

## VIBRATION ISOLATION AND ABSORBERS:

Disturbing forces which damage the foundation on which the machines are mounted. So the vibrations transmitted to the foundation should be eliminated or reduced considerably by using some devices such as springs, dampers etc. between the foundation and the machine. These devices isolate the vibrations by absorbing some disturbing energy themselves and allow only a fraction of it to pass through them to the foundation.

Thus the amplitude of vibration is minimised and the adjoining structure or foundation is not put to heavy disturbance. The isolation is expressed in terms of force or motion. Lesser the amount of force or motion transmitted to the foundation greater is said to be the isolation. So machines are mounted on isolator mount. There are two basic requirements for an isolator.

Firstly, there should be no rigid connection between the unit [machine, engine or vibrating body, etc.] and the base otherwise the undesired vibrations will be completely transmitted from the unit to the base. It may damage the supporting structure.

Secondly, it should be ensured that the isolators remain together in case the damping material (rubber, cork, felt, pad) fails. It should be just to keep the machine or unit in the safe position with respect to the support.

## VIBRATION MEASURING INSTRUMENTS:

The instruments which are used to measure the displacement, velocity or acceleration of a vibrating body are called vibration measuring instruments. Vibration measuring devices having mass, spring, dashpot etc. are known as seismic instruments.

The quantities to be measured are displayed on a screen in the form of electric signal which can be readily amplified and recorded. The output of electric signal of the instrument will be proportional to the quantity which is to be measured. The input is reproduced as output very precisely.

Two types of seismic transducers known as vibrometer and accelerometer are widely used. A vibrometer or a seismometer is a device to measure the displacement of a vibrating body.