All over the world, cement is one of the most important building materials. Whether for houses, bridges or tunnels, we cannot imagine our modern world without it. Join us for a short tour to experience how cement is made: starting with the extraction of raw materials and ending with the finished product.

From raw materials to cement

Extracting raw materials
Crushing and transportation

The most important raw materials for making cement are limestone, clay and marl. These are extracted from quarries by blasting or by ripping using heavy machinery. Wheel loaders and dumper trucks transport the raw materials to the crushing installations. There, the rock is broken down to roughly the size used in road metalling.

Raw material preparation I:
Storage and homogenisation

The crushed material is transported into the raw material storage of the cement plant by conveyor-belts, cableways or railways and also in exceptional cases with trucks. Once there, it is stored in blending beds and homogenised.

Raw material preparation II:
Drying and raw grinding

The desired raw mix of crushed raw material and the additional components required for the type of cement, e.g. silica sand and iron ore, is prepared using metering devices. Roller grinding mills and ball mills grind the mixture to a fine powder at the same time as drying it, before it is conveyed to the raw meal silos for further homogenisation.

Burning

The burning of the raw meal at approx. 1,450°C is carried out in Lepol or preheater kilns that work by varying methods, the main difference being in the preparation and preheating of the kiln feed. By chemical conversion, a process known as sintering, a new product is formed: clinker.
How cement is made

The finished cement is stored in separate silos, depending on type and strength class. From there it is mainly loaded in bulk form from terminals onto rail or road vehicles as well as onto ships. Only a small proportion of the cement reaches the customer in the form of bags that have been filled by rotary packers and stacked by automatic palletising systems.

Focus on quality
Quality is of paramount importance. This is why the whole production process is monitored and controlled from a central control room where all the data from the plant and the laboratory come together. Highly qualified production controllers operate and safeguard the plant.

Environmental responsibility
Environment is a central issue. The quarries from which we extract our raw materials are returned to a natural state or put to agricultural use. We are increasingly opting for renaturation, thus helping to preserve biological and species diversity.

Focus on energy and climate protection
With efficient production processes and the increasing use of alternative fuels and raw materials, we make an important contribution to protecting our climate. Group-wide standards for environmental protection and occupational health and safety help us to ensure that our ambitious goals are implemented worldwide.