



Abatement of industrial odors from waste composting

Odors treatment in waste sector

Application 1: Treatment of dangerous and non-dangerous waste

The customer is an Italian company that deals with the disposal of solid urban waste, even hazardous. The latter include all the waste which, although having a civil origin, contains harmful substances and must be subject to special treatments. Among the hazardous urban waste, the most common are batteries and medicines.

The waste sector, and all that surrounds it, has always been subject to special attention due to the odor and environmental impact.

In particular, the treatment of waste, due to the different processes and even the handling, causes particularly annoying emissions that impact the surrounding environment.

The client company contacted us to solve a problem concerning the emission of VOCs and, above all, odorous pollutants (such as hydrogen sulphide - H_2S) deriving from waste disposal.

Activated carbon filter for VOCs and odors abatement

Tecnosida[®], following the request sent by the customer, immediately set up a technical inspection to check the state of the facts and look for a quick and lasting solution to the annoying problem.

Our technical staff has carried out an analysis of the emissions and, once verified the concentration of organic and inorganic pollutants present in the gaseous stream, has proposed the application of an activated carbon filtration system. It exploits the adsorption principle to remove the odorous emissions and the VOCs present. In detail, in our CHEMSORB[®] system, adsorption consists in the capture and retention of the molecules of pollutants inside the cavities existing on activated carbon (carbon that has been subjected to an activation treatment obtaining high porosity and, consequently, an adsorbing power).

The use of this technology makes possible to solve the customer's double problem (emission of VOCs and odors) with a single product, guaranteeing:

- high efficiency and effectiveness of abatement;
- high resistance to corrosion thanks to the construction in AISI 316L stainless steel;
- neutralization of pollutants



The client approved the technical proposal offered by Tecnosida® which then proceeded to design, manufacture and realize of the system.

Tecnosida® plant is realized in compliance with the BAT (AC.RI.01). It reduces the emissions within the limits established by law, solving the problem of our customer.

Application 2: urban and special waste composting

As in the previous application, the customer is an Italian company that operates in the waste sector. It is composed of several factories that also deal with special waste such as deteriorated machinery and equipment, motor vehicles (and parts of them) and waste from industrial, commercial, health sectors and other activities.

Waste treatment is an economic sector of great importance but, at the same time, has a high odorous impact on the surrounding environment, causing various complaints among the inhabitants of neighboring countries.

Tecnosida® was contacted to find a solution able to break down the odorous substances deriving from composting operations.

Biofilter for odorous substances abatement

After careful inspection performed by our specialized technicians, Tecnosida® has proposed the application of a biofilter with vegetable filling with addition of micro-organisms for the maintenance of the system under optimal conditions.

Specifically, biofiltration is carried out through the design and the sizing of our biofilter BIOCLEAN, able to significantly reduce the odorous impact. The biofilter consists of a mass of organic filtering material (peat, compost, heather, bark or their mixtures), whose thickness is normally 1.0 - 1.5 m. In this bed, a bacterial microflora is selected and developed to degrade

and mineralize the odorous substances contained in the air to be treated.

The working principle of the biofilter used in this application, therefore consists in the metabolization of odors by bacteria living in the bed. The proposed system met the satisfaction of our client because:

- reduced the odorous impact of its processing;
- a totally biological system was used to solve the problem;
- biofilter requires very low ordinary and extraordinary maintenance and is easy to manage

The plant has been built in compliance with the BAT of reference (BF.01) and has allowed to reduce the emissions of pollutants, thus solving the customer's problems.

