

Filter Aids
BECOCEL™

Filter Cellulose

Filter aids such as diatomaceous earth and perlites have a fine-grained structure. Therefore, fine cracks and pitting in the pre-coated filter cake are not always avoidable. Contaminant breakthrough is here a consequence of the extremely high flow rate. Filter aid particles may pass into the filtrate.

Specially processed fiber materials such as BECOCEL filter cellulose, deposited either as a pre-coat or by a body feed technique, form a stable base for the product flow and reinforce the filter cake. Cracks and pitting are avoided, small damaged patches in the support surface are safely bridged and pressure fluctuations are balanced out.

BECOCEL filter cellulose is a highly pure cellulose fiber material in graduated fiber lengths and finely fibrillated. Its fiber structure forms a loose but reinforced filter cake having an enhanced contaminant holding capacity. BECOCEL filter cellulose can be used as the only filter aid, or can be added to other filter aids.

BECOCEL 100 filter cellulose

Very finely processed, finely until medium fiber structure for economical precoat filtration in many applications in the food manufacturing and chemical industry.

BECOCEL 150 filter cellulose

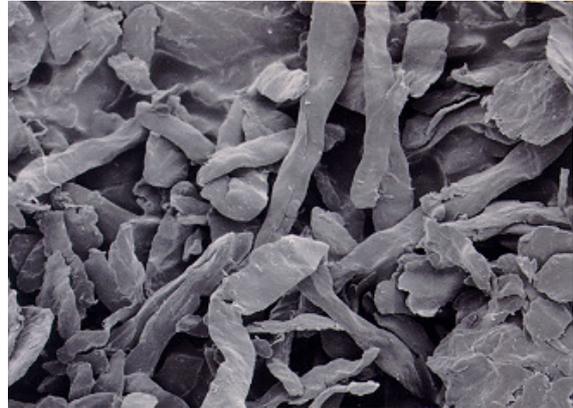
Finely processed, medium fiber structure for economical precoat filtration in many applications in the food manufacturing and chemical industry.

BECOCEL 250 filter cellulose

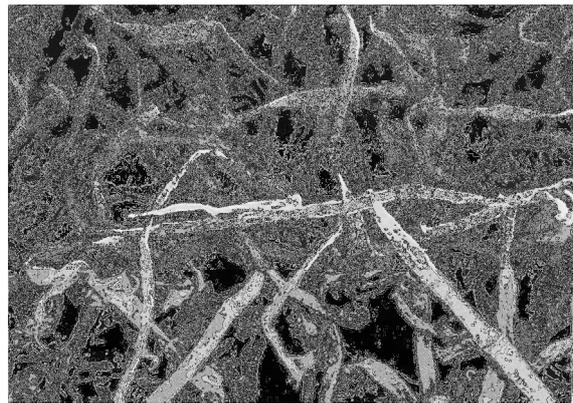
Fibrilled filter cellulose with grained fiber structure for the stabilization of the filter cake in the DE-filtration and for the protection of the support screens.

BECOCEL 2000 filter cellulose

Long-fibered, for clarifying very polluted liquids; particularly suitable as pressing and draining aid for lees and sludge dehydration.



BECOCEL 150 filter cellulose (magnified approx. 400 times)



BECOCEL 2000 filter cellulose (magnified approx. 200 times)

Chemical and Physical Data

BECOCEL filter cellulose	Bulk density lb/gal (g/l)	Structure	Quantity approx. required* lb (g)
100	1.4-1.9 (165-225)	powder	0.9 (430)
150	1.25-1.5 (150-180)	powder	0.7 (340)
250	0.9-1.25 (110-150)	powder	0.6 (310)
2000	0.1-0.5 (10-60)	fibrous	0.2 (100)

* for 0.4 in (1 mm) coat thickness and 10.76 ft² (1 m²) filter area

Advantages of BECOCEL 150 and BECOCEL 250 filter cellulose for pre-coat filtration

- Ultrafine particles of inorganic aids are retained
- Due to the reinforcing effect of BECOCEL filter cellulose fibers, the formation of “cracks” and “pittings” in the filter cake are avoided
- Pressure surges are compensated
- Throughput and filtration cycles are increased
- Shorter cleaning cycles of filter equipment
- Optimum filtrate clarity
- Small damaged patches in the filter cake supporting media are bridged
- Service life of the support sheets (BECO® ENDURA®) is considerably extended
- Non-polluting waste disposal

Advantages of BECOCEL 2000 filter cellulose in lees filtration and as processing aids

- The reinforcing effect of BECOCEL filter cellulose prevents crack formation in the filter cake
- Shorter cleaning cycles of the filter equipment
- Pressing times are reduced by up to 50%
- Increased liquid quantity

Filtration of beer, wine, must, juice, and other beverages

Excellent filtration results are obtained in plate or vessel filters by applying BECOCEL 250 filter cellulose as a pre-coat of 0.04 in (1 mm) thickness or mixed with coarse diatomaceous earth (BECOGUR™ 3500) and perlite (BECOLITE™ 5000) in quantities of up to 10% in weight. Used in pre-coat and body feed applications, BECOCEL 150 or BECOCEL 250 filter cellulose will often appreciably enhance the filtration efficiency.

For lees filtration 3 – 10% by weight of BECOCEL 2000 filter cellulose should be mixed with the usual filter aids (e.g. BECOLITE 5000 perlite) to reinforce the filter cake.

Pre-coat filtration in the food industry – filtration of sugar, pectin, and gelatin

BECOCEL 250 filter cellulose is applied as a first or second precoat of approx. 0.04 – 0.08 in (1 – 2 mm) thickness.

For body feed applications BECOCEL 250 filter cellulose will often provide more efficient filtration results.

The wide range of pre-coat filtration processes in these industries cannot be outlined in greater detail within the context of this leaflet; nevertheless, it may be stated that BECOCEL filter cellulose will generally provide substantial improvements in terms of clarity and throughput for nearly all applications.

The most suitable BECOCEL filter cellulose product and quantity for a specific application can usually be determined simply by carrying out a test filtration.

Extensive tests have proven that BECOCEL filter cellulose meets all requirements for enhanced pre-coat and diatomaceous earth filtration in a wide range of applications.

Application

1. Fill mixing tank of dosing unit half way with water or unfiltered product, and then add BECOCEL filter cellulose, stirring all the time with an agitator to ensure homogeneous distribution.
2. Add desired quantities of diatomaceous earth, blends of diatomaceous earth, perlites etc. to the mixing tank of the dosing unit and stir.
3. Carry out usual filtration process.

Product Characteristics

- Soft, flexible fibers
- Extremely unreactive, inert fibers
- Insoluble in water and virtually all organic solvents
- Hydrophilic, lipophilic
- Temperature resistant up to 302 °F (150 °C)
- Can absorb 2 – 7 times its own weight in liquid
- Does not clog sewage systems
- Filter cakes containing BECOCEL filter cellulose can be easily disposed of as animal feed, compost or by burning.

Safety

When used and handled correctly, there are no known unfavorable effects associated with this product.

Further safety information can be found in the relevant Material Safety Data Sheet, which can be downloaded from our website.

Storage

BECOCEL filter cellulose should be stored cool, dry, and odor-free. Never store the product near evaporating chemicals, oils or fuels etc.

Delivery Information

BECOCEL filter cellulose is packed in non-polluting, practical PE bags and supplied under in the following article numbers and package sizes:

BECOCEL 100	44 lb (20 kg)
	art. no.: 39.010.200
BECOCEL 150	44 lb (20 kg)
	art. no.: 39.015.200
BECOCEL 250	44 lb (20 kg)
	art. no.: 39.025.200
BECOCEL 2000	22 lb (10 kg)
	art. no.: 39.200.100

Certified Quality

BECOCEL filter cellulose is controlled continuously for purity and uniformly high quality. The BECO[®] quality control laboratory keeps a constant check on the chemical purity and compliance with statutory standards.

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**For more information, please
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or visit www.eaton.com/filtration**

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