

Case Study: Structural Assessment for Blast Vibrations

Project Requirement

- Vibrations occurring in office & workshop buildings due to regular blasts occurring in stone quarries nearby
- Structural Stability in terms of strength & serviceability including occupant's comfort level was to be determined

Assessment Procedure

Stage I: Data Collection

- Acceleration measurement equipment was set up on each structure
- Accelerometers were fixed at different locations on the building to measure the acceleration whenever any vibration due to blast occurs
- Data was collected over two days and the peak acceleration was obtained after processing the obtained data

Stage II: Structural Analysis

- Computer analysis was carried out for the structures using the vibration forces in combination with gravity, wind and seismic forces.
- Design of the structures was checked and conclusion regarding the safety and comfort levels for the buildings was drawn.



Accelerometer fixed to terrace slab



Data collection system