

## Filtersheets HOBRAFILT - AC series containing active carbon

The majority of our active carbon sheets (AC, below) is made of one kind of AC, so the actual difference is just in the types of sheets and not in the AC itself. Three kinds of sheets with a different basis weight are made of one AC type, i. e.:

- standard light plates, 1080 g/m<sup>2</sup>
- standard plates 1300 g/m<sup>2</sup>

Different doses of AC are applied to various types of filtersheets:

- the standard type has 46% active carbon
- the extra version has 60% active carbon

That percentage is calculated according to the weight so a light plate will have less AC than the standard one even though both have the same proportion of AC. The AC proportion and its weight in one m<sup>2</sup> of the sheet are shown in the table:

Type	Basis weight (g/m <sup>2</sup> )	AC proportion	AC weight in (g/m <sup>2</sup> )
S1345 AC	1.300	46%	585
S1360 AC	1.300	60%	780
S1045 AC	1.080	46%	450

The sheet with AC is made as a high-flow capacity product with high porosity so that no solid impurities could be entrapped and the sheet clogged, which would reduce the AC potential in the sheet and result in a shorter lifetime. Generally, sheets containing AC are not called “filtersheets”, but they are products which can “treat” liquids. The sheet is, basically, a supportive structure enabling the utilization of AC potential and being in the longest possible contact with the product. The AC actually works by means of its contact with the filtered liquid so the most important and critical factor is the time period for which it is in contact with the AC and flow capacity per square metre is also very significant.

### **A flow of about 450 l/m<sup>2</sup>/h and lower can be an indication of a good filtration result.**

The best result can be achieved when a new sheet is used. As the AC becomes “exhausted” with time, the effect worsens with each cycle of “treatment” (filtration) of the product. Thus the best results were achieved when the system “from one tank to another” was used, which means that product from the first cycle, and thus of the best quality, is mixed with the last cycle, when the AC effect is reduced. In this way a product of appropriate quality can be achieved. If we want to increase the AC effect and thus get a better quality of the product, we can either reduce the flow per square metre or increase the area of the sheets, or a sheet with a higher AC proportion per metre<sup>2</sup> can be used. The last possibility is, of course, application of the above-



mentioned recirculation until the final product is “treated” according to the specified requirements.

**Plates containing AC cannot be regenerated.** When the sheet is “exhausted” it cannot be rinsed or regenerated in a different way – the adsorption principle governs here.

All types of AC filtersheets are available with KP safety paper both glued to the plate and inserted freely into the filtration device. KP safety paper should prevent possible AC leakage to the filtrate.

AC filter plates can be used in the following applications:

**Discolouration** – blood products, glucose solutions, antibiotics, solvents, sugar syrups, cosmetic preparations, silicone oils, galvanic chemicals, spirits.

**Deodorization** – fruit juices, drinks

**Dechlorination** - water

**Taste removal** – food and drinks

Filter sheets with special kinds of AC can be produced on the basis of special requirements of our customers – mostly in the pharmaceutical industry.

