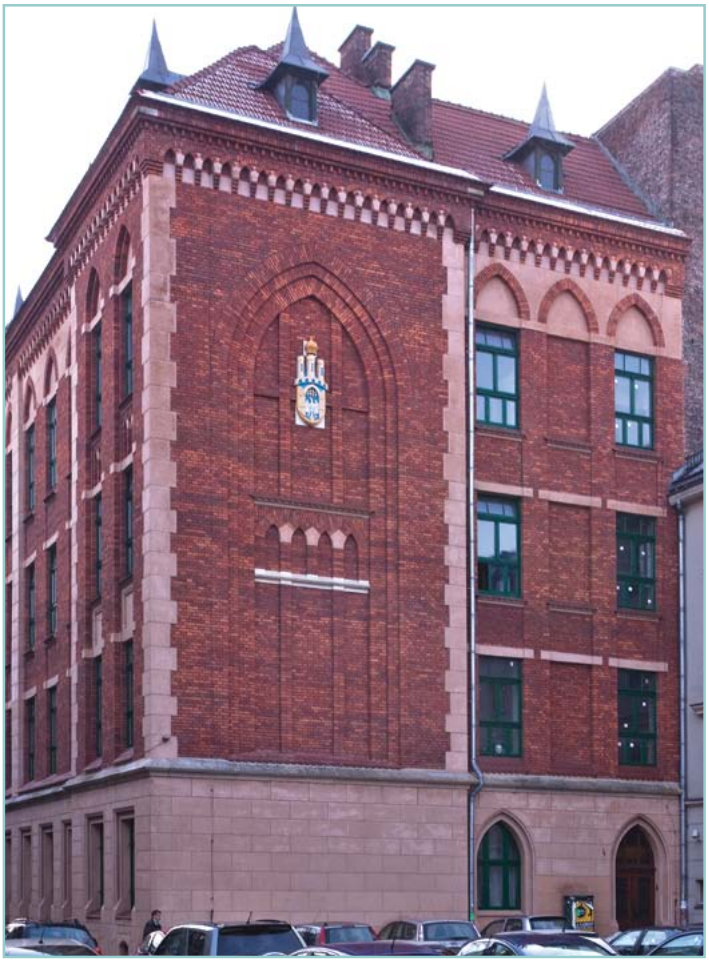
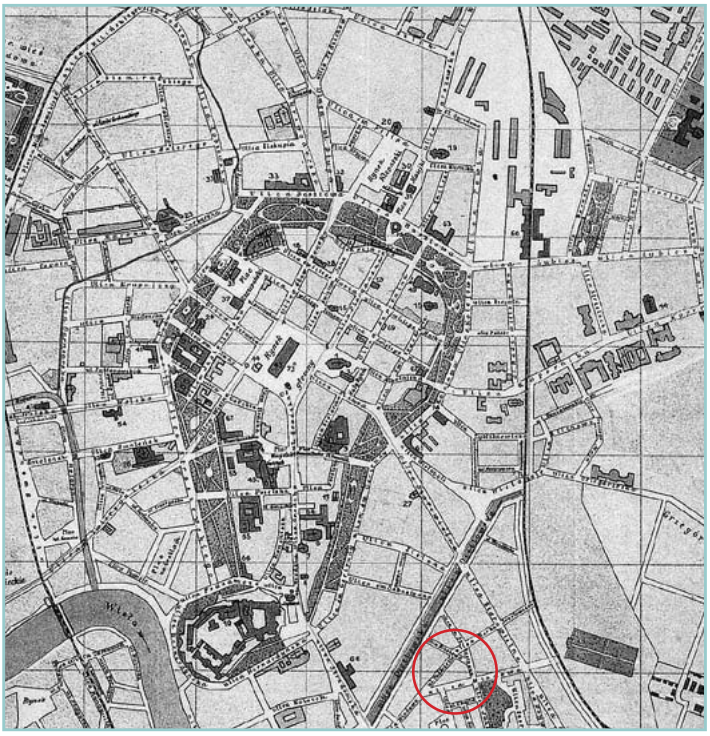
rocare ROMAN CEMENT



Roman Cements for Architectural Restoration to New High Standards

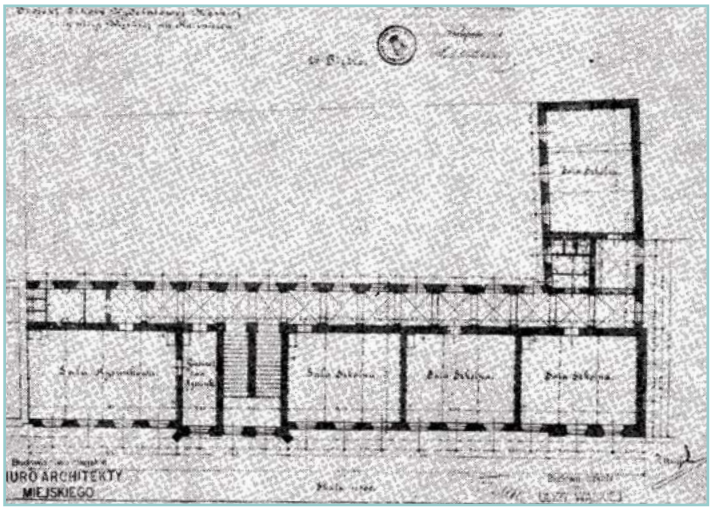




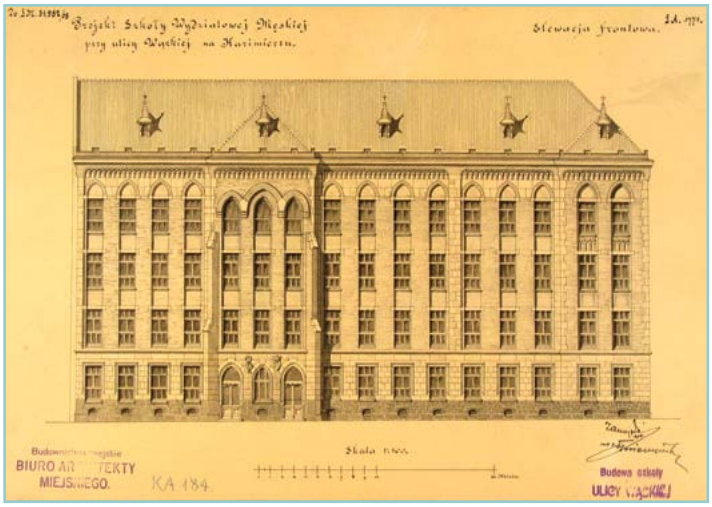
Municipal school building, 1908–1910, by Jan Zawiejski, Wąska 3–5, Krakow, Poland.

A monumental municipal school building in brick combined with Roman cement profiles and plain renders. In spite of modern design and forms, reminiscences of Gothic Revival architecture like pointed arches are present. Leaving most of the façade in raw brick also strengthens the Gothic look. A coat-of--arms of the city, in polychrome stone, is the main decorative element of the side façade. One of 12 municipal schools built in Krakow between 1879–1914 with façades decorated with well preserved Roman cement renders and ornamental stuccoes.

Archival plans and photographs.



Layout of the 2nd floor, drawing by the architect, 1908.



Design of the main façade, drawing by the architect, 1908.



The building in 1910.

Restoration in brief

- restoration of the façade started in 2009, financed through a grant from the Citizen's Committee of the Renovation of Krakow Monuments SKOZK
- the restoration strategy assumed using materials based on historic Roman cements compatible with the original stuccoes
- the restoration works were preceded by technical investigations of the renders to determine their original stratigraphy and colour. A number of trial repair mortars were prepared using fine repair mortars from Remmers Baustofftechnik GmbH Germany. A blend producing the optimum aesthetic appearance was elaborated
- the restoration was finished in 2010.

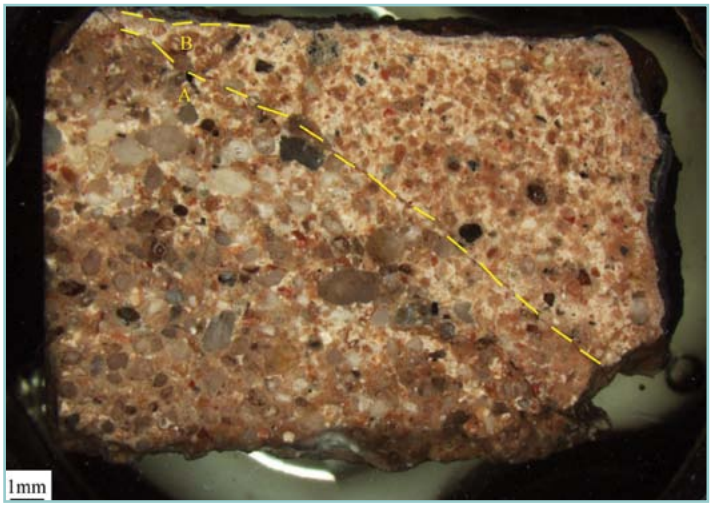
Roman cement stuccoes.



The ground floor is entirely covered with Roman cement renders decorated with simple rustications and profiles run around doors and windows.



The render coat applied to a masonry background was quite thin (around 1 cm) as revealed in damaged areas.



The renders are sandwich structures typical of Roman cements in which the coarse-grained coat (A) was followed by a fine-grained second coat (B) providing a final level surface.

The façade before restoration.





The Roman cement renders were preserved in the original state under a later paint-layer in many areas extensively weathered and delaminated, revealing the original colour of the Roman cement substrate.



Soiling and graffiti on the renders.

Restoration works.



After abrasive cleaning using mixture of air, water and fine quartz sand, the Roman cement renders were coated with a thin finish layer (2–3 mm). The material was individually formulated on the building site by mixing fine repair mortars from Remmers Baustofftechnik GmbH, Germany based on the Roman cement with the addition of fine quartz sand, mineral pigments and a retarder.



Network of original surface cracks is revealed during drying of the freshly laid new finish layer.

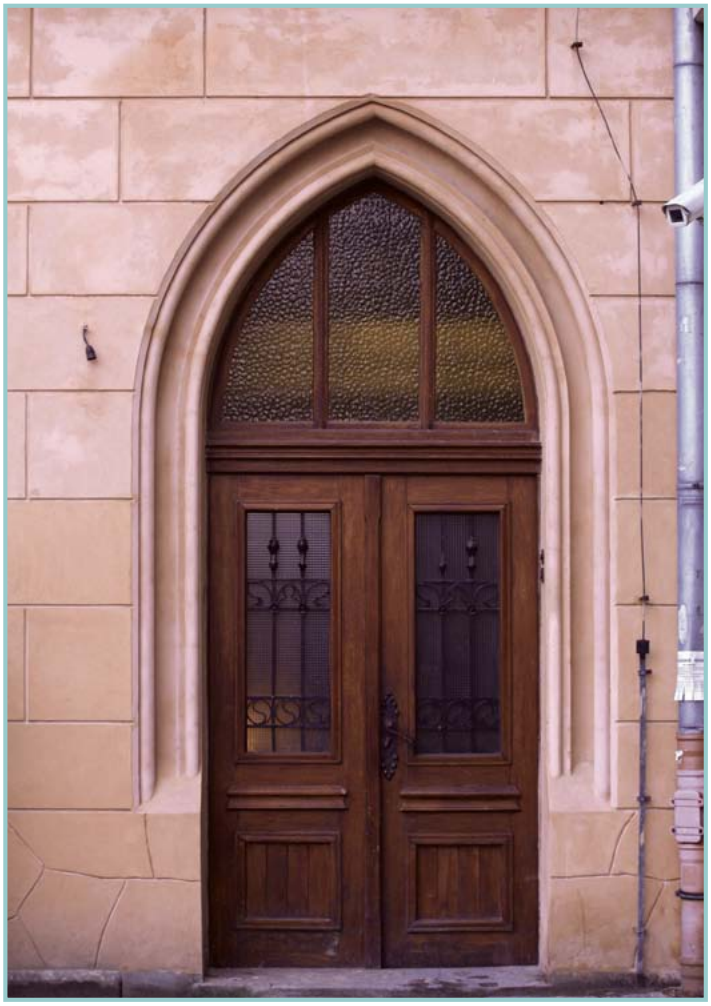
The façade after restoration.

The conservation has restored the original aesthetic concept of the façade, in particular the colour and texture of Roman cement renders.









No impregnation with water repellent agents was carried out to allow for undisturbed hydration of the binder. Whitish areas due to migration of lime to the surface have been accepted as a natural 'mineral' appearance of the Roman cement mortars.

Conservation by **Rachtan Art Restauro Ltd**, Krakow, Poland.
www.rachtan.eu
Investigations and tests of the materials: Marcin Błaszczyk
Consultant: Jacek Olesiak
Supervised by: Elżbieta Wyszyńska – Municipality of Krakow, Section of Monuments Preservation, Monika Fryc-Olejnik – Małopolska Regional Office for the Protection of Monuments



European Commission Research project: ROCARE
Roman cements for architectural restoration to new high standards

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