Recycles waste and manufactures auxiliary fuel for cement factory use.

Waste Recycling and RF Fuel Production Technology

Features

- Recycles waste and makes it possible to reduce the consumption of fossil fuel (coal).
- Totally recycles received waste into products with a low environmental load imposed without generating secondary pollution resulting from product residues.
- Recycling technology applicable to a variety of waste materials.

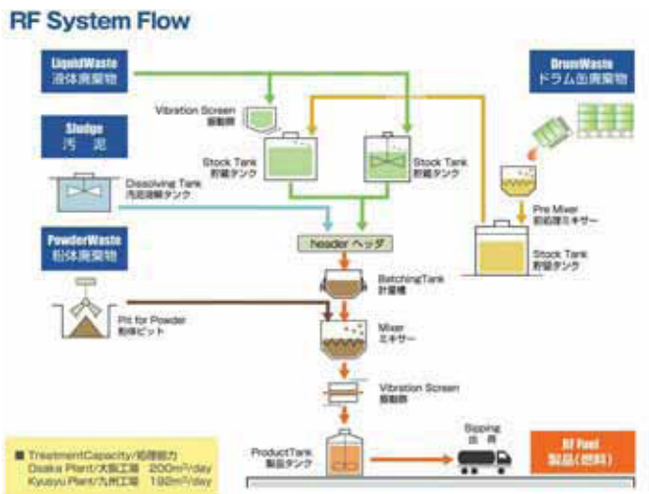
Overview (Technical principles, actions, etc.)

This technology uses our unique mixing technology (including a unique mixing ratio, injection order, mixing time, and mixing equipment) and converts industrial waste materials, such as waste oil, waste liquid, sludge, discharged from a variety of industries into slurry fuel (under the commercial product name of RF Fuel).

Thixotropy refers to the way the viscosity of slurry changes with time and motion, i.e., the viscosity will increase when the slurry is in a resting state, but the viscosity will drop with shear stress imposed and the slurry will change into a liquid state. By providing slurry fuel with thixotropy characteristics, the viscosity of the slurry fuel stored in tanks, for example, will increase, thus preventing the ingredient separation of the slurry fuel. When shear stress is imposed on the slurry fuel with a device, such as a pump, the viscosity of the slurry fuel will drop, thus making it possible to transfer the slurry fuel through piping.

The use of this slurry fuel as auxiliary fuel for cement baking has the following merits: (1) The slurry fuel contains liquid matter and solid matter, and liquid matter will burn first, followed by the solid matter when the slurry fuel is put into a kiln, thus making it possible to heat up the entire kiln efficiently. (2) The inorganic ingredients of the slurry fuel are used for raw materials for cement, which ensures a high recycling rate.

RF production flow



Introductory Track Record

■ In Japan

Kinki Environmental Industry's Osaka Plant
Kinki Environmental Industry's Kyushu Plant
Major cement company's factory

■ Overseas

Kaohsiung, Taiwan (1993)
Ulsan, Korea (1996)

Effects

The use of RF Fuel as auxiliary fuel for cement baking provides the following effects.

①Recycles waste and makes it possible to reduce the consumption of fossil fuel.

A total of 95,500 tons of RF Fuel were sold in fiscal 2008, and 67,500 tons of fossil fuel (coal) for cement baking use were saved.

②Totally recycles received waste into products, thus not generating residual waste, which contributes to the life prolongation of facilities for the final disposal of the waste while realizing recycling with low environmental loads with no secondary pollution caused.

Practically effective.

③Recycling technology that is applicable to a variety of waste materials.

Raw waste materials include waste oil, waste liquid, and solid materials, such as sludge, thus connecting to a wide variety of industries.

Applicable field
Industrial districts, industrial complexes, and factories as generation sources of waste, various chemical industries discharging industrial waste, and recycling companies

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