



## **Leithakalk from quarries to monuments in Central Europe**

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Leithakalk is a Tertiary (Miocene) limestone that has been used as a dimension stone in Central Europe from the Roman period onward. Its advantageous properties made it easy to work with, and thus it has been employed both as structural and ornamental stone. The whitish to pale yellow porous limestone is found in outcrops and quarries in Austria, Czech-Republic and Hungary, but similar limestones are widespread in other parts of the Carpathian Basin. Wide ranges of Leithakalk-type stones are known including calcarenite, oolitic limestone, bioclastic red-algae limestone, calcareous molluscan sandstone, molluscan sand and even marl. Due to its broad geographic range it is often difficult to determine the provenance of stones found in monuments and historic sites. The most prominent examples are known from Vienna (St. Stephan Church), Lednice-Valtice area (an UNESCO World Heritage Site) and from Budapest (St. Stephan Basilica). At most sites the prevailing lithologies are various types of limestones. To assess the properties of stone types and to assist in conservation and repair of Leithakalk monuments a field survey and laboratory testing of samples from quarries and sites were accomplished. The physical properties of selected limestone samples such as bulk density, water absorption, strength parameters and pore-size distribution were measured under laboratory conditions. Textural elements of Leithakalk were analysed with petrographic microscopy, while mineralogical composition was measured by using X-ray diffractometry. The test results were compared and a data base was established for Leithakalk of various provenances.