

Monitoring system



Structural Health Monitoring Burj Khalifa Monitoring System

Straininstall completed a monitoring contract on the tallest man-made structure ever built: The Burj Khalifa Tower, Dubai.

At 828m (2,717ft) tall, the tower has 160 floors, comprising hotels, restaurants, luxury residences, offices, and the world's highest swimming pool and outside observation deck. It is capable of holding up to 35,000 people at any one time.

Straininstall's six-year contract involved monitoring of the preliminary pile tests to ensure the piles could bear the weight of the building. To ensure the building was adequately supported, the concrete and steel foundations featured 192 piles, each 1.5m in diameter and 43m long.

Further to the pile testing, Straininstall supplied and installed a structural monitoring system to monitor the structure's performance as construction progressed.

Strain gauges were used to monitor the stress distribution during the construction and the creep, shrinkage and elastic properties of the concrete to enable comparison with the modelled predicted stresses.

Straininstall's structural monitoring system will continue checking that structural behaviour remains within design limits, generating real-time alarms should stresses exceed the limits - allowing structural engineers to intervene and undertake any required remedial works.

Features

- Enables an extensive range of structural movement to be monitored
- Provides continuous data on structural behaviour
- Alerts structural engineers in the event of any parameter exceeding pre-set limits

Straininstall's team of experienced engineers operate from offices in Europe, Malaysia, UAE, Qatar and Singapore

Straininstall (Europe)
T: +44 (0)1761 414939
F: +44 (0)1761 416655
E: enquiries@straininstall.com

Straininstall (Malaysia)
T: +603 8060 4450
F: +603 8068 3063
E: sales@straininstallmalaysia.com.my

Straininstall (Middle East)
T: +971 4880 4380
F: +971 4880 4381
E: info@straininstall.ae

Straininstall (Qatar)
T: 00974 4427 4928
F: 00974 4427 4858
E: info@straininstall.ae

Straininstall (Singapore)
T: +65 6561 4628
F: +65 6561 7928
E: sales@straininstallsingapore.com.sg