



## **Piedramuelle Limestone in the building heritage of Oviedo, Spain, and adjacent towns.**

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The Piedramuelle limestone has a very important representation in the building heritage of Oviedo, historical capital of Asturias (Spain) and surrounding towns. This argillaceous limestone has been quarried since the High Middle Ages until the beginning of the XX century. The main mineralogical components are carbonates (mainly calcite and sometimes ankerite, 70-90%), quartz (5-15%), terrigenous minerals (6-15%) and iron oxides (<5%). Two different facies, with different constructive uses, can be clearly distinguished depending on the grain size: fine-grained facies and coarse-grained facies. The fine-grained facies has color ranging from red to yellow, slightly higher content in carbonates, higher terrigenous components and a micro crystalline texture. The coarse-grained facies is mainly yellow, with detrital clastic texture. The open porosity is higher for the coarse-grained facies (16-20%), while for the fine-grained facies it ranges between 5 and 15%. The fine-grained facies is more vulnerable to weathering than the coarse-grained one, and it is used in the building heritage mainly for ornamental details, while the coarse-grained one is found in the bigger blocks and ashlar of the buildings. Some of the buildings constructed with Piedramuelle limestone are the Cathedral, the Old University and the Palaces from the XVII and XVIII centuries. The ambiance and historical architecture of Oviedo and adjacent towns is closely linked with the textures and colors of this stone. Nowadays, the Piedramuelle limestone is not exploited anymore, being the quarries exhausted. This represents an issue from a conservation point of view, since there is not a suitable stone for replacement. In order to preserve and maintain the building heritage of these towns, it is very important to prospect and protect the remaining outcrops still able to supply this characteristic stone.