

Technical data sheet



PURE BIO™



What is the PURE BIO?

PURE BIO is a mix of woods that guarantees optimal environmental conditions for the proliferation of the microbial population necessary to obtain an effective bio-removal process.

The mix of woods is chosen by our technicians according with the air flow characteristics (i.e. kind and concentration of pollutants in the air to be treated) in order to guarantee the best performances in terms of pollutants removal yields, lifetime of filtering bed and pressure drops.

The raw materials used in the preparation of **PURE BIO** can be virgin or composted woods or a mix of both; in any cases, woods are submitted to a careful process of shredding and screening. Thanks to this, **PURE BIO** is characterized by a reduced content of impurities.



Main characteristics

Following are summarized the main characteristics of **PURE BIO**:

- high content of autochthonous microorganisms (such as, for example, actinomycetes, megaterium, licheniformis, subtilis, yeasts and enzymes)
- high porosity
- high content of macro and micro nutrients
- reduced pressure drops
- low content of impurities.

Thanks to these characteristics, **PURE BIO** can be effectively used for the removal of a wide spectrum of contaminants (for instance, odors, VOCs, NH₃, H₂S, mercaptans) without inoculation (i.e. exogenous microorganisms).

PURE BIO is effectively used in biofilters that treat the polluted air of solid waste treatment plants (such as, for example, incinerators, OFSMW treatment, composting plants, biogas and bio-methane plants, rendering plants, ecc) and of civil and industrial wastewater treatment plants.

Thanks to the high content of macro and micro nutrients, **PURE BIO** can limit the negative effects on the micro-organisms caused by fluctuation of pollutant loads and/or air flow rate.

Composition

The **PURE BIO** is obtained by mixing different types of woods (for example, beech, poplar, plane tree, oak) in order to create the optimal conditions for the proliferation of the microbial population necessary to obtain an effective bio-removal process. Following the main chemical-physical characteristics* of **PURE BIO**.

Dimension of pieces of wood	5 - 25 cm
Specific surface area	150 - 200 m ² /g
Porosity	50 - 80 %
Weight (referred to a mix with approx. a humidity of 50%)	250 - 350 kg/m ³
Max. content of impurities (irrelevant to biological process)	< 5 %

Chemical-physical parameters

pH	5 - 9
Dry content (105 °C)	40 - 60 % p/p
Carbon	45 - 55 %
Nitrogen	0.2 - 1.5 %
Antimony	< 1 mg/kg
Arsenic	< 2.5 mg/kg
Beryllium	< 1 mg/kg
Cadmium	< 0.3 mg/kg
Cobalt	< 2.5 mg/kg
Chrome	< 2 mg/kg
Chrome (VI)	< 0.5 mg/kg
Mercury	< 0.5 mg/kg
Nickel	< 1 mg/kg
Lead	< 2 mg/kg
Copper	< 20 mg/kg
Selenium	< 5 mg/kg
Thallium	< 0.5 mg/kg
Zinc	< 5 mg/kg
Aldehydes	absents
Carcinogenic halogenated aliphatic compounds	absents
aliphatic solvents	absents
aliphatic solvents (BTEX)	absents
chlorinated solvents	absents

*Values can vary according with the kind of woods used in the mixture. All values are referred to a dry matter. Porosity value is in the optimal range for biofilter filling material.

Performances

Odor removal yield	> 90 %
Useful time	approx. 4 years
Pressure drops (new material)	up to 20 mmWG per m of bed
Pressure drop (at the end of life)	up to 30 mmWG per m of bed

Data not described binding technical information. The useful life refers to a biofilter properly maintained and operating in optimal conditions