

MINERALS TO MATERIALS

THE PROCESS / THE PRODUCT



Quarry

The Clarkdale Plant is surrounded by hills that are rich with high quality limestone that is quarried on site. The quarried rock contains both silica and calcium as well as deposits of volcanic material that provide alumina, iron and additional silica. All of these are necessary to make a suitable raw mix for cement.

Crush

Once quarried, the stone is trucked to the primary crusher where each type of stone is broken down and stored separately. In a secondary crusher, the stones are mixed in the correct proportion and reduced to less than 3-inch sized pieces. During this process, the rock is sampled regularly for quality. After the crushing process, this raw material is stacked.

Reclaimer

A special piece of large equipment, a digger-wheel reclaimer, retrieves the stacked rock to ensure that different types of rock are blended into a uniform feed for the kilns.

A few of the projects built with Phoenix Cement® include Glen Canyon Dam, the Central Arizona Project, Chase Field, Roosevelt Dam, I-10 and I-17 construction, Phoenix Sky Harbor International Airport, The Pavillions Shopping Center, Mingus Union High School, the Palo Verde Nuclear Generating Station, numerous high rise structures and housing developments throughout the Phoenix metropolitan area and Northern Arizona.

Raw Grind

The raw material is ground into a fine powder called raw feed that is sampled for chemical consistency and quality.

Heat

Raw feed is blended in the homogenizing silos and pumped into a preheater/calcliner. The feed then drops into a rotary kiln where it is heated to temperatures of at least 2750 degrees F. At these high temperatures, lime, silica, alumina, magnesia and iron oxides form new compounds and produce small, hard, spherical shaped "clinker."

Finish Grinding Mill

The clinker is cooled and stored in domes. Gypsum is added to the clinker and it is milled to a powder. The powder is cement.

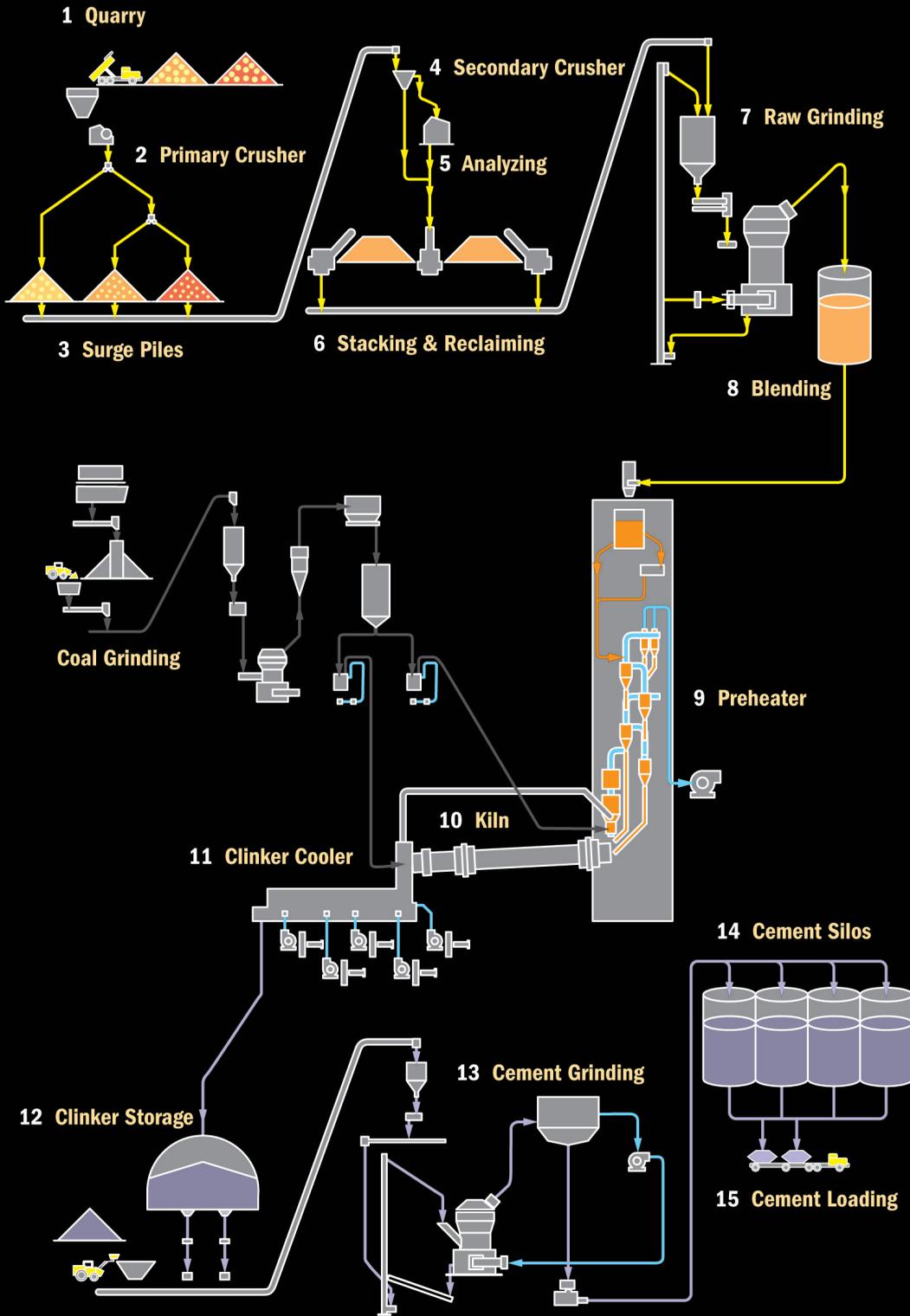
Storage

Portland cement, mortar cements, and specialty grinds are pumped into storage silos on site.

Packed & Distributed

Bulk and bagged cement is distributed throughout central and northern Arizona. The location of the Clarkdale plant near the center of the state is convenient to the growing metropolitan area making concrete readily accessible and construction more affordable.

Process Flow in Cement Manufacturing



Mission Statement

Creating Opportunities and Solutions with Quality Products and Exceptional People

Values

Profitability The Right Way...
Integrity, Accountability, Excellence