



Limestone types used from the classic Karst region in Slovenia

Sabina Kramar (1), Breda Mirtič (2), Ana Mladenović (1), Boštjan Rožič (2), Mojca Bedjanič (3), Jože Kortnik (4), and Andrej Šmuc (2)

(1) Slovenian National Building and Civil Engineering Institute, Department of Materials, Ljubljana, Slovenia (sabina.kramar@zag.si), (2) University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Geology, Ljubljana, Slovenia, (3) Institute of the Republic of Slovenia for Nature Conservation, Maribor Regional Unit, Maribor, Slovenia, (4) University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Geotechnology and Mining, Ljubljana, Slovenia

The paper presents a variety of limestones from the Karst Region that is one of the most interesting areas containing reserves of natural stones in Slovenia. The region is mainly composed of Cretaceous shallow-water limestone, with the most common type currently excavated being the rudist limestone of the Lipica Formation, which dates to the Santonian to Campanian. Limestones of this formation are mainly represented by a light grey, thick-bedded to massive Lipica limestone rich in (largely fragmented) rudists. Rudist shells can be either relatively well preserved (such as in Lipica Fiorito quarried limestone) or almost completely disintegrated and intensively endolitised (Lipica Unito quarried limestone). Beside the Lipica Formation, natural stone types have been excavated from two other formations or members in the Karst region: the Repen Formation (Repen and Kopriva limestones), and the Tomaj Limestone (dark, laminated limestone within the Lipica Formation). As documented, the region has been associated with the quarrying and processing of stone at least for over two thousand years, i.e. since the Roman period. Although a large number of quarries in all mentioned formations are documented in the Karst region, many are inactive nowadays. Some of the quarries are declared as geological monuments of national importance or officially protected as a natural monument. Karst limestones are considered the highest quality calcareous natural stones in Slovenia. They are characterised by high density, low water absorption and low open porosity; consequently they also exhibit high frost and salt resistance as well as high compressive and flexural strength. Besides in the Karst region and other parts of Slovenia, the Karst limestones were used in the construction of several important buildings and monuments in many other European Countries, and worldwide. Nowadays, they are most commonly used in the construction of façade cladding, pavements, window sills, staircases, indoor flooring and wall cladding, but are also widely appreciated by sculptors.