



Product Data Sheet

FilmTec™ Fortilife™ XC120 Reverse Osmosis Element Going Beyond Typical Brine Concentration

Description

The FilmTec™ Fortilife™ XC120 element is designed for further concentrating high TDS waters such as waste brines from RO systems. The durable and moderate salt passing membrane and module design enables concentration in Minimal Liquid Discharge systems to achieve reject TDS levels of >120,000 mg/L.

Key benefits of the FilmTec™ Fortilife™ XC120 element:

- Reaching system reject total dissolved solids (TDS) levels >120,000 mg/L and reduced concentrate stream volume within standard RO system operation.
- Robust membrane and reliable long-term performance.
- A wide pH range for cleanings (pH 1 – 13) allows effective cleaning in severe fouling.

Product Type

Spiral-wound element with polyamide thin-film composite membrane

Exemplary Brine Concentration Projections

	Feed Pressure	Feed TDS	Concentrate TDS	Ave Op. flux	Recovery
	(bar)	(ppm)	(ppm)	(LMH)	(%)
FilmTec™ Elements					
FilmTec™ Fortilife™ XC120	70	60,000	120,139	11	60.4

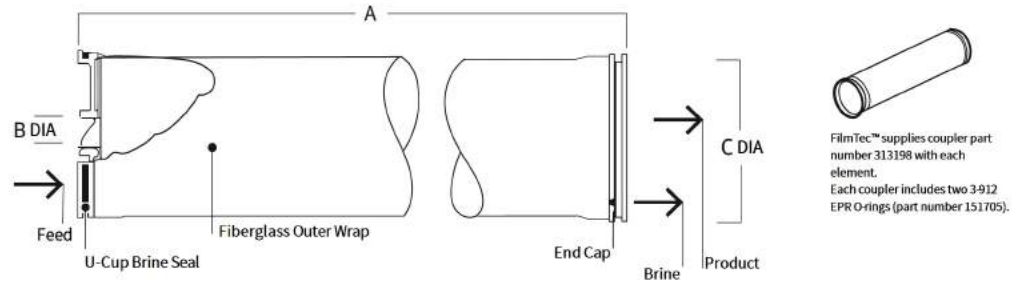
1. Results are according to a WAVE simulation of a 6-element pressure vessel treating water containing sodium chloride at 25 °C, pH 8, and flow factor = 0.85.
2. No warranty is provided for the application of this information since use conditions and applicable laws may differ from one location to another and may change with time.

Typical Properties

FilmTec™ Elements	Active Area		Feed Spacer	Permeate Flow Rate		Typical Stabilized	Minimum Salt
	(ft ²)	(m ²)	Thickness (mil)	(GPD)	(m ³ /d)	Salt Rejection (%)	Rejection (%)
FilmTec™ Fortilife™ XC120	370	34.4	34	12,000	45.4	90	80

1. Permeate flow and salt (NaCl) rejection based on the following standard test conditions: 32,000 ppm NaCl, 600 psi (41.3 bar), 77°F (25°C), pH 8, 15% recovery.
2. Flow rates for individual elements may vary but will be no more than 15% below the value shown.
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



FilmTec™ Elements	Dimensions – inches (mm)				1 inch = 25.4 mm	
	A		B		C	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)
FilmTec™ Fortilife™ XC120	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 ^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. Consult your DuPont representative for advice on applications above 95°F (35°C). Refer to [FilmTec™ Seawater Elements Operating Limits](#) (Form No. 45-D00691-en) for warranty-voiding conditions and additional information.
- c. Refer to guidelines in [FilmTec™ 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 [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.

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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