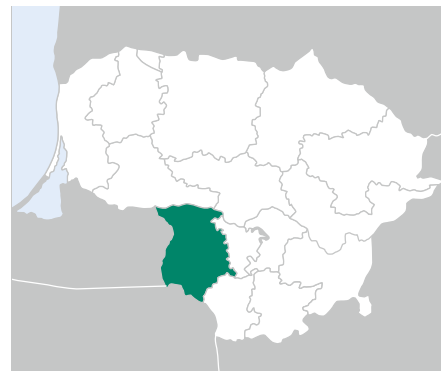


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|--------------------|------------------------------------|
| Year | 2014 |
| Client | UAB NEG RECYCLING / UAB VERSINA |
| Operator | UAB NEG RECYCLING / UAB VERSINA |
| System description | Sorting, baling and RDF bio-drying |
| Waste processed | Mixed MSW (Municipal Solid Waste) |
| Plant capacity | 65,000 t/year |



MAATC, the authority responsible for waste management in the Marijampole region, will use this MBT facility for the recovery of the waste generated in the Marijampole region. The project is co-financed by the European Union.



The feeding bag opener is loaded by the mobile equipment and provides for the opening and emptying of the waste containing bags.

The waste processed by the bag opener is taken by a conveyor to a trommel screen, which has two different perforations. The screen sorts the waste into the following three fractions:

- An undersized fraction which falls directly into a collection area communicating with the composting building, where a wheel loader takes it out for loading into the composting tunnels;
- A mid-sized fraction, which contains most of the metals, HDPE, PET and PVC and is processed by the following automated sorting equipment;
- An oversized fraction, which is taken to the relative manual sorting conveyor.

In the sorting room, the following materials are manually sorted from the sorting conveyors and dropped through channels located above temporary storage bunkers: paper products, RDF or rejects, plastics (LDPE, PET and HDPE) and glass.

Glass is collected in roll-off container, while the other materials are temporarily stored on the floor of the relative bunker prior to baling.

After the separation of the plastics, the mid-sized fraction coming from the manual sorting line is processed by the metal separation system, which includes the following equipment:

- Primary magnetic separator which sorts magnetic ferrous metals;
- Eddy current separator, which sorts non-ferrous metals.

A secondary magnetic separator is installed cross-line over the conveyor, which receives the fine organic fraction unloaded from the composting tunnels.

After the separation of metals, the mid-sized fraction is unloaded onto the accelerator conveyor of an optical separator, which can sort out up to three qualities of plastics (HDPE, PET and PVC). The optical separator is able to detect the quality of plastic using NIR (Near InfraRed) technology and uses jets of compressed air for removing the plastic components wanted.

The accelerator conveyor (1-CN11) reduces the height of the layer of waste on the conveyor belt and facilitates the detection of the items to be sorted.

The plant includes two automatic balers provided with an automatic bale tying system using steel wire.

A bale wrapper is provided for wrapping film part of the bales of recyclables and/or RDF with plastic.

A wheel loader transfers the undersized waste to be biologically treated in six composting tunnels.

The composting tunnels each consist of a garage-like structure made of corrosion-proof reinforced concrete, which is sealed by a manually sliding front door. In each tunnel, air is provided by a fan to the composting process through a set of floor-embedded air ducts having high-speed nozzles for distributing the process air uniformly along the entire length of the tunnels.

The composting tunnels work according to a batch-operation. During the treatment, the temperature of the waste is increased using the self-generated heat deriving from the biological activity.

The tunnel fans and also the fan of the biofilter are driven by VFD (Variable Frequency Drive) which adjusts their speed based on the process requirements. The reduction of the rotation speed achieves substantial saving on the electricity consumption of the fans.

The tunnel dampers are automatically activated by electric actuators based on the process parameters. The composting tunnels are controlled by a FLC (Fuzzy Logic Control) software, which is able to achieve both stabilization and drying of the processed material.

