



## Product Data Sheet

### **FILMTEC™ SW30XHR-440i Element**

Seawater Reverse Osmosis Element with iLEC™ Interlocking Endcaps

#### **Description**

DuPont Water Solutions offers various premium seawater reverse osmosis (RO) elements designed to produce high quality water which may reduce capital and operation costs of desalination systems. FILMTEC™ Elements combine excellent membrane quality with automated precision fabrication to take system performance to exceptional levels.

FILMTEC™ SW30XHR-440i Element are the highest rejection seawater RO elements in the FILMTEC™ element portfolio, enabling stringent water quality requirements to be met reliably with single-pass seawater systems in most situations. In addition, the combination of highest active area and a thick feed spacer results in higher productivity and lower cleaning frequency which enable sustainable lower lifecycle cost. Benefits of the FILMTEC™ SW30XHR-440i element include:

- Highest NaCl and boron rejection to help meet World Health Organization (WHO) and other drinking water standards more cost effectively.
- The highest guaranteed active area of 440 ft<sup>2</sup> (41 m<sup>2</sup>) permits lowest system cost by maximizing productivity and enables accurate and predictable system design and operating flux.
- The combination of highest active area with a thick feed spacer (28 mil) allows low cleaning frequency and high cleaning efficiency.
- Utilization of the distinct iLEC™ Interlocking Endcaps helps reduce system operating costs and reduce the risk of O-ring leaks that can cause poor water quality (see Form No. 609-00446 for information on the cost-saving benefits).
- Sustainable high performance over the operating lifetime, because oxidative treatments are not used in membrane production. This is one reason FILMTEC™ elements are more durable and may be cleaned more effectively over a wider pH range (1 – 13) than most other RO elements, which use oxidative treatments.
- Effective use in permeate staged seawater desalination systems without impairing the performance of the downstream stage.

#### **Product Type**

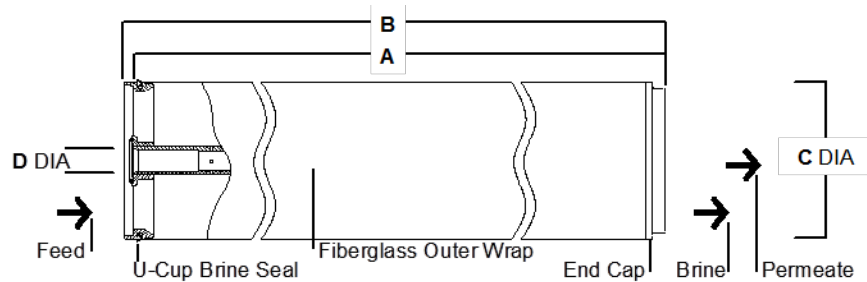
Spiral-wound element with polyamide thin-film composite membrane

## Typical Properties

FILMTEC™ Element	Active Area		Feed Spacer Thickness (mil)	Permeate Flow Rate		Stabilized Boron Rejection (%)	Stabilized Salt Rejection (%)
	(ft <sup>2</sup> )	(m <sup>2</sup> )		(GPD)	(m <sup>3</sup> /d)		
SW30XHR-440i	440	41	28	6,600	25	93	99.82

1. The above benchmark values are based on the following test conditions: 32,000 ppm NaCl, 800 psi (5.5 MPa), 77°F (25°C), pH 8 and 8% recovery.
2. Permeate flows for individual elements may vary ± 20%.
3. Minimum Salt Rejection is 99.7%
4. Stabilized salt rejection is generally achieved within 24 – 48 hours of continuous use; depending upon feedwater characteristics and operating conditions.
5. Product specifications may vary slightly as improvements are implemented.
6. Active area guaranteed ±5%. Active area as stated by DuPont Water Solutions is not comparable to the nominal membrane area figure often stated by some element suppliers. Measurement method described in Form No. 609-00434.

## Element Dimensions



FILMTEC™ Element	A		B		C		D	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)
SW30XHR-440i	40.0	1,016	40.5	1,029	7.9	201	1.125 ID	29 ID

1. Refer to DuPont Water 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™ Interlocking 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).

## Operating and Cleaning Limits

Maximum Operating Temperature <sup>a b</sup>	113°F (45°C)
Maximum Operating Pressure <sup>b</sup>	1,200 psig (83 bar)
Maximum Element Pressure Drop	15 psig (1 bar)
pH Range	
Continuous Operation <sup>a</sup>	2 – 11
Short-Term Cleaning (30 min.) <sup>c</sup>	1 – 13
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance <sup>d</sup>	< 0.1 ppm

- a. Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
- b. Operation at pressures up to 1,200 psig (83 bar) is allowable under certain conditions. Consult your DuPont representative for advice on applications above 1,000 psig (69 bar) and/or above 95°F (35°C).
- c. Refer to guidelines in "[Cleaning Procedures](#)" for more information.
- d. 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 technical bulletin "[Dechlorinating Feedwater](#)" for more information.

## **Additional Important Information**

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

- [Usage Guidelines for FILMTEC™ 8" Elements](#)
- [System Operation: Initial Start-Up](#)
- [Handling, Preservation and Storage](#)

## **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.

## **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.
- Permeate obtained from the first hour of operation should be discarded (or in a few cases: Any concentrate or permeate obtained from the first hour of operation should be discarded).

## **Regulatory Note**

These membranes 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](http://www.dupont.com/water/contact-us)

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. No freedom from infringement of any patent or trademark owned by DuPont or others is to be inferred.

DuPont™, the DuPont Oval Logo, and all products, unless otherwise noted, denoted with a ™, ™ or ® are trademarks, service marks or registered trademarks of affiliates of DuPont de Nemours Inc. Copyright © 2019 DuPont de Nemours Inc. All rights reserved.

