



CTU in Prague
Faculty of Civil Engineering
Department of Building Structures

Restoration of masonry

U Fleku Brewery in Prague 1

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Description of the object

- ▶ listed building
- ▶ with basement
- ▶ without insulation
- ▶ sandy subsoil of thickness about 12 m

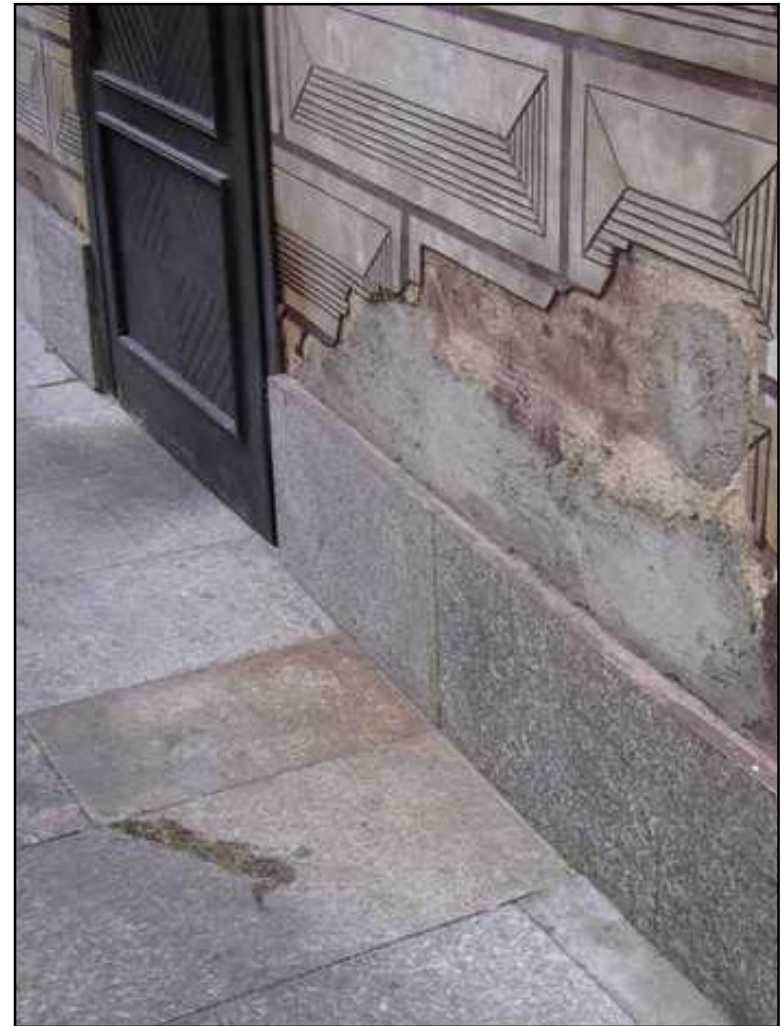
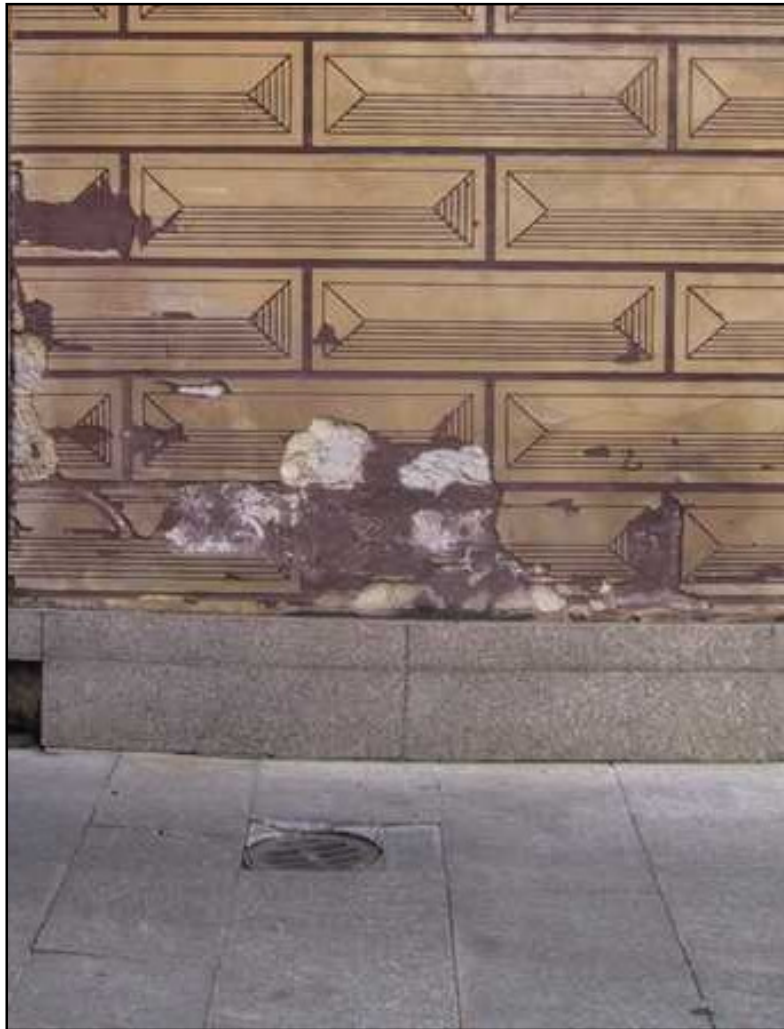


Description of defects

- ▶ The values of moisture in the walls just above the socle: at the exterior were in the range of 2 to 4%, in the interior from 6 to 9%



Description of defects



Analysis of defects

- ▶ unsuitable design of the socle
- ▶ replacement of traditional paving by large-scale paving in a concrete bed
- ▶ inappropriate temperature and humidity regime of some rooms
- ▶ not suitable cleaning system of the courts

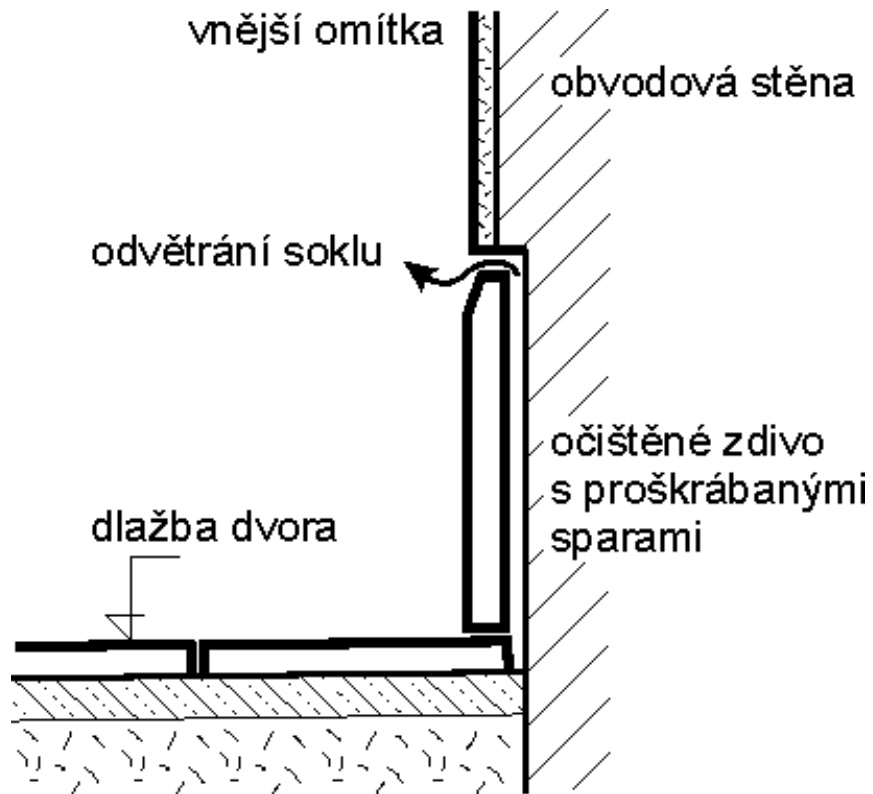


Restoration of defects

- ▶ Restoration proposal – a new solution of socle detail
 - ▶ remove existing granite socle boards
 - ▶ remove plaster of base
 - ▶ masonry joints scrape, to increase the effective area for evaporation of moisture
 - ▶ remove degraded plaster up to about 0.5 m above the upper edge of the socle and replace them with new
 - ▶ restoration plasters allow evaporation of moisture from the structure of masonry into the air
- ▶ ventilation and heating is necessary to provide appropriate, especially in the winter

Restoration of defects

► Detail of socle



Restoration of defects

- ▶ Comparing the state of the masonry in 2002 and 2011



Restoration of defects

- ▶ Comparing the state of the masonry in 2002 and 2011



Restoration of defects

► Detail of socle



- designed solution is fully functional



- respects the natural evaporation of moisture from the structure
- is consistent with the requirements of monument preservation