

Whether upper or under: Building damage reliably recognize

With the new procedure for the early recognition of building damage in the high and foundation engineering, announced by IBJ Technology to the patent, show themselves damage in the solidium substantially in former times as so far usually.

Well-known procedures seize the geometrical changes (lowering and/or deviation measurements) in the building, which already arose by effect of strange influences. Change of the stress and redistributions of stress arise however already before the geometrical changes. Ability these to be in time determined and interpreted, can be reduced larger damage to the building by suitable measures or turned away. The new and world-wide only procedure for the early recognition of building damage by the long-term observation and the comparison of stress measurements within the buildings by means of ultrasonic, is based on the akusto-flexible effect. The running time of an ultrasonic impulse within inhomogenously buildings is measured in homogeneous and isotropic measuring bodies. The speed of sound of the ultrasonic waves depends on the flexible stresses within the measuring bodies. If one uses a flexible not compressable medium, for example a solid body well-known composition, as measuring medium one can by the determination of the change of speed of sound, which tensions in the surrounding building determine. A condition for this measurement is form and actuated conclusion of the measuring bodies with the building. The connection of the measuring bodies knows positive connections by special cement, or for example by embedding in construction units with elastomers, by force and, how take place with supports from construction units or counter bearings from bridges. A highly soluble measuring technique signals changes in the stress structure immediately over a bus system. The new procedure can be begun favourably for the increased safety of underground buildings, so in the tunnel and build from caverns. The mountain stress in-situ are measured. The measuring bodies can be brought in also radially between the tunnel lining and the mountains. In connection with building information systems for buildings of all kinds it can contribute substantially to building security. More preferentially the installation takes place in foundations, columns or supports.

Applications:

Building from tunnel and caverns
Security of underground buildings
Building monitoring