

Waste Treatment Systems Using Cement Kiln

Features

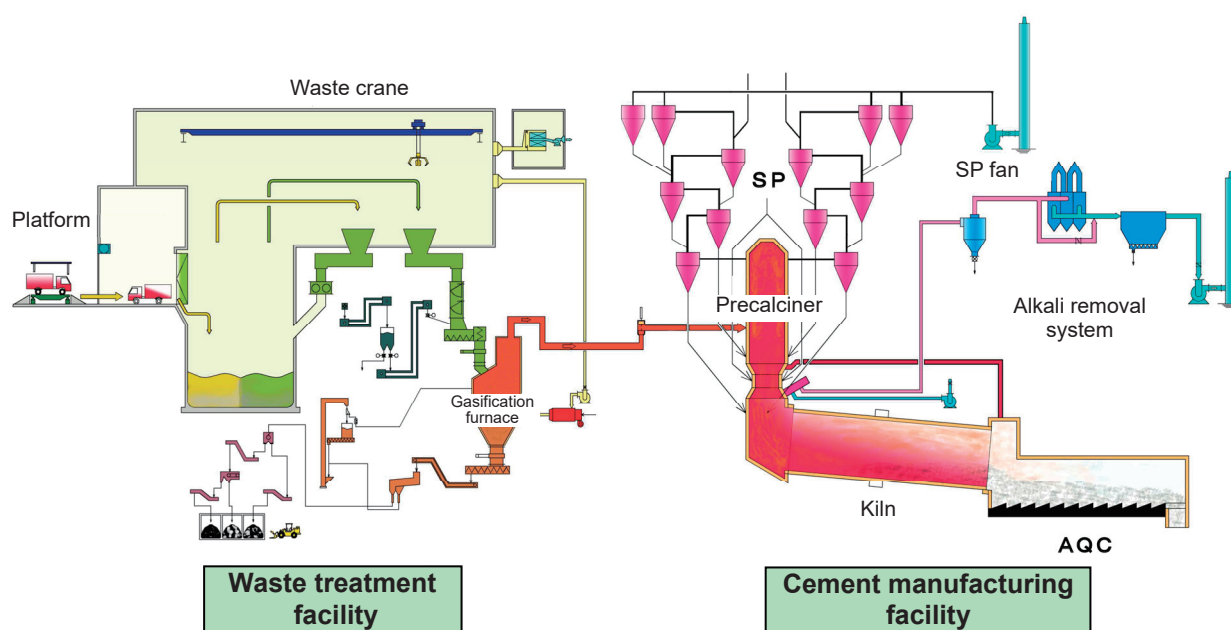
- ◆ Integration of the waste treatment technology and the cement manufacturing technology
- ◆ Using a cement plant, the construction cost of a waste treatment facility can be greatly reduced.
- ◆ The waste is effectively used as the fuel and raw materials for cement products.



Waste treatment system using cement kiln (China, Tongling Conch Cement Co., Ltd.)

Basic Concept or Summary

- ◆ The waste treatment facilities (waste pit, gasification furnace) are constructed on the same site as cement plant.
- ◆ The pyrolysis gas, unburned char and fly ash generated in the gasification furnace, are put into the cement kiln directly without being separated.



- ◆ Technology developed on our own
- ◆ It is possible to prevent cement quality from being adversely affected by separating and removing iron or incombustibles using a gasification furnace.
- ◆ The fuel cost for calcining of raw materials can be reduced by several percent with the effective use of waste energy.
- ◆ Developments have also been completed for the “Zero Emission Integrated Urban Waste and Water Treatment System” (ZEET System, or the Zero Emission Eco-Town System), which is capable of combusting waste materials and sludge together.

Installation in Practice or Schedule

Domestic ◆ None

- Overseas ◆ Based on the joint research with ACDI, ACK and CKM, a verification test facility (300 t/d) was constructed in Tongling Conch Cement Co., Ltd.
The verification test was conducted from March 2010 onward using municipal waste, and good performance was achieved.
The system has been in operation and in good working order since completion of the test, processing 80,000 to 90,000 tons of waste annually.
- ◆ We received an order for a 200t/day furnace from Guiding County, Guizhou Province, China, in Fiscal 2011. Waste disposal in the furnace began in November 2012.
The furnace is being operated in good working order.
 - ◆ We received orders for multiple facilities in China since Fiscal 2012, including two 400t/day furnaces for Zunyi City, Guizhou Province. As of July 2024, 28 facilities are in operation.

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