Product Data Sheet

DOW FILMTEC™ ECO PRO-440i Element

Description

Ideal for: reverse osmosis plant managers and operators dealing with controlled-pre-treatment waters and seeking advanced membrane treatment with high water purity and low energy consumption.



DOW FILMTEC™ ECO PRO-440i:

- Offers high salt-rejection at low pressure
- Delivers excellent silica, boron, nitrate, TOC and ammonium rejection
- Provides increased active area with the most effective cleaning performance, robustness and durability due to its widest cleaning pH range (1-13) and chemical tolerance and the support of Dow technical representatives
- Includes iLEC™ interlocking end caps, reducing system operating costs and the risk of o-ring leaks that can cause poor water quality

Product Type

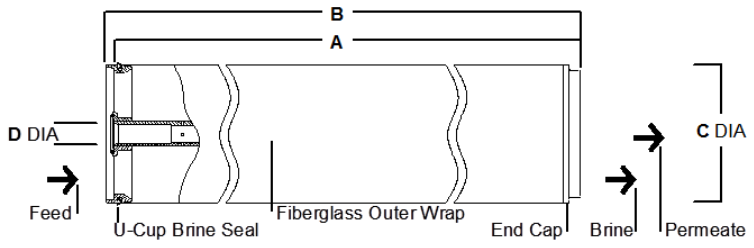
Spiral-wound element with polyamide thin-film composite membrane

Product Specifications

DOW FILMTEC™ Element	Active Area (ft^2)	Active Area (m^2)	Feed Spacer Thickness (mil)	Permeate Flow Rate (GPD)	Permeate Flow Rate (m^3/d)	Typical Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
ECO PRO-440i	440	41	28	12,650	48	99.7	99.4

1. Permeate flow and salt (NaCl) rejection based on the following standard test conditions: 2,000 ppm NaCl, 150 psi (10.3 bar), 77°F (25°C), pH 8, 15% recovery.
2. Flow rates for individual elements may vary but will be no more than ±15%.
3. Stabilized salt rejection is generally achieved within 24-48 hours of continuous use; depending upon feedwater characteristics and operating conditions.
4. Sales specifications may vary as design revisions take place.
5. Active area guaranteed ± 3%. Active area as stated by Dow Water & Process Solutions is not comparable to nominal membrane area often stated by some manufacturers. Measurement method described in Form No. 609-00434.

Element Dimensions



DOW FILMTEC™ Element	A (in.)	A (mm)	B (in.)	B (mm)	C (in.)	C (mm)	D (in.)	D (mm)
ECO PRO-440i	40.0	1,016	40.5	1,029	7.9	201	1.125 ID	29 ID

1. Refer to Dow Water & Process Solutions Design Guidelines for multiple-element applications. 1 inch = 25.4 mm
2. Element to fit nominal 8-inch (203-mm) I.D. pressure vessel.
3. Individual elements with *iLEC* endcaps measure 40.5 inches (1,029 mm) in length (B). The net length (A) of the elements when connected is 40.0 inches (1,016 mm).

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Form No. 609-50201, Rev 0
September 2015

Operating and Cleaning Limits

Maximum Operating Temperature [a]	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Element Pressure Drop	15 psig (1.0 bar)
pH Range, Continuous Operation [a]	2 – 11
pH Range, Short-Term Cleaning (30 min.) [b]	1 – 13
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance [c]	< 0.1 ppm

[a] Maximum temperature for continuous operation above pH 10 is 95°F (35°C).

[b] Refer to Cleaning Guidelines in specification sheet 609-23010.

[c] Under certain conditions, the presence of free chlorine and other oxidizing agents will cause premature membrane failure. Since oxidation damage is not covered under warranty, Dow Water & Process Solutions recommends removing residual free chlorine by pretreatment prior to membrane exposure. Please refer to technical bulletin "Dechlorinating Feedwater" for more information.

Additional Important Information

Before use or storage, review these additional resources for important information:

- Usage Guidelines for DOW FILMTEC™ 8" Elements
- System Operation: Initial Start-Up

Regulatory Note

These membranes may be subject to drinking water application restrictions in some countries; please check the application status before use and sale.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support.

DOW FILMTEC™ Membranes

Notice: The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

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