



Product Data Sheet

FilmTec™ Fortilife™ XC70 Element

Providing Reliable Brine Concentration

Description

The FilmTec™ Fortilife™ product line offers industrial users a reliable and highly efficient option to help solve difficult water challenges, such as wastewater reuse and Minimal Liquid Discharge (MLD).

Key benefits of the FilmTec™ Fortilife™ XC70 Element include:

- Reaching system reject total dissolved solids (TDS) levels > 70,000 mg/L within standard RO operating limits
- Fouling-resistant technologies for reliable operations
- Up to 50% less increase in permeate conductivity after 12 standard cleaning processes when compared to elements of similar type
- Support from highly specialized and experienced technical experts on the use of the element in minimal liquid discharge systems

These industry-leading benefits result from a distinct combination of:

- High-productivity, low-pressure-drop module construction
- Hydrophilic coated membranes assembled in an industrially robust spiral assembly
- Membrane chemistry that is stable to cleaning conditions spanning a wide pH range (1 – 13)

Product Type

Spiral-wound element with polyamide thin-film composite membrane

Exemplary Brine Concentration Projections

FilmTec™ Element	Feed Pressure (bar)	Feed TDS (ppm)	Concentrate TDS (ppm)	Average Flux (lmh)	Recovery (%)
Fortilife™ XC70	70	60,000	72,500	11	17.2

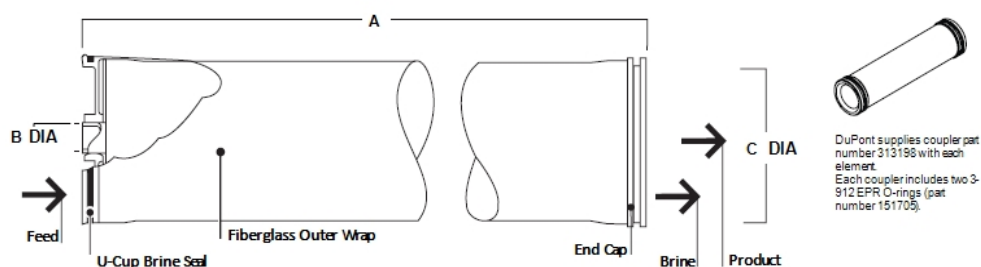
1. Results are based from a WAVE simulation of a single 3-element pressure vessel operated at 25°C, pH 8, feed flow = 7 m³/h and a Flow Factor = 0.85, with 60,000 ppm NaCl feed.
2. No warranty is provided for the application of this information since use conditions and applicable laws may differ from one location to another and may change with time.

Typical Properties

FilmTec™ Element	Active Area (ft ²) (m ²)		Feed Spacer Thickness (mil)	Target Permeate		Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
				Flowrate (gpd)	(m ³ /d)		
Fortilife™ XC70	400	37	34	8,800	33.3	99.75	99.6

1. Permeate flow and salt rejection based on the following standard test conditions: 32,000 ppm NaCl, 800 psi (5.5 MPa), 77°F (25°C), pH 8, 8% recovery.
2. Flowrates for individual elements may vary but will be no more than ± 15%.
3. Active area guaranteed ± 3%. Active area as stated by DuPont Water Solutions is not comparable to nominal membrane area often stated by some manufacturers.

Element Dimensions



Dimensions – inches (mm)					1 inch = 25.4 mm	
	A		B		C	
FilmTec™ Element	(in)	(mm)	(in)	(mm)	(in)	(mm)
Fortilife™ XC70	40.0	1,106	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). 1 inch = 25.4 mm
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 ^b	1,200 psig (83 bar)
Maximum Element Pressure Drop	15 psig (1.0 bar)
pH Range	
Continuous Operation ^a	2 – 11
Short-term Cleaning (30 min) ^c	1 – 13
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance ^d	< 0.1 ppm

- a. Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
- b. Maximum pressure at 25°C. Consult tech service specialist for limits at high temperatures.
- c. Refer to guidelines in [Cleaning Guidelines](#) (Form No. 45-D01696-en) 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](#) (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)
- [Storage and Shipping of New FilmTec™ Elements](#) (Form No. 45-D01633-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.

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.

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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