



Decay patterns of brick wall in atmospheric environment: a possible analogue to rock weathering?

Richard Prikryl (1), Zuzana Weishauptová (2), Jiřina Příkladová (3), and Jakub Jablonský (1)

(1) Institute of Geochemistry, Mineralogy and Mineral Resources, Faculty of Science, Charles University in Prague, Albertov 6, 128 43, Prague 2, Czech Republic, (2) Institute of Rock Structure and Mechanics, Academy of Sciences of the Czech Republic, Prague, Czech Republic, (3) Academy of Fine Arts in Prague, Prague, Czech Republic

This study is focused on the decay of bricks exposed in enclosing wall of the Regional maternal hospital in Prague city centre (Czech Republic). The hospital, listed as a Czech architectural monument, has been constructed from locally produced bricks in neo-Gothic style in the period of 1867-1875. The bricks of the enclosing wall show sequence of decay patterns that resemble weathering forms observable on monuments built of natural stone. This study aims to study the observed decay patterns by means of in situ mapping and by analyses of decayed material (optical microscopy, SEM/EDS, X-ray diffraction, Hg-porosimetry, water soluble salts analysis) and to interpret them based on the phase composition and other properties of bricks. Finally, the decay patterns of studied brick wall are compared to known weathering sequences on porous rocks (both on natural outcrops and on artistic monuments).