Press release

BIBKO® INFRA*TEC* - Recycling system type IT-1500/1_BW

Case study: Recycling of various types of waste

With the entry into force of the Ersatzbaustoffverordnung (ErsatzbaustoffV) on 1 August 2023, uniform national regulations for the production, testing and installation of substitute building materials will apply for the first time.
From this date, the placing on the market of mineral substitute building materials as well as unprocessed soil material and excavated material and their use in technical structures will only be permitted if these substitute building materials can be assigned to one of the material classes defined in the Ersatzbaustoffverordnung.
In this context, substitute building materials are mineral building materials that are produced as waste or as a by-product in recycling systems or that accumulate during construction work (dismantling, demolition, new construction, etc.).

Material after recycling process

Integration/ depositing in landfills

If it is not possible to use mineral waste as a substitute building material, it must be disposed of and deposited in landfills. The waste is allocated to differently equipped landfill types in accordance with the Deponieverordnung (DepV).

Depending on the waste to be deposited, landfills are categorised into 5 landfill classes. The landfill classes range from DK 0 for uncontaminated waste to DK IV for hazardous waste.

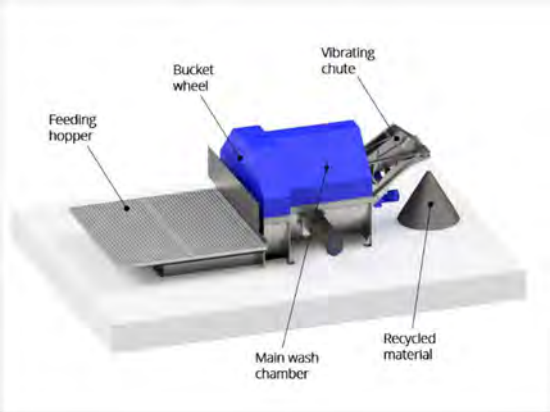
Reduce disposal costs

The disposal costs result from the allocation of the waste to landfill classes DK 0 to DK IV.
If the properties of the waste are improved by a recycling system prior to disposal so that it is allocated to a lower landfill class, this can result in significant savings in disposal costs.

Recycling system when loading onto a truck

Case study: Recycling of various types of waste

A customer is currently producing various types of waste. This waste is initially stored temporarily and then disposed of by an external company. The waste is not treated by the customer.
A case study has now been carried out to analyse qualitatively how the properties of the waste can be improved by using a BIBKO® - recycling system. A BIBKO® INFRA*TEC* – recycling system of type IT-1500/1_BW was used for this purpose.



Schematic recycling system IT-1500/1_BW

Process sequence

After the recycling system has been started, the waste is fed into the bucket elevator via the feed hopper. This bucket elevator feeds the material and the water it contains to the recycling machine.

In the recycling machine, the material enters the main washing chamber. This contains a water bath. A rotating spiral conveys the material through the water bath and segregates it in the process. At the same time, water flows through the chamber using the counterflow principle. The unwanted components are washed out and discharged together with the excess process water.

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A second bucket elevator removes the washed material from the washing chamber and feeds it to the vibrating chute.

The material is dewatered via this vibrating chute and conveyed into the material box.

Waste types - results

The results of the case study are summarised below. The waste before the recycling process (input) and after the recycling process (output) is shown.

Waste 1

- Street sweeping
  (Street sweeping at construction site)
- AVV 20 03 03

Input - before recycling process

Output - after recycling process

Waste 2

- Mixture of construction waste
- AVV 17 01 07

Input - before recycling process

Output - after recycling process

Output - after recycling process

Waste 3

- Soil and stones
  (pre-screened - MS 10 mm)
- AVV 17 05 04

Input - before recycling process

Waste 4

- Bitumen mixture
  (Material from road milling work)
- AVV 17 03 02

Input - before recycling process

Output - after recycling process

Summary

The above case study shows that the output material after the recycling process with a BIBKO® INFRA*TEC* - recycling system is of a significantly higher quality than before the recycling process. This can result in significant savings in disposal costs.

Depending on the objective and planned utilisation/ use of the recycled material, the properties of the material can be further improved through additional process steps (e.g. screening).

Material discharge with vibrating chute