

## Filter aids – filter cellulose

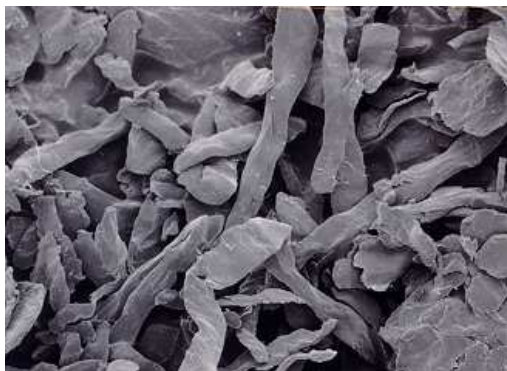
### BECOCEL

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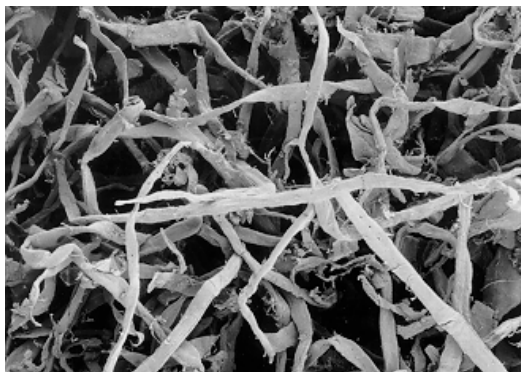
Filter aids such as kieselguhr and perlites have a finegrained structure. Therefore fine cracks and pitting in the precoated filter cake are not always avoidable. Contaminant breakthrough is here a consequence of the extremely high flow rate. Filter aid particels may pass into the filtrate.

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



BECOCEL 150 (magnified approx. 400 times)



BECOCEL 2000 (magnified approx. 200 times)

#### BECOCEL 100

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

#### BECOCEL 150

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

#### BECOCEL 250

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

#### BECOCEL 400

Very fibrilled, medium fibre structure for clarifying turbid and viscous liquids. Very suitable as pressing and draining aid for lees and sludge dehydration.

#### BECOCEL 2000

Long-fibred, for clarifying very polluted liquids. Particularly suitable as pressing and draining aid for lees and sludge dehydration.

#### Chemical and Physical Data

BECOCEL	100	150	250	400	2000
Bulk density g/hl (lb/gal)	200 (1.7)	175 (1.5)	120 (1.0)	55 (0.5)	12 (0.1)
Structure	powder	powder	powder	fibrous	fibrous
Qty. required for 1 mm (0.4 in) coat thickness and 1 m <sup>2</sup> (10.76 ft <sup>2</sup> ) filter area, approx:	430 g (0.9 lb)	340 g (0.7 lb)	310 g (0.6 lb)	180 g (0.4 lb)	100 g (0.2 lb)

#### Advantages of BECOCEL type 150 and BECOCEL 250 for precoat filtration

- ▶ Ultrafine particles of inorganic aids are retained.
- ▶ Due to the reinforcing effect of BECOCEL fibres, 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 live of the support sheets (BECO ENDURA) is considerable extended.
- ▶ Non-polluting waste disposal.

## Advantages of BECOCEL type 400 and 2000 in lees filtration and as processing aids

- ▶ Filter cake maintains its stability even under vacuum fluctuations.
- ▶ The reinforcing effect of BECOCEL prevents crack formation in the filter cake.
- ▶ Shorter cleaning cycles of the filter equipment.
- ▶ Higher throughputs with high grade of clarity.
- ▶ 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 as a precoat of 1 mm (0.04 in) thickness or mixed with coarse diatomaceous earth (BECOGUR 3500) and perlite (BECOLITE 5000) in quantities of up to 10 % in weight. Used in precoat and body feed applications, BECOCEL 150 or 250 will often appreciably enhance the filtration efficiency.

For lees filtration in rotary vacuum drum filters 3 – 10 % by weight of BECOCEL 400 or 2000 should be mixed with the usual filter aids (e.g. BECOLITE 5000) to reinforce the filter cake. Particularly good results can be achieved by applying a 1 – 2 mm (0.04 – 0.08 in) thick body feed of BECOCEL 400 as a precoat.

## Precoat filtration in the food industry – filtration of sugar, pectin and gelatine

BECOCEL 250 – also possibly mixed with BECOCEL 400 – is applied as a first or second precoat of approx. 1 – 2 mm (0.04 – 0.08 in) thickness.

For body feed applications BECOCEL 250 and BECOCEL 400 will often provide more efficient filtration results.

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

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

Extensive tests have proven that BECOCEL meets all requirements for enhanced precoat and kieselguhr filtration in a wide range of applications.

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## Application Guidelines

1. Fill mixing tank of dosing unit half way with water or unfiltered product, then add BECOCEL, stirring all the time with an agitator to ensure homogeneous distribution.
2. Then 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.

## BECOCEL Product Characteristics

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

## Package Sizes

BECOCEL is packed in non-polluting, practical polyethylene bags.

- BECOCEL 100, article no.: 39.010.200, 20.0 kg (44 lb)
- BECOCEL 150, article no.: 39.015.200, 20.0 kg (44 lb)
- BECOCEL 250, article no.: 39.025.175, 17.5 kg (38.6 lb)
- BECOCEL 400, article no.: 39.040.100, 8.0 kg (17.6 lb)
- BECOCEL 2000, article no.: 39.200.100, 10.0 kg (22 lb)

## Certified Quality

BECOCEL 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.