

Smallest Sensor for in-situ Rock Stress

Source: IBJ Technology

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MARKKLEEBERG, Germany -- With the sensor BBS 10_DS of IBJ Technology (www.ibj-technology.com) can rock pressure in permanent determine. The applications range from the direct rock stress measurement in the mountains and in the shotcrete lining to measuring and monitoring the dynamic loads in real time.

Ultrasonic insitu rock stress in the mountains is recognized directly in real time. All changes can be transmitted immediately online. The sensors are either introduced directly into small holes with a 1 inch diameter in the mountain or in the building.

Also design elements on structures, such as beams or bridge bearings, can be monitored more easily. The sensors are constantly active in the mountain or in the building. Thus, rearrangements of forces and stresses can be measured directly. The simple design and small size allow the full application of all buildings made of steel or concrete. In all engineering structures can be static and dynamic loads and stresses and small changes measured.

After the procedure a lot of important engineering structures could be monitored worldwide. The costs of such monitoring are low.

The collapse of buildings is associated with a measurable change in the stresses and loads. These are correlated with the globally available herd data of seismic events and plausibility. This also provides monitoring of buildings of all kinds on damage caused by disasters (earthquakes, mudslide, etc.) is possible.

Each sensor can be uniquely identified by the sensor code in ROM.

With a suitable control and evaluation can take place approximately up to 50,000 measurements per second. The monitoring of all possible engagement members and structural parameters during construction and operation of buildings is the basis for the status and safety analysis of the structure. Online insitu measuring method with the sensors of IBJ Technology for stress, force and load measurement, especially insitu stress measurements in concrete are not to replace their significance and timeliness.

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Tags	insitu rock stress , rock pressure , load , concrete

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