

Selected BTA References

Pulawy



Client: ZUOK Zakład Unieszkodliwiania
Odpadów Komunalnych w Pulawach
Ul. Deblinska 96
PL 24-100 Pulawy
Poland

Capacity: 22,000 ton/year

Start up: 2001

Materials processed:

- Municipal solid waste
- Codigestion with sewage sludge at the digester of the wastewater treatment plant

Process:

- BTA Pre-treatment with posterior anaerobic digestion in wastewater treatment plant

Plant description:

- General concept
- Waste reception and pre-treatment
- Anaerobic digestion within the wastewater treatment plant



More Information
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Pulawy

Description

General concept

This plant, the first of its kind in Poland and Eastern Europe, is situated at a landfill site. The main focus of the concept is: to codigest the municipal solid waste with sludge from the sewage plant in Pulawy, to achieve a high level of relief for the landfill by reducing the arising amount of material, and also to avoid biological activities within the landfill.

Waste reception and pre-treatment

The waste is dumped onto a flat bunker. Using a front loader, the waste is dropped onto an underfloor belt and is directly transferred into the sieve drum. The sieve overflow can be fed to a sorting belt with 8 sorting places. If required and according to the market situation, recoverable material can be sorted out manually. The residual matter will be pressed and strapped at the end of the belt. The bales are subsequently placed in the landfill. The sieve underflow is channelled into the BTA Waste Pulper installed in the machine hall. By adding leakage water from the landfill, a pumpable suspension is produced (pulp). Flowing forces generated by the rotation of an impeller positioned in the pulper defibrate the solid organic components in the waste and dissolve the water-soluble materials. The resulting suspension (TS 8-10%) is withdrawn through a perforated screen (perforation 10 mm) and is

transferred into the subsequent processing step, a grit removal system. The non-digestible contaminants remain in the pulper. After the renewed addition of water, the heavy matter (metal, glass, stones, and batteries) is removed through a heavy fraction trap. Light materials like plastics, wood, textiles etc. are removed by a rake. The separated rake fraction is dropped down into a rake fraction press, where it is dewatered to a water content of approx. 45%.

The pulp is fed into a surge tank which is part of the BTA Grit Removal System. The BTA Grit Removal System removes most of the contaminants smaller than 10 mm (little stones, sand, glass splinters) which had been able to pass the perforated sieve in the BTA Waste Pulper. These inert materials could otherwise have a detrimental effect on the process (sediment in the digester, increased abrasion).

Anaerobic digestion within the wastewater treatment plant

Having been cleaned as described, the suspension is transferred to the sewage plant, gets pumped into the existing biological digester there and is co-digested with the sewage sludge of the plant. Due to the suspension, additional biogas is produced which can be utilized by the CHP (combined heat and power station) of the plant.

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