



Activated Carbon for molecular & gasfiltration (adsorption)



Activated carbon proves to be useful for adsorbing gaseous and vaporous impurities, which are damaging to people, animals, and plants. It is therefore placed in air conditioning and ventilation systems to purify incoming and circulating air.

HS-Luftfilterbau offers granulated carbon of 0.6 to 6.3 [mm] in size, as well as pulverized carbon of 0.075 [mm] in size or less.

It is produced from organic matters such as peat, nut shells, or sugar, which are being heated and treated with special substances in order to broaden their "outer" and "inner" surface. Through this the grains form fine pores and capillary systems; the adsorbing area sums up to 1700 [m²] per gram. This extremely large surface has an excellent retention level as well as a storing capacity, and leads to a long lifespan.

The longer the time of contact between activated carbon and air, or the more activated carbon is used, the better is the carbon's utilization. For particular impurities impregnated and specially treated carbon is used.

The airflow's temperature should not exceed 50 [°C], because above this level volatile substances are desorbing and they need to be adsorbable (s. table). Activated carbon is sensible to dust. Therefore it is advised to install a high-quality dust filter as a pre-filtration element.

Rule of thumb:

Those gases or vapours can be adsorbed well whose molecules contain more than three atoms that are not hydrogen.

Activated carbon is used to purify drinking water as well as to reprocess industrial and pool effluences in order to keep a water quality according to norm regulations. For reprocessing water, different types of activated carbon are available – depending on the water's impurity.

Reference Table for efficiency of activated carbon against air impurities (exemplary)

Aceton	Butyric Acid	Carbon dioxide
Acetaldehyde	Chlorine	Solvents
Acrolein	Chloroform	Menthol
Alcohol	Oilic vapors	Methane
Anaesthetics	acetic acid	Methyl alcohol
Ether	Desinfecant	Mercapane
Ethric Oil	Formaldehyde	Ozone
Ethan	Fruit smells	Phenol
Ethylen	Kitchen odours	Phosgene
Ethyl acetate	Iodine	Propane
Amines	Kerosene	Perspiration
Ammonia	Body odours	Carbon tetrachloride
Fuel	Cosmetics	Turpentine
Benzole	Hospital odours	Tobacco smells & smoke
Butane	Cresole	Tuluol

■ very good adsorption
 ■ good adsorption
 ■ low adsorption
 ■ very poor adsorption

Please ask us for further data of adsorption parameters other gaseous air impurities.