



Stabilizing power station byproducts

Mixing technology for residual materials from flue gas desulphurizing plants

- Continuous processes
- Quality mix without dry materials nests
- Sizes supplied for outputs from 20 t/h to 850 t/h

Stabilizing power station byproducts



Bed ash



Fly ash



FGD gypsum



Homogenized/hygenized FGD products

In the Lödige Mixing system byproducts from power stations are mixed to produce stabilizer, i.e. on the basis of dusts of desulphurizing units. Waste products, e.g. gypsum suspensions from flue gas desulphurization units, are mixed homogeneously with fly ash from brown coal incinerators in suitably equipped Lödige Mixers. The aim is to utilize the pozzolanic properties of the fly ash. If a suitable recipe is chosen, these materials provide, amongst other things, the physical properties which make the solid material suitable for storage.

Diffusion of gypsum suspension particles in CaO, either contained in the fly ash or added to it, produces hardening reactions under alkaline stimulation, similar to the hardening of cement. At the same time soluble parts of the original material, containing noxious matter, can be integrated into the newly formed material phase. With the low solubility in this phase there is durably incasement and therefore immobilisation.

Materials suitable for the production of stabilizers are mixed materials from flue gas cleaning systems and flue gas desulphurization units, e.g.

- Fly ash
- Boiler slag / wet slag
- Gypsum suspensions from FGD units, dry content approx. 50 %
- Process water from FGD units

Required Stabilizer Properties

- Homogeneous product for safe immobilisation

The material must comply with the regulations concerning quality for disposal in landfill sites with regard to

- mechanical properties
- water permeability
- leaching

The quality of the stabilizer depends on

- the properties of the fly ash
- the quality of the unit dosing system
- the mixing ratios
- the quality of the mix

Advantages of the Lödige Process

- Intensive forced mixing
- High mixing quality due to intensive particle crossing rate in Lödige mixing processes
- Mechanically generated fluid bed
- 2 way mixing by backmixing in the continuous process
- Heavy Duty construction for robust operation
- Continuous process
- Production of granulates suitable for permanent storage

Lödige-Know-How

- A lot of mixers / units have been supplied for the production of stabilizer
- Supply of a complete package including dosing technology, mixing technology, vapour treatment, measurement and control technology
- Basic engineering and advice on process technology

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