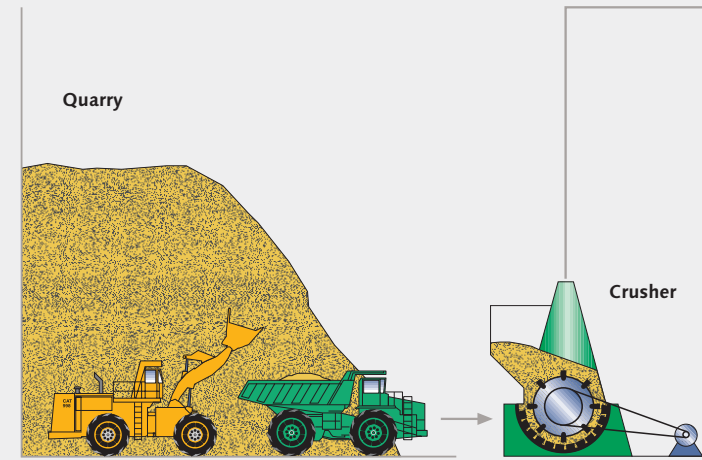


## From raw materials to cement



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.

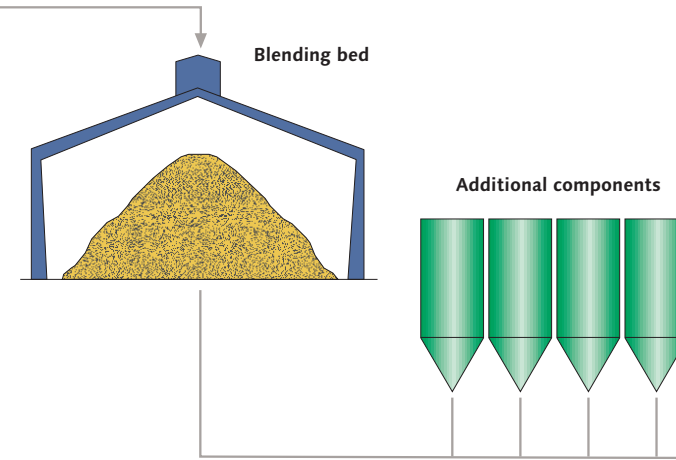
## Extracting raw materials Crushing and transportation



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.



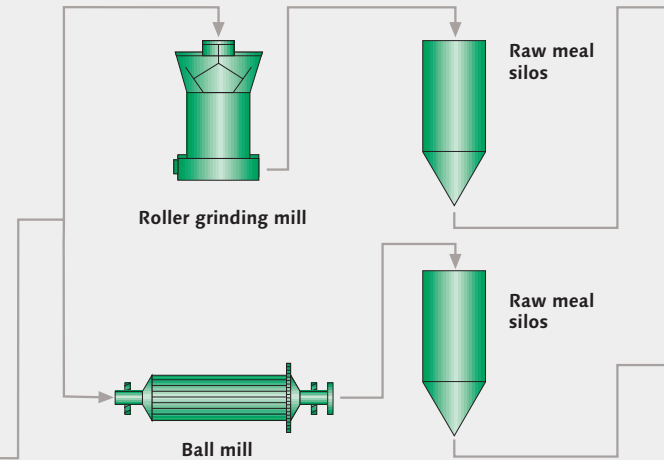
## Raw material preparation I: Storage and homogenisation



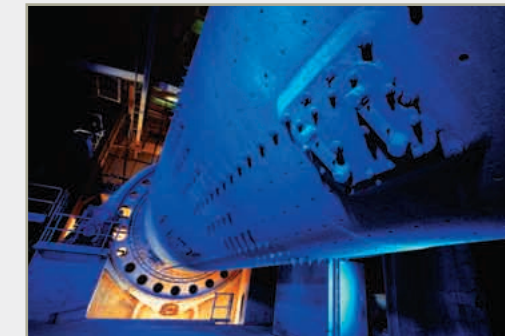
The crushed material is transported into the raw material storage of the cement plant by conveyor-belts, cableways or railways and also in exceptional cases with trucks. Once there it is stored in blending beds and homogenised.



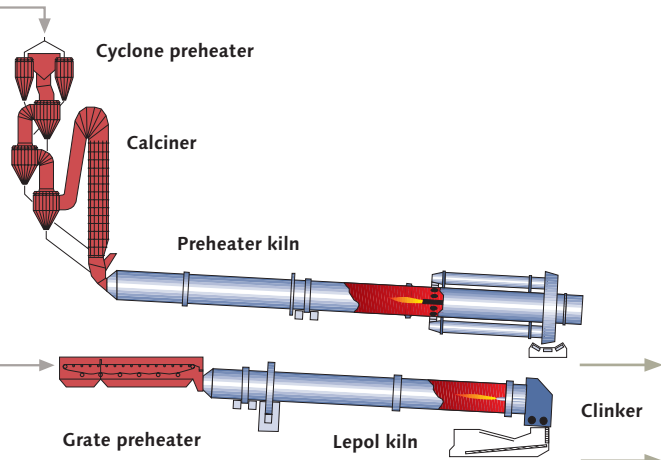
## Raw material preparation II: Drying and raw grinding



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.

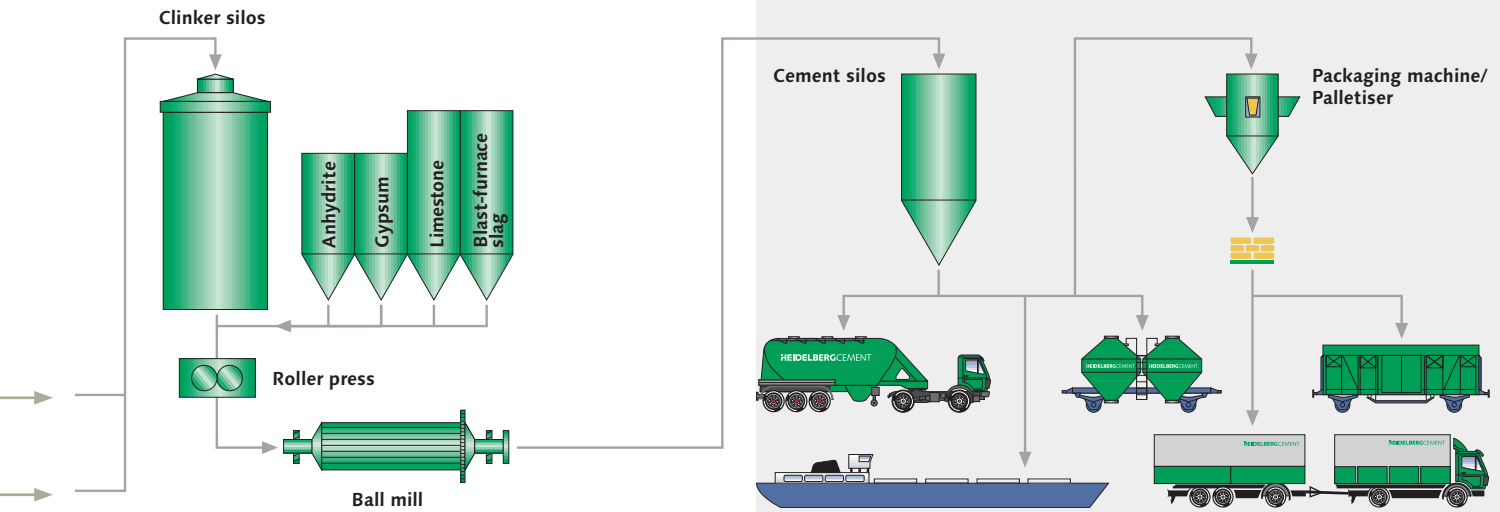


## Cement grinding

## Loading and shipping

## Quality control and environmental responsibility

## Building on sustainability



After burning, the clinker is cooled down and stored in clinker silos. From there the clinker is conveyed to ball mills or roller presses, in which it is ground down to very fine cement, with the addition of gypsum and anhydrite, as well as other additives, depending on the use to which the cement is to be put.

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.

HeidelbergCement has activities in 50 countries and its goal of sustainable development is shared by all Group areas and business lines. We are building on the three pillars of sustainability: economy, ecology and social responsibility. We create added value for our customers, employees, suppliers and shareholders. We preserve natural resources – the basis of our economic activity. And we recognise our social responsibility at our locations and towards our employees.

HeidelbergCement is member of:



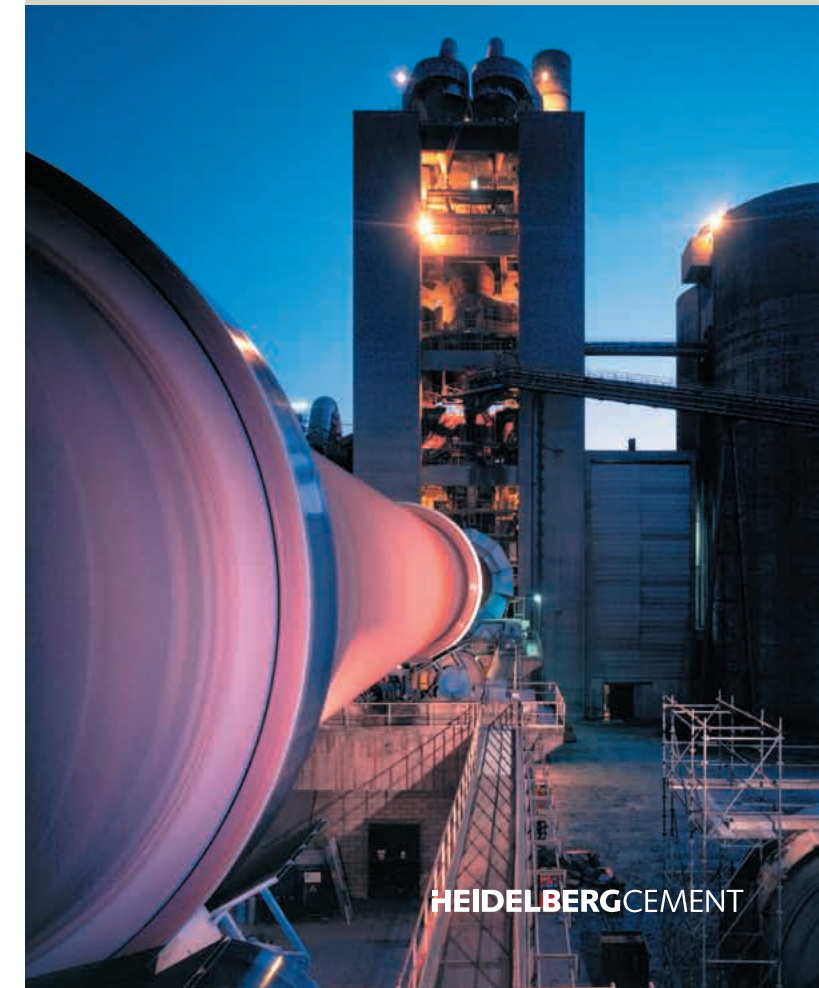
### HeidelbergCement Headquarters

Berliner Strasse 6  
69120 Heidelberg  
Germany  
Phone: +49 62 21-481-227  
Fax: +49 62 21-481-217

[www.heidelbergcement.com](http://www.heidelbergcement.com)

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# How cement is made



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