

## **Ruhr sandstone (Ruhrsandstein)**

### **its origin, characteristics and significance**

#### **The genesis of the Ruhr sandstone - Central Europe before 320 million years ago**

Across the continent, stretches from west to east, a large mountain range that geologists will call the Variscan Mountains. In the north of these mountains, which will later be leveled fuselage for the Rhenish Slate Mountains, stretches a vast plain. Rivers that originate in the nearby mountains, looking over this plane meanders its way north, where they flow into the sea. In addition to rivers, the landscape is dominated by swamps. This swamps, in which, under hot and humid climate grows lush vegetation, are the birthplaces of the layers of hard coal. Often the streams overflow their banks, it comes to catastrophic flooding and the flood poured out huge amounts of sand and mud over the level at which all life is buried deep beneath it. Any flooding leaves up to several meters thick deposits of sand and clay mud. In a period of many millions of years the gradually descending surface causes sediment layers of several thousand meters in thickness. Sand becomes through the overburden overlying layers a sandstone, clay becomes a mudstone.

#### **This is the time of the Upper Carboniferous, the rise time of the Ruhr sandstone!**

At the end of the Upper Carboniferous, about 290 million years, these deposits are folded by shear forces, several thousands of meters deep into the crust and attached to the Variscan Mountains as a further wrinkle lines. Because of the associated high pressure due to the massive burial of the still young sandstone is heavily compacted and solidified. More than 200 million years later the upper carboniferous sandstone is removed by renewed movements of the earth's crust and associated erosion of overlying layers to the surface.

As a result of geological processes is particularly in the older strata of the Upper Carboniferous a sandstone formed, which is marked by its low water absorption in comparison to other sandstones, its high compressive strength touching that of granite, its high abrasion resistance and the generally high resistance against weathering. Ruhr sandstone is fine to coarse grained pebbly and hard bound or has a direct grain binding. In addition to quartz, it contains high portion of feldspar, so that the mark "arkose" is used for this type of sandstone sometimes. The sandstone is brownish-from light to blue-gray or yellowish color. Often in a piece both colors represented.

#### **Ruhr sandstone as a building material**

The people on both sides of the lower and middle reaches of the Ruhr recognized early on the good qualities of the sandstone from the Carboniferous strata of the Ruhr and learn to appreciate him as a building and ornamental stone. Building from the earliest times - as sacred profane buildings - are evidence of the durability of the Ruhr sandstone.

In the fifties of last century, the modern sawing feeder holds in the sandstone plants in the Ruhr, and thus the thick-bedded parts of the Ruhr sandstone are available. Previously they had in exploitation the thin-bedded classes preferred.

Ruhr sandstone is fully usable both indoors and outdoors and will include used in the manufacture of floor and facade panels, block and stair treads, wall, water engineering and slope of stones and stone carvings.