

Chapter

Rehabilitation of Historical Masonry Buildings in Belarus

Case Studies of Peter the Great's House in Polotsk and Lubcha
Castle

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Book [Nondestructive Techniques for the Assessment and Preservation
of Historic Structures](#)

Edition 1st Edition

First Published 2017

Imprint CRC Press

Pages 22

eBook ISBN 9781315168685

ABSTRACT

This chapter analyzes national experience in the restoration of historical masonry buildings, using the example of national historic landmarks. It examines two historical monuments, Peter the Great House in Polotsk and Lubcha Castle, with GPR for soil scanning and a Ferroskan device for the detection of metal elements in masonry. The chapter describes nondestructive methods for monitoring the properties of the structural materials and proposes how to restore their historical authenticity. The results allowed the researchers to develop a 3D model for further restoration and reconstruction of the named monuments. The use of nondestructive test methods during the all-round technical examination of the construction made it possible to outline a proper set of solutions for the reparation and restoration work and also provide a reliable service to Peter the Great's house. Spatial visualisation of the castle

complex made it possible to evaluate the relevance of the architectural and construction decisions that had been made in the preliminary stages of planning.

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