

SIC - Società Impianti Calce S.r.l., Italy

SIC's ongoing lime plant projects

Tracing its history back as far as 1840, Italy's Società Impianti Calce S.r.l (SIC) is a major producer of lime plants and associated machinery. Here it discusses its current ongoing and recently completed lime projects from around the world.

Vantaa Energy Oy, Helsinki, Finland

Vantaa Energy Oy, based in Vantaa, near Helsinki, Finland contracted SIC to supply a 3.5t/hr lime hydrator to produce slaked lime. This is used to neutralise incinerator flue gases from Vantaa's waste incineration plant. Lab SA of Lyon, France, acted as the main contractor. The project has completed its running test.

Viru Keemia Grupp, Kohtla-Jarve, Estonia

SIC has supplied a 75t/day CBK lime kiln to Viru Keemia Grupp in Estonia for the world's largest shale oil processing plant. The installation is currently undergoing tests.

In a world first process, limestone is taken from the reject fraction of the oil shale excavation operations of Viru Keemia. The lime produced by the SIC plant is then used for neutralisation of the exhaust gases from the power plant and the process of oil shale distillation.

It is difficult to burn the limestone because it contains a lot of SiO_2 , Al_2O_3 and Fe_2O_3 , which may lead to the formation of low melting eutectics. This may cause blockages in a conventional kiln.

The fuel used to burn the lime is a mixture of two gases obtained from the distillation process. These are 'Petrotter' with a calorific value of 9800-14,000 kCal/

Nm^3 and 'Kiviter', which has a calorific value between 750-950kCal/ Nm^3 . Another significant processing problem in this installation is the large variation of calorific value of the two gases over time and the difference of the heating power between them.

Overall, the fact that reject materials from the production process are used for the purification of the gaseous emissions of the same process, enable the plant itself to have an environmental impact of close to zero.

Tetranox, Rostov on Don, Russia

SIC is currently building a double shaft circular cross-section DSS 400 lime kiln for lime producer Tetranox in Rostov on Don, Russia. The kiln will produce 400t/day of burnt lime when completed. It will be fired with natural gas and be fed with limestone of 30-60mm in diameter.

Carrières et Chaux du Mali, Bamako, Mali

SIC has recently completed a single shaft HPK 100 lime kiln for Carrières et Chaux du Mali, in Bamako, Mali. The kiln is fired using heavy oil and will produce 100t/day of burnt lime once commissioning is completed in the coming months. The lime produced will be used in the extraction of gold.



Right: Work is ongoing at the Carrières et Chaux du Mali plant near Bamako.

Société Chaux el Hamma, Gabes, Tunisia

Société Chaux el Hamma is currently constructing a new SIC lime hydrator in Gabes, Tunisia. The 5t/hr hydration plant has an HPS fluxed separator, enabling the production of not only standard slaked lime, but also slaked lime with high chemical purity and a particle size of less than 15 μm .

Huong Hai Group, Ha Long City, Vietnam

Lime producer Huong Hai Group is in the process of installing two double shaft DSS 300 kilns from SIC. Each will produce 300t/day of burnt lime. The scope of supply also includes coke combustion equipment, lime screening and storage equipment and two lime hydrators, each rated at 15t/hr.

This is the largest project currently under construction in the lime business on the Indochina Peninsula. The objective of the project is not only to meet demand for lime and associated niche products in the important Vietnamese market but also to satisfy neighbouring countries with the same



products. For these reasons, the project has been designed with a high degree of flexibility.

Above: The 75t/day Viru Keemia Grupp CBK lime kiln at Kohtla-Jarve, Estonia.



Astra Industrial Group, Al Khars, Saudi Arabia

Astra Industrial Group has recently completed the construction phase of the installation of a lime grinding, screening and fine grinding plant from SIC. The lime produced at Al Khars, Saudi Arabia, will be used for a variety of further processes, including in oil and steel production. SIC's fine-grinding Type S mills will enable the company to produce material down to 15 μm .

Left: A wide range of lime products will be produced by Huong Hai Group in Vietnam, thanks to a large new SIC installation.



Left: Installation of the Vantaa Energy lime hydrator. The slaked lime produced will be used to neutralise exhaust gases from the company's waste incinerator.