

The Öland limestone – A Swedish stone used for more than one thousand years

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The second largest island in Sweden is the home of the “Öland limestone”, a condensed and bedded limestone whose origin dates back to Lower Ordovician, i.e. about 480 M years ago. Öland is a part of the palaeocontinent Baltica that, at the time, was situated at low latitudes with deposition of the calcareous sediments in a cool water environment. The limestone on Öland represents a proximal ramp tectonic setting, with the oldest sediments deposited in the west and younger sediments deposited towards east and southeast. Fluctuating sea-levels have created erosional hard grounds such as the Flowery sheet. These hardgrounds are recognised by their vivid colours and trace fossils, and can be traced all over Baltica, but is maybe best represented on Öland.

Ordovician limestones are present in many places in Sweden, but it is the occurrence on Öland that is the most renowned in a building stone perspective. One reason for this is the favourable trading location, an island off the Swedish East coast in middle of the trading routes between the Baltic countries and the continent. Other reasons are the pleasant aesthetical values with numerous orthoceratites and other fossils. The limestones on Öland differ in colour. From the red varieties (with oxidized iron) to brownish and grey. The bedding is mostly in the cm-scale which easily enables very exploitable thickness of slabs. Every mm limestone represents about 1000 years of deposition. The limestone has most likely been used in a very crude way for many thousand years, but archaeological evidence of a more industrialized usage is just a little more than 1000 years. It is known from the literature that the first official Swedish king, Gustav Vasa (16th century), desired this stone. At the time it was called “Öland marble”, and the king “imported” specialists to process it further at the Royal Stone workshop on northern Öland. Remnants of tools and working sites still remain in an outdoor museum. Export of the Ölandic limestone was intense even during Hanseatic times (14th to 17th centuries) and it can for example be found as floorings, mantel pieces, baptismal fonts in many German castles and manors. The literature tells us that export to Denmark, Poland and even southern Germany was intense during late medieval ages. This is because a lot of churches were built in Northern Europe at that time. However, the modern industrialised production had to wait until the early 20th century.

Today, three companies quarry and process the limestones on a regular basis. They are primarily used for flooring, stairs, crazy stones for gardens, table tops, kitchen tops and, in some cases, also external cladding and paving. The latter only with more durable layers free of clay and open stylolites, so called “core stone” (direct translation). The presentation will show that the Öland limestone covers all aspects and requirements for being a Global heritage resource.