

HEATHER (Tree Heath) BIOFILTER

Composition

BURÉS PROFESIONAL, S.A., has created the **Heather (Tree Heath) Biofilter** product from a mixture of different particle sizes of heather plus treatment in the plant to obtain a material that can absorb odoriferous compounds and other pollutants from the residual air stream. The free-living microorganisms that proliferate naturally in this organic material use these compounds as a source of nutrients and energy, via aerobic decomposition.

This product is based on **100% vegetable biomass from Tree Heath**, high efficiency and long shelf life, from gardening and forest trimmings.



Erica arborea. Tree Heath.



Heather.

Characteristics

Characteristics	Unit	Value
Moisture	(%)	7 - 8
pH	-	4.5 - 5.5
Particle size (mm)	(mm)	10 - 50
Porosity	(%)	78
Organic matter OM	(%)	98
Real density	(Kg/m ³)	150 - 250
Moisture bulk density UNE-EN12580	(Kg/m ³)	100 - 200
Electrical conductivity	(dS/m)	0.1 - 0.5
Cationic Exchange Capacity (CIC)	(meq/100gr)	100 - 200
Water retention capacity	(Water at 10 cm a.c.) (%)	40
Aeration capacity	(Air at 10 cm a.c.) (%)	15
Shelf life	(years)	5
Types of microorganisms that eliminate	-	COV'S H ₂ S NH ₄
Total nitrogen	(%)	0.5 - 0.8
Total Phosphorus, P ₂ O ₅	(%)	0.1 - 0.3
Total Potassium, K ₂ O	(%)	0.1 - 0.7
Total Sodium, NaO	(%)	0.1 - 0.5
C/N ratio	(%)	30/35

The **heather** used by **BURÉS PROFESIONAL, S.A.** grows in environments without significant amounts of grasses or other vegetation and is highly porous, which provides a large contact surface with the residual air stream. **Heather** is used to provide a support media for filling with soft organic media, especially peat.

It is important to note that the valuable part of the **tree heath** as a biofilter is the wood, not the leaves.

Heather can be used successfully in open and closed biofilters, although its use as the only component of the biofiltration bedding is limited to low odour intensities and low-moderate gas flows.

Burés biofiltration materials are extremely stable, with very slow physical and microbiological alteration of their

properties over time, so the long-term compaction of the bedding is very slow.

control parameters

Appropriate physico-chemical conditions must be created and maintained to enable the microbiota to proliferate on the bedding material. The essential parameters are temperature, pH, humidity and quantity of nutrients.

It is recommended to maintain the operating temperature at around 30°C.

Remember that the biofilter's filling material must be handled with care, avoiding compacting it in order not to increase the energy cost of its operation.

The residence time for **Heather** based biofilters depends on design conditions: for low concentrations a minimum standard time of 60 seconds should be considered.

The performance and useful life of the biofilter depends on the type of pollutant and its mass load, but for **tree heath** it can be considered an average of >5 years. After this period the material used can be simply composted in Burés facilities without any special treatment.



advantages and applications

This **heather** can be used as a single material to form the bedding or as an individual component in multilayer biofiltration systems.

Biofiltration is a very versatile technique, able to treat odours (ammoniac...), toxic compounds and volatile organic compounds.

The efficiency of the treatment of these elements is higher than 90-95% for low contaminant concentration (<1.00ppm).

The biofilters offered by **BURÉS PROFESIONAL, S.A.** are used successfully in the following activities:

- EDAR
- Composting plants
- Dump areas
- Chemical industry
- Alimentary industry
- Water cleansing
- Smoking industry
- Paper industry
- Pharmaceutical industry
- Furniture industry
- Painting and recovering application
- Resinous materials treatment
- Leather treatment

The biofilters offered by BURÉS PROFESIONAL, S.A. is a technological alternative respectful with the environment, with an effective control of the atmosphere's and odours contamination. Some of its great advantages are the following:

- Simple technology and low application cost; economically available to all business.
- High efficiency of volatile contaminants and odoriferous complexes elimination
- Odoriferous contamination control
- Nearly null maintenance of the biofilter is required.
- Total decomposition of the contaminants without secondary products creation through the Biofiltering process.
- The filling material is organic, non toxic and biodegradable through composting once its useful life is over.