

Building structures

Faculty of Mathematics and Physics

Project type

extension

Location

Ljubljana, Slovenia

Surface

5.600 m² net

Year(s)

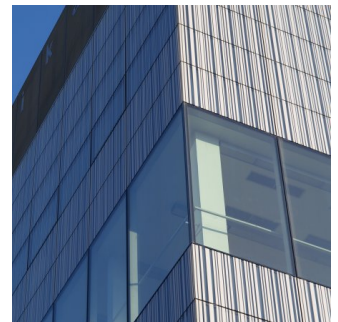
2003 - 2006

Services

Structural design:
preliminary design,
building permit design,
detailed project,
completed works design.

Investor

University of Ljubljana



The project subject, put into action in 2003, was the building extension, seismic and static stiffening of existing reinforced concrete skeletal construction, which was built in 1970. The existing building is a general construction with columns and beams without supporting walls, with deep foundations (Franky piles). The objective of the new project was the upgrading of existing building by three floors. The entire 2nd floor was demolished; the ground floor and first floor were completely system seismically strengthened. On the strengthened existing construction four new steel floors were designed, that additionally burden the lower forces on reinforced concrete construction and the foundations. In order to disburden the existing framed skeletal construction, new reinforced concrete walls were installed into the building. They take over the larger part of seismic forces. The strengthening works were also executed on existing columns. Because of extremely bad construction of joint details the critical points needed to be strengthened. All 1st floor columns at upper and lower joint were strengthened. The restoration was executed with the twisting of joint into carbon textile SIKA WRAP. All the supporting beams were strengthened in the same way. The building foundation was also strengthened with new piles according to the system which combines Jet grouting technology and micro pilots GEVI system. The complete net surface of the new building is 5600 m².