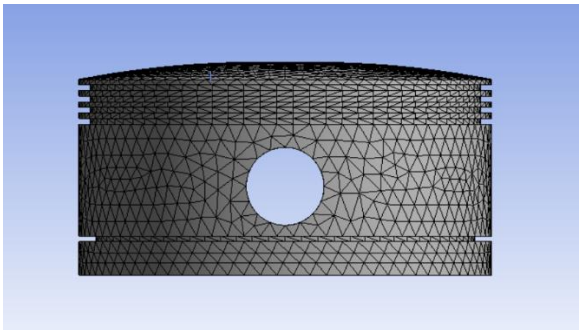


GRAPH OF ORTHOGONAL QUALITY

Q2) Static structural analysis

Meshing Details

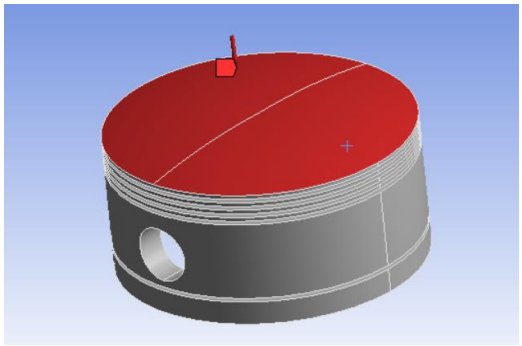
- Meshing Methods= Automatic
- Body Sizing
- Element Size= 3mm



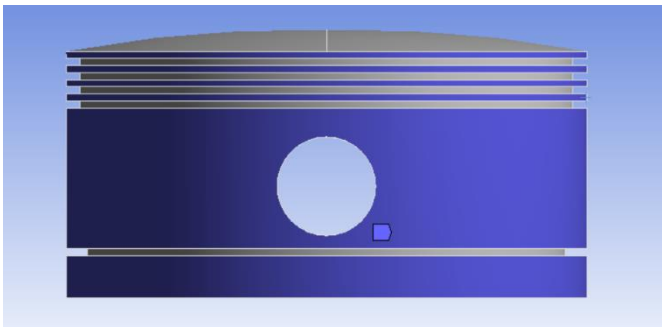
Boundary Condition

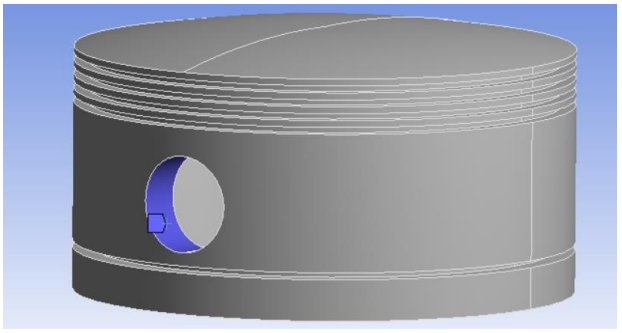
- Material – Structural Steel
- Pressure 5Mpa
- Frictionless support

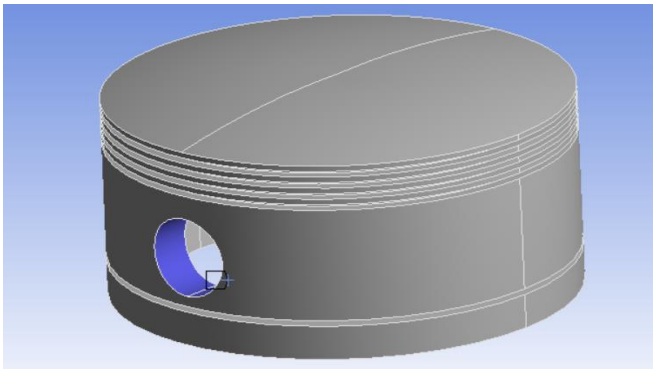
PRESSURE APPLIED



FRICTIONLESS SUPPORTS



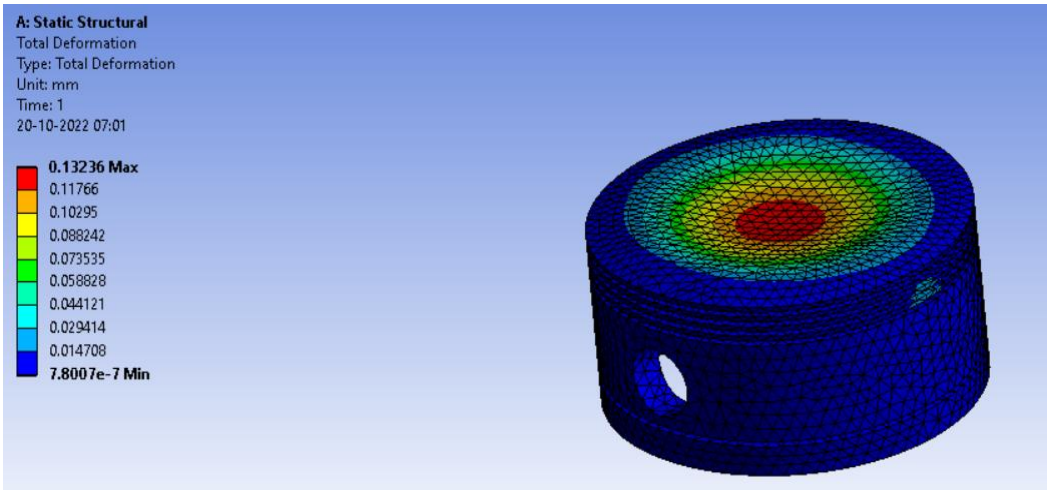




Results to find

- Total Deformation
- Directional Deformation

1. Total deformation



2. Directional deformation