Leaning Tower of St. Moritz (Switzerland)



Project description

As a result of its location on the side of a hill with unstable soil conditions, this 16th century structure was noted in the second half of the 18th century to have already suffered damage due to earth pressures.

Rehabilitation works were regularly required throughout the years because the creeping movement of the slope could not be stopped.

In the last major attempt in 1983, three pot bearings were installed to support the tower. In spite of this, the tower continued to lean further, necessitating rehabilitation in 2013 to reduce the angle of leaning.

mageba scope

In order to reduce the tower's tilt, it was decided to lower it at the hill side by 40 mm, by modifying the bearing at that location. This would have the effect of reducing the deviation from vertical at the top of the tower by 160 mm.

In 2024, as on previous occasions, mageba was responsible for the lifting work and the installation of four new pendulum bearings. Using hydraulic jacks with massive lifting forces, the tower was lifted, the existing corrective constructions from previous years were removed and the new bearings were installed. By this means the tower of the former Mauritius Church was brought to the specified and structurally tolerable inclination, which is defined as not exceeding 5 degrees.

Equipped with new curved surface slider bearings, that provide "floating" support and also protect the tower against seismic movements. The installed bearings function as seismic isolators, allowing the tower to move horizontally in the event of an earthquake.

Highlights & facts

mageba products:

Type:	Lifting and moving of structures RESTON®SPHERICAL bearings RESTON®PENDULUM bearings
Installed:	2013/2017/2024

Structure:

City:	St. Moritz
Country:	Switzerland
Type:	Late medieval tower (masonry)
Built:	1570
Height:	33 m

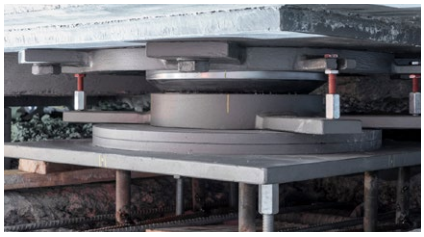
The Leaning Tower is located in the town centre of St. Moritz, Switzerland



Special sliding equipment ensures the safety of the tower during the lowering works



An installed RESTON®PENDULUM bearing



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