FAQ's

1. What is longitudinal strain?

When a body is subjected to an axial tensile or compressive load, there is an axial deformation in the length of the body. The ratio of axial deformation to the original length of the body is known as Longitudinal (or linear strain). The longitudinal strain is also defined as the deformation of the body per unit length in the direction of applied load. "

The longitudinal strain is given by:

$$\text{Strain} = \frac{\text{Change in length}}{\text{Original length}}$$

or

$$\varepsilon = \frac{\Delta L}{L}$$

2. Define lateral strain.

The strain at right angles to the direction of applied load is known as lateral strain Change in breadth dimensions to original dimension is also known as lateral strain.

lateral strain = Change in lateral dimensions/ Original dimensions

3. What is Poisson's ratio?

Within the elastic limit of objects, the ratio of lateral strain to longitudinal strain will be a constant which is known as poisson's ratio

Poisson's ratio = lateral strain/longitudinal strain

4. Define volumetric strain.

It is defined as the ratio of change in volume to the original volume of the material when the material is subjected to external loading. It is denoted by ε_v

ε_v = change in volume / original volume