COMPOSTING TUNNEL

- 16 composting tunnels with a composting volume of a total of approx. 5,500 m³
- The 16 composting tunnels are individually designed as a closed system
- Tunnel dimensions L x W x H = approx. 25 m x 5.0m x 4.6 m, filling height approx. 2.8 m
- Tunnel gates for sealing the tunnel entrance; the tunnel gates are hooked and unhooked by a lifting system and are laterally moved
- Composting process control by controlling the air flows and multiple leaf dampers for temperature control as a wetting
- The entire tunnel bottom is equipped with specially developed aeration plates to ensure a uniform aeration of the material to be composted to the bottom to avoid a discharge of suspended matter to the leachate. The exhaust air is sucked at the tunnel ceiling to operate the tunnel continuously in vacuum
- Condensate is collected below the aeration floor and fed to the process water accumulator. From there, the tunnel wetting units are supplied with water below the tunnel ceiling to wet the material to be composted uniformly by spraying nozzles

SUTCO® - TUNNEL COMPOSTING SYSTEMS

CHARACTERISTIC FEATURES OF THE PLANT IN LINKENBACH

25/04

TYPE OF PLANT

The organic fraction of the screened household waste < 80 mm from the mechanical treatment process is to be composted in the intensive composting system by a targeted aeration, wetting and turning process within approx. 4 weeks such that the output parameters are met for a discharge to the post-composting process.

SCOPE OF SUTCO® SERVICES

Design, execution planning as well as hall component, delivery and installation of the machine equipment, composting tunnel, areation and water equipment, cleaning of exhaust air, commissioning and trial operation.

ADVANTAGES OF THE SUTCO® TUNNEL COMPOSTING SYSTEMS

- The automatic input process piles up the material loosely and windrows it for the composting process optimally in the tunnels without any additional compaction by a wheel loader
- Minimum power consumption for ventilation by open ventilation basements
- Low cleaning expenses by small conical nozzle openings in the aeration floor and open ventilation basement
- Operation of the intensive composting process without waste water possible; the process water from the input material leaves the system through exhaust-air cleaning.
- Pressurized ventilation ensures optimum aeration of the material and removes deposits in the ventilation nozzles.
- Good control of the process by small self-contained units in the tunnels

MECHANICAL TREATMENT

The waste to be treated is generated from household waste. The waste is crushed and screened in the customer's mechanical treatment plant (MTP).
The screen overflow > 80 mm is freed of ferrous and non-ferrous metals by a ferrous and non-ferrous separator and is fed to a loading process as a fraction with a high calorific value (HCV).
The iron is largely separated from the fine fraction < 80 mm by a ferrous separator. After that, the material is fed to the intensive composting system.

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WE GET THE BEST OUT

SUTCO® - BIOLOGICAL TREATMENT SYSTEMS

TUNNEL COMPOSTING SYSTEMS

WE GET THE BEST OUT

TUNNEL COMPOSTING SYSTEMS
MBA LINKENBACH

MECHANICAL-BIOLOGICAL WASTE TREATMENT PLANT- NEWEST TECHNOLOGY FOR THE ENVIRONMENTALLY PROCESSED PROCESSING OF WASTE TO THE LATEST TECHNICAL STAND.

CUSTOMER
Kreisverwaltung Neuwied, Germany

LEADTIME
2014 - 2015

INVESTOR/OPERATOR
Kreisverwaltung Neuwied, Germany

THROUGHPUT
60,000 Mg/a (residuals total)

QUALITY OUTPUT
AT4 < 15 Mg/g
DOC < 800 Mg/l

SCOPRE OF WORK
Concept, design as well as construction part building, delivery and assembly, tunnel, aeration- and water technology, exhaust air cleaning, commissioning and trial operation

COMPOSTING HALL

DESCRIPTION OF MACHINERY

TUNNEL 1 - 8 CHARGE

The fine fraction of the MT is fed to the intensive composting hall and charged there to a travelling and reversing belt above tunnel ceiling. The travelling and reversing belt can move up above the ceiling openings in tunnels 1-8 to throw the material into the respective tunnel through the ceiling opening.
In front of the tunnels there is a travelling bridge with a charging system. The charging system is designed to move into the respective tunnel, accept the thrown-in material of the travelling and reversing belt and distribute it uniformly in the respective tunnel.
During the first 2 weeks the input material is treated by targeted aeration and wetting process such that the organic fraction is decomposed step by step during the first composting phase.

CHANGEOVER TUNNEL 1 - 8, CHARGING TO TUNNEL 9 - 16

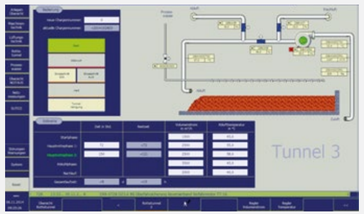
After approx. 2 weeks of composting the material which starts to decompose is changed over from the tunnels 1-8 to the tunnels 9-16. The material is transported from the tunnel by a wheeled loader and charged to a dosing feeder with a decompacting unit. The material thus loosened is fed to a ferrous separator in dosed manner and again freed of the residual ferrous metals.
Another feeding belt feeds the material to be composted to a second travelling and reversing belt. The travelling and reversing belt can move up above the ceiling openings in tunnels 9-16 to throw the material into the respective tunnel through the ceiling opening. In front of the tunnels there is a second travelling bridge with a charging system. The charging system is designed to move into the respective tunnel, accept the thrown-in material of the travelling and reversing belt and distribute it uniformly in the respective tunnel. The charged material remains there for another 2 weeks to decompose the organic fraction in the 2nd composting phase by a targeted aeration and 2nd wetting process again such that the required output parameters are met.

DIMENSIONS
100 x 40 m²

SUPPORT
Wooden supporting framework on concrete supports

ROOF AND WALL CLADDING
Sheet with trapezoidal corrugations with foil roof and K1 insulation, walls made of isolation panels

HALLDOORS
4 rolling doors and 1 sectional door



POST-COMPOSTING

DISCHARGE TO CONTAINER LOADING FOR POST-COMPOSTING

After the expiration of the 4-week intensive composting phase the material to be composted is transported to the post-composting system.
To this effect, the tunnels 9-16 are emptied by wheeled loaders and charged to the dosing unit with its decompaction unit. The material such loosened is again freed from the remaining ferrous materials by the ferrous separator in dosed manner before it is transported for loading containers.
The containers such filled are then transported to the near open post-composting system, emptied and layered by the wheeled loader to form a windrow. In the post-composting area the material to be composted is subjected to further treatment by further aeration, wetting and changeover process until the depositing criteria for a final storage are met.