Product Data Sheet

# FilmTec™ NF270-440 Element

## Description

Ideal for utility managers and operators dealing with surface and groundwater and seeking a technology that removes a high percentage of total organic carbon (TOC) and trihalomethane (THM) precursors while having a medium to high salt passage and medium hardness passage.

The FilmTec™ NF270-440 Element:

- Provides organic removal with partial softening in order to maintain a minimum level of hardness for organoleptic properties and preservation of distribution networks.
- Increases active area by 10%, which simplifies the system by reducing the number of elements and auxiliaries needed.
- Delivers high productivity, cleanability, and low energy consumption due to its high active area and wide cleaning pH range (1-12) tolerance.
- Targets improved runnability in plants with high biofouling potential. Elements are equipped with advanced fouling-resistant and cleanability features, helping plants reduce the number of chemical cleanings, while maintaining water quality.
  Benefits of the FilmTec™ NF270-440 Element include:
  - A reduction in feed-side pressure drop by up to 50%, improving system energy efficiency and hydraulic balance.‡
  - Fouling-resistant design, reducing the number of chemical cleanings by more than 20%.‡

‡ Relative to a leading fouling-resistant product currently available in the market.

## Product Type

Spiral-wound element with polypiperazine thin-film composite membrane

## Typical Properties

| 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 (%) |
|---|---|---|---|---|---|---|---|
| **NF270-440** | 440 | 41 | 28-LDP | 13,750 | 52 | >97.0 | 97.0 |

1. Permeate flow and salt passage based on the following test conditions: 2,000 mg/l $MgSO_4$, 70 psi (4.8 bar), 77°F (25°C) and 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 DuPont Water Solutions is not comparable to nominal membrane area often stated by some manufacturers.



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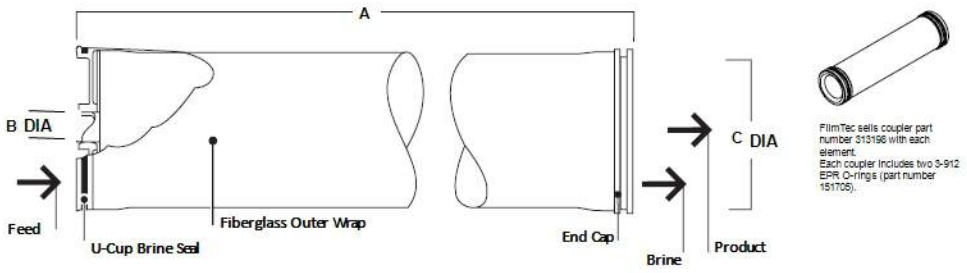
## Element Dimensions




| Dimensions – inches (mm) | | | | | 1 inch = 25.4 mm | |
|---|---|---|---|---|---|---|
| | A | | B | | C | |
| FilmTec™ Element | (in.) | (mm) | (in.) | (mm) | (in.) | (mm) |
| NF270-440 | 40.0 | 1,016 | 1.125 ID | 29 ID | 7.9 | 201 |

1. Refer to FilmTec™ Design Guidelines for multiple-element systems of 8-inch elements (Form No. 45-D01695-en).
2. Element to fit nominal 8-inch (203-mm) I.D. pressure vessel.

## 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] | 3 - 10 |
| Short-Term Cleaning (30 min.) [b] | 1 - 12 |
| 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 (Form No. 45-D01696-en).
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, DuPont Water Solutions recommends removing residual free chlorine by pretreatment prior to membrane exposure. Please refer to Dechlorinating Feedwater (Form No. 45-D01569-en) for more information.

## Additional Important Information

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

- Usage Guidelines for FilmTec™ 8" Elements (Form No. 45-D01706-en)
- Start-Up Sequence (Form No. 45-D01609-en)

## Product Stewardship

DuPont 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 DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.



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## Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- 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.

## Regulatory Note

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

**Have a question? Contact us at:**

www.dupont.com/water/contact-us





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