

## Press release

### **BIBKO® INFRA TEC** - Reduction of disposal costs for sewer flushing material

Gebr. Lemberger Entsorgungs- und Abwassertechnik GmbH invests in own recycling system

Gebr. Lemberger Entsorgungs- und Abwassertechnik GmbH is a family-owned company based in Munich that offers its services throughout Bavaria. This includes the cleaning of drains, pipes and sewers as well as the disposal of liquid waste.






Sewer cleaning vehicle Gebr. Lemberger

#### **Reduction of disposal costs**

In order to reduce disposal costs, the company decided in 2021 to recycle the sewer flushing material itself in future. To this end, in addition to the headquarters in Munich, a further location was rented and the company **BIBKO®**, business division **INFRA TEC**, was commissioned to design an appropriate recycling system. This recycling system has now been delivered and put into operation.

#### **Task and objective**

The task was to design a recycling system that would achieve the following goals:

-  Reduction of the disposal volume
-  Improvement of the allocation value Z (in the recycled material)
-  Reduction of disposal costs

#### **Installation location**

Since a hall was already available at the rented location, the recycling system was planned in this hall. This ensures problem-free operation of the system even in winter.

The already existing recess in the hall was to serve as the installation position. The structural design of the recycling system was adapted accordingly so that a recessed installation was possible. This enables optimal emptying of the vehicles.



Hall with recess in the floor

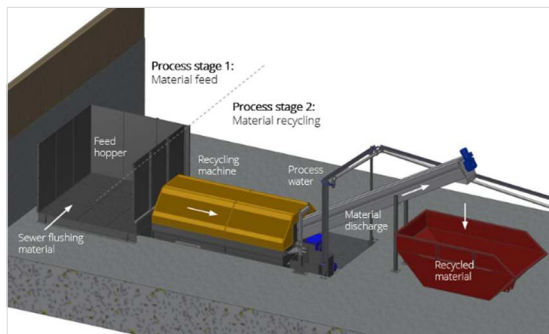
#### **Machine concept**

In order to achieve the defined goals, a 2-chamber recycling machine of the type IT-4000/2 with a mechanical pipe of approx. 20 t/h and a spiral conveyor type IT-WDF-6 as material discharge was planned. The sewer flushing material is fed via a feed hopper. The resulting process water is led into a separating basin and then discharged.

#### **Recycling process**

The recycling process consists of a total of two process stages:

- Prozess stage 1: Material feed
- Prozess stage 2: Material recycling



Machine concept with process stages

### Process stage 1: Material feed

A hopper construction with a feed area of 3 m x 3 m is used to feed the material into the recycling machine.

A large-meshed grating in the area of the feed surface prevents large pieces of material from entering the plant on the one hand, and on the other hand it complies with the accident prevention regulations.



Vehicle during rinsing

### Prozess stage 2: Material recycling

The actual washing process takes place in the BIBKO® recycling machine. This system consists of a 4 m long machine trough that is divided into two (washing) chambers.

First, the material enters the 2.2 m long pre-washing chamber of the recycling plant. This contains a water bath. In a wet-mechanical recycling process, a rotating spiral conveys the material through the water bath and segregates it.

At the same time, water flows through the chamber in countercurrent. In the process, the organic components and the mineral components  $\leq 250 \mu\text{m}$  are washed out and discharged together with the excess process water via an outlet channel.



Recycling machine with outlet channel

The mineral components  $>250 \mu\text{m}$  remaining in the system are removed from the pre-washing chamber via a bucket elevator and fed into the main washing chamber. There, similar to the pre-washing chamber, the main washing process takes place, in which the material is again mechanically conveyed through a water bath. In order to achieve an optimal washing result, water flows through the chamber in countercurrent.

A second bucket elevator removes the washed material from the main washing chamber and feeds it to the spiral conveyor.



Recycled material

The material is dewatered via this conveyor and conveyed into the material box. The material is then available again as secondary raw material.

### Summary

After Gebr. Lemberger Entsorgungs- und Abwassertechnik GmbH had decided internally to recycle sewer flushing material itself in the future, the following parameters were defined:

- Parameter 1: Installation position

The rented hall already had a recess in the floor. The recycling system was to be designed in such a way that this recess could be used as an installation site.

- Parameter 2: Objective of the system

The recycling system should reduce the disposal volume and improve the allocation value Z in the recycled material in order to reduce disposal costs.

With the **BIBKO® INFRA<sup>TEC</sup>** - recycling system supplied, the parameters defined in advance were achieved in full. This now leads to reduced costs in daily operation and makes the purchase of the **BIBKO® INFRA<sup>TEC</sup>** - recycling system a profitable investment.



Vehicle during rinsing