

Product processing concept for incinerated sludge ash valorization including its high value use as construction material and fertilisers

Renotech Oy

DESCRIPTION:

Particle grinding and simultaneous mechanical activation by high speed impact milling. Extreme energies produced by colliding particles in the mill leads to controlled particle size distribution and enhanced material properties especially in surface activation.

APPLICABILITY AND PRE-REQUISITES:

The technology is developed mainly for fine grinding of dry materials; however other variants can be used for sludge. Maximum size of initial particles is approx. 1cm. Co-grinding of multiple materials is possible. The method itself provides extremely good homogeneity and dispersion of the intermixed materials.

ADVANTAGES AND DISADVANTAGES:

The mechanical activation effect achieved by the technology is more pronounced in abrasive materials. Fractionation of materials is also achieved for biological and/or plastic materials. A major advantage of the technology is the easy adjustment of the design to be suited for many types of materials and material blends. The treatment also creates essentially zero waste as all of the milled fractions can be used.

Highly humidified or wet sludge-type masses are not optimal for this type of technology

OPERATION AND MAINTENANCE:

The energy requirement for treatment of 1 tonne of material is approximately 20 kWh. The machine can be automated but it is recommended to be overseen by 1 operator. Depending on material the cutting elements of the machine need to be changed over time.

COSTS:

Depending on productivity the size of the grinding equipment can be optimized. Cost for grinding equipment starts at approx. 80 000 EUR ex. VAT.

REFERENCES:

The technology is planned to be used on site the waste water sludge incineration plant of Brugge within the R3 project.

Most recently the technology has been used in a soil stabilisation site in Espoo where it was used on site for cogrinding of biofuel ashes for soil stabilisation.

Additionally there is a long time experience in various industrial fields like; Foodstuff, Agriculture products, Biological material, Chemical products, Minerals, Fuels and in the production of Emulsions, Suspension and Pastes.

CONTACT

Renotech Oy.
bt@renotech.fi
Sampsankatu 4B 20520 TURKU, Finland

Renotech Oy

