



Depth filter sheets the heart of many filtration solutions

Eaton is a leading supplier of complete depth filtration solutions and develops, manufactures and provides high-quality depth filtration media for food, beverage, fine chemical and pharmaceutical applications.

Depth filter sheets are used for coarse, clarifying and fine filtration and are particularly suitable for microbial reduction and removal, as well as upstream protection of membranes. The application of support sheets ranges from recovery of valuable material, such as protein precipitate, to support material for pre-coat filtration.

Finely fibrillated cellulose fibers are combined with filtrationactive components to manufacture BECO® depth filter sheets. Whereas, BECOPAD® depth filter sheets are constructed of high-purity cellulose fibers without the addition of mineral components.

They are used as filter media in BECODISC® stacked disc cartridges, BECO PROTECT® CS CellStream depth filter cartridges and BECO® MiniCap® disposable filter units.

The product range of depth filter media also contains filtration systems in a range of designs and sizes.

Enclosed systems:

- BECO INTEGRA PLATE™ plate and frame filters
- BECO INTEGRA DISC™ stacked disc cartridge housings
- BECO INTEGRA CART™ cartridge housings
- BECO INTEGRA SOLO™ single-sheet filters
- BECO INTEGRA LAB™ laboratory filters

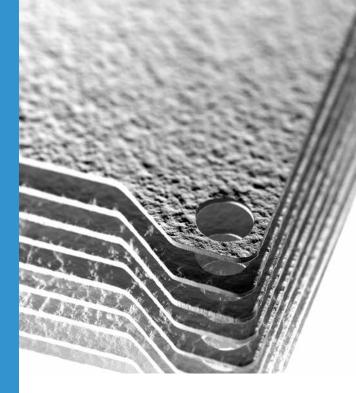
Classic systems:

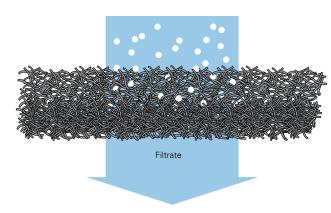
BECO COMPACT PLATE™ plate and frame filters

Eaton depth filter sheets meet national and international quality standards, such as:

- LFGB standard (German Food, Commodity and Feed Act) in Germany
- FDA guidelines (Food and Drug Administration) from the USA

For further information, please refer to the Declaration of Conformity documents, technical data sheets and Validation Guides, especially for the pharmaceutical industry.





Principle of depth filtration



BECO and BECOPAD Depth Filter Sheet Ranges

Selection guide

For a wide range of applications



BECOPAD

Premium depth filter sheets made of cellulose, characterized by high-purity, strength and performance for excellent color and flavor fidelity.

Main applications:

Wine, beer, fruit juices, spirits, food, fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics



BECO CP1

Depth filter sheets specifically manufactured with reduced thickness for polishing filtration of viscous liquids.

Main applications:

Fine/specialty chemistry, cosmetics



BECO standard

Depth filter sheets with excellent clarification performance for reliable removal from particles to microorganisms due to optimal pore structure and adsorption.

Main applications:

Wine, beer, fruit juices, spirits, food, fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics



BECO SELECT A

Depth filter sheets specifically manufactured with reduced calcium and magnesium for prevention and removal of haze while preserving color and flavor.

Main applications:

flavors and fragrances



BECO CPS

Depth filter sheets with high dirtholding capacity and burst strength for filtration of liquids with high viscosity or particle load.

Main applications:

Fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics, food, fruit juices



BECO ENDURA

Reusable support sheet for pre-coat filtration. Excellent wet strength combined with an optimal filter surface texture for removal of filter cake with ease.

Main applications:

Beer, food, fine/specialty chemistry, cosmetics

Activated carbon depth filter sheets



BECO ACF 07

Immobilized activated carbon imparts high adsorption capacity to carbon depth filter sheets for removal of colors, odors and undesirable byproducts from liquids.

Main applications:

Fine/specialty chemistry, biotechnology, pharmaceutical, cosmetics, fruit juices, spirits, food

Low endotoxin content suitable for pharmaceutical applications



BECOPAD P

Depth filter sheets composed of high-purity cellulose with low extractables, extremely low endotoxin content (<0.025 EU/ml) after rinsing with 6.6 gal/sqm (25 l/m²) WFI (Water for Injection) and up to 50 % reduction of rinse volume.

Main applications:

Pharmaceutical, fine/specialty chemistry, biotechnology A Validation Guide is available upon request.



BECO PR

Depth filter sheets with excellent clarification performance for reliable removal of particulate, microorganisms and retention of endotoxins due to optimal combination of depth filtration and adsorption. An endotoxin content of <0.125 EU/ml after rinsing with 13.2 gal/sqm (50 l/m²) WFI is achieved.

Main applications:

Pharmaceutical, fine/specialty chemistry, biotechnology A Validation Guide is available upon request.



BECO PR ENDURA S

Depth filter sheets specifically formulated for precoat filtration and valuable product recovery. The unusual surface qualities enable quick paste release in applications such as plasma fractionation. An endotoxin content of <0.08 EU/ml after rinsing with 13.2 gal/sqm (50 l/m²) WFI is achieved.

Main applications:

Pharmaceutical, fine/specialty chemistry, biotechnology A Validation Guide is available upon request..

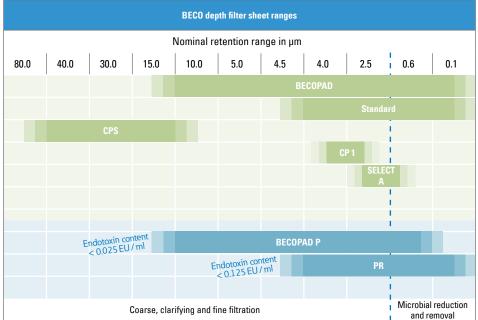
Technical data

| Range | Туре | Article number | Nominal retention rate | Thickness | | Ash content | Bursting strength wet | | Water throughput | | Endotoxin content |
|------------------------|---------------------------------------|-------------------|------------------------|-----------|-------|-------------|--------------------------|--------|---|---|----------------------|
| | | Humber | μm | in | (mm) | % | psi | (kPa¹) | $\Delta p = 14.5 \text{ psi}$ gpm/ft ² | $(\Delta p = 100 \text{ kPa}^1 \text{ l/m}^2/\text{min})$ | EU/ml |
| BECOPAD | BECOPAD 115 C ² | Q2C11 | 0.1 – 0.2 | 0.16 | (4.1) | <1 | > 21.8 | (150) | 0.6 | (26) | - |
| | BECOPAD 120 ² | Q2112 | 0.1 – 0.3 | 0.15 | (3.9) | <1 | >21.8 | (150) | 1.3 | (54) | <u> </u> |
| | BECOPAD 170 ² | 02117 | 0.2 – 0.4 | 0.15 | (3.9) | <1 | >21.8 | (150) | 1.9 | (77) | <u> </u> |
| | BECOPAD 220 ² | 02122 | 0.3 – 0.5 | 0.15 | (3.9) | <1 | >21.8 | (150) | 2.5 | (100) | |
| | BECOPAD 270 ² | 02127 | 0.5 – 0.7 | 0.15 | (3.9) | <1 | >21.8 | (150) | 3.3 | (135) | |
| | BECOPAD 350 ² | Q2135 | 0.7 – 1.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 3.9 | (160) | - |
| | BECOPAD 450 ² | Q2145 | 1.0 – 2.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 7.4 | (300) | - |
| | BECOPAD 550 ² | Q2155 | 2.0 – 3.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 14.0 | (570) | - |
| | BECOPAD 580 ² | Q2158 | 8.0 – 10.0 | 0.15 | (3.9) | <1 | >21.8 | (150) | 87.6 | (3571) | _ |
| | BECO Steril S 100 | 26950 | 0.1 | 0.15 | (3.9) | 58 | >7.3 | (50) | 0.7 | (30) | |
| | BECO Steril S 80 | 26800 | 0.2 | 0.15 | (3.9) | 50 | > 11.6 | (80) | 1.1 | (46) | _ |
| | BECO Steril 60 | 25600 | 0.3 | 0.15 | (3.8) | 50 | >7.3 | (50) | 1.5 | (60) | |
| | BECO Steril 40 | 25400 | 0.4 | 0.15 | (3.8) | 49 | >7.3 | (50) | 1.7 | (69) | |
| | BECO SD 30 | 24300 | 0.5 | 0.15 | (3.8) | 50 | >7.3 | (50) | 2.1 | (84) | |
| _ 2 | BECO KDS 15 | 23150 | 0.6 | 0.15 | (3.8) | 50 | >7.3 | (50) | 2.8 | (115) | |
| BECO standard | BECO KDS 12 | 23120 | 0.8 | 0.15 | (3.8) | 50 | >7.3 | (50) | 3.8 | (155) | |
| BE tan | BECO KD 10 | 22100 | 1.0 | 0.15 | (3.8) | 50 | >7.3 | (50) | 4.5 | (185) | _ |
| | BECO KD 7 | 22070 | 1.5 | 0.15 | (3.8) | 50 | >7.3 | (50) | 5.5 | (225) | |
| | BECO KD 5 | 22050 | 2.0 | 0.15 | (3.8) | 50 | >7.3 | (50) | 6.6 | (270) | |
| | BECO KD 3 | 22030 | 2.5 | 0.15 | (3.8) | 50 | > 5.8 | (40) | 10.4 | (425) | |
| | BECO K2 | 21020 | 3.0 | 0.15 | (3.8) | 46 | >7.3 | (50) | 38.0 | (1550) | <u>-</u> |
| | BECO K1 | 21010 | 4.0 | 0.15 | (3.8) | 42 | >8.7 | (60) | 46.6 | (1900) | |
| | BECO CP07S | 27108 | 15.0 | 0.14 | (3.6) | 35 | > 16.0 | (110) | 105.3 | (4290) | |
| | BECO CP03S | 27123 | 20.0 | 0.15 | (3.7) | 35 | > 13.1 | (90) | 175.2 | (7140) | |
| 0.0 | BECO CP02S | 27122 | 25.0 | 0.13 | (3.3) | 17 | > 13.1 | (90) | 233.6 | (9520) | |
| BECO CPS | BECO CP01S | 27121 | 30.0 | 0.18 | (4.6) | 16 | > 14.5 | (100) | 306.8 | (12500) | - |
| | BECO CP2KS ² | 27031 | 27.0 | 0.11 | (2.9) | <1 | >11.6 | (80) | 239.5 | (9760) | - |
| | BECO CP1KS ² | 27021 | 40.0 | 0.17 | (4.3) | <1 | >21.8 | (150) | 555.1 | (22620) | - |
| SECO CP1 | BECO CP1 | 27110 | 3.0 | 0.1 | (2.6) | 48 | > 14.5 | (100) | 26.3 | (1070) | - |
| | BECO SELECT™ A 20 | 27620 | 0.8 | 0.17 | (4.4) | 43 | > 5.8 | (40) | 3.9 | (160) | - |
| BECO SELECT A | BECO SELECT A 40 | 27640 | 2.5 | 0.17 | (4.4) | 43 | > 5.8 | (40) | 7.4 | (300) | - |
| BECO ENDURA | BECO ENDURA™² | 29200 | - | 0.13 | (3.4) | <1 | > 101.5 | (700) | 105.3 | (4290) | - |
| BECO ACF 07 | BECO ACF 07 | 19207 | - | 0.15 | (3.8) | 15 | > 5.8 | (40) | 34.7 | (1415) | - |
| | BECO ACF 07 with protective fleece | 19307 | - | 0.14 | (3.6) | 16 | >4.3 | (30) | 14.7 | (600) | - |
| ECOPAD P | BECOPAD P 170 ² | Q1117 | 0.2 - 0.4 | 0.15 | (3.9) | <1 | > 21.8 | (150) | 1.9 | (77) | < 0.025 3 |
| | BECOPAD P 270 ² | Ω2127 | 0.5 – 0.7 | 0.15 | (3.9) | <1 | > 21.8 | (150) | 3.3 | (135) | < 0.025 3 |
| | BECOPAD P 350 ² | Ω2135 | 0.7 – 1.0 | 0.15 | (3.9) | <1 | > 21.8 | (150) | 3.9 | (160) | < 0.025 3 |
| BEC | BECOPAD P 550 ² | Ω2155 | 2.0 – 3.0 | 0.15 | (3.9) | < 1 | > 21.8 | (150) | 14.0 | (570) | < 0.025 3 |
| | BECOPAD P 580 ² | Q2158 | 8.0 – 10.0 | 0.15 | (3.9) | <1 | > 21.8 | (150) | 87.6 | (3571) | < 0.025 3 |
| | BECO PR Steril S100 | 27295 | 0.1 | 0.15 | (3.9) | 58 | >7.3 | (50) | 0.7 | (30) | < 0.125 4 |
| BECO | BECO PR Steril S 80 | 27280 | 0.2 | 0.15 | (3.9) | 50 | >11.6 | (80) | 1.1 | (46) | < 0.125 4 |
| | BECO PR Steril 40 | 27240 | 0.4 | 0.15 | (3.9) | 49 | >7.3 | (50) | 1.5 | (61) | < 0.125 4 |
| | BECO PR 12 | 27212 | 0.8 | 0.15 | (3.9) | 50 | > 18.9 | (130) | 4.3 | (175) | < 0.125 4 |
| | BECO PR 5 | 27205 | 2.0 | 0.15 | (3.9) | 50 | > 8.7 | (60) | 8.1 | (330) | < 0.125 4 |
| | BECO PR 1 | 27200 | 4.0 | 0.17 | (4.3) | 48 | > 6.5 | (45) | 58.4 | (2381) | < 0.125 4 |
| BECO PR ENDURA S | BECO PR ENDURA S ² | 29450 | - | 0.06 | (1.5) | <1 | > 58.0 | (400) | 18.9 | (770) | < 0.08 ⁴ |



Retention ranges and filtration tasks

| BECO support sheets | BECO depth filter sheets with activated carbon | | | | |
|---------------------------------------|--|--|--|--|--|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| ENDURA | | | | | |
| | ACF 07 | | | | |
| Endotoxin content | | | | | |
| < 0.08 EU / IIII | | | | | |
| PR ENDURA S Pre-coat filtration | Adsorptive filtration | | | | |



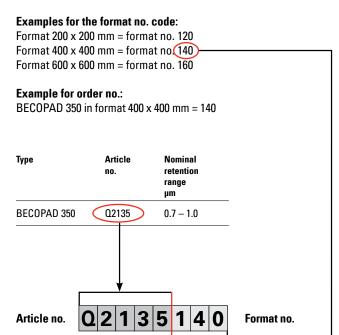
Ordering information

BECOPAD depth filter sheets

Note for orders:

Our 8-digit order no. consists of two parts:

- · the 5-digit article no. and
- the 3-digit format no.



BECO depth filter sheets

Note for orders:

Our 8-digit order no. consists of two parts:

- · the 5-digit article no. and
- the 3-digit format no.

Examples for the format no. code:

Format 200 x 200 mm = format no. 120 Format $400 \times 400 \text{ mm} = \text{format no.} 140$ Format 600 x 600 mm = format no. 160 Example for order no.: BECO Steril S 80 in format 400 x 400 mm = 140 Type Article Nominal retention range μm BECO Steril S 80 26800 0.2 26800 Article no. Format no.

All common square or round filter sizes are available for delivery. Special formats are available upon request.



44 Apple Street Tinton Falls, NJ 07724 Toll Free: 800 656-3344 (North America only) Tel: +1 732 212-4700

Europe/Africa/Middle East Auf der Heide 2 53947 Nettersheim, Germany Tel: +49 2486 809-0

Friedensstraße 41 68804 Altlußheim, Germany Tel: +49 6205 2094-0

An den Nahewiesen 24 55450 Langenlonsheim, Germany Tel: +49 6704 204-0

No. 3, Lane 280, Linhong Road Changning District, 200335 Shanghai, P.R. China Tel: +86 21 5200-0099

100G Pasir Panjang Road #07-08 Singapore 118523 Tel: +65 6825-1668

Rua Clark, 2061 - Macuco 13279-400 - Valinhos, Brazil Tel: +55 11 3616-8400

For more information, please email us at filtration@eaton.com or visit www.eaton.com/filtration

© 2018 Eaton. All rights reserved. All trademarks and registered trademarks are the property of their respective owners. All information and recommendations appearing in this brochure concerning the use of products described herein are based on tests believed to be reliable. However, it is the user's responsibility to determine the suitability for his own use of such products. Since the actual use by others is beyond our control, no guarantee, expressed or implied, is made by Eaton as to the effects of such use or the results to be obtained. Eaton assumes no liability arising out of the use by others of such products. Nor is the information herein to be construed as absolutely complete, since additional information may be necessary or desirable when particular or exceptional conditions or circumstances exist or because of applicable laws or government regulations.

US 1 A 2.1.9.8 05-2018



