



DOW FILMTEC™ FORTILIFE XC-N Element

Selective Ion Separation for Higher Water Recovery and Waste Reclamation

Description

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

DOW FILMTEC FORTILIFE XC-N allows industrial end users to reduce costly reverse osmosis (RO) concentrate waste by converting a large fraction of RO concentrate into pure, easier-to-crystallize salt solutions.

Benefits of the DOW FILMTEC FORTILIFE XC-N element include:

- Selective and high monovalent ion passage, coupled with high divalent ion and Chemical Oxygen Demand (COD) rejection, facilitate the production of high purity salt solution in permeate while reducing concentrate waste
- High permeability membrane chemistry allows for increased water recovery and/or low energy operation
- Robust membrane and reliable long-term performance

Product Type

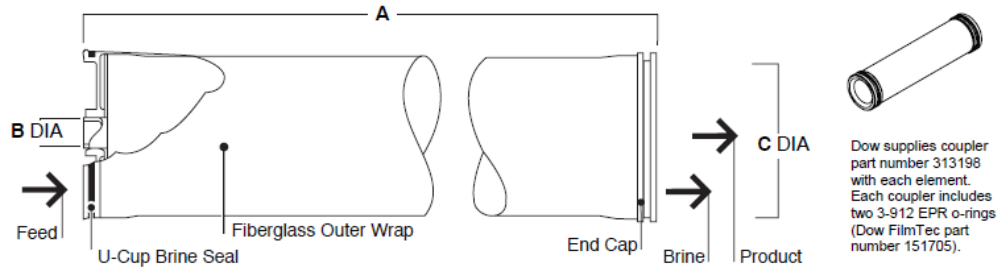
Spiral-wound element with polypiperazine thin-film composite membrane

Product Specifications

DOW FILMTEC™ Element	Active Area		Feed Spacer Thickness (mil)	Target Permeate Flow Rate		Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
	(ft ²)	(m ²)		(GPD)	(m ³ /d)		
FORTILIFE XC-N	365	34	34	8,375	31	99	98.0

1. Permeate flow and salt rejection based on the following standard test conditions: 2,000 ppm MgSO₄, 70 psi (0.48 MPa), 77°F (25°C), pH 8, 15% recovery.
2. Flow rates for individual elements may vary but will be no more than ± 20%.
3. Sales specifications may vary as design revisions take place.
4. Element performance can vary more in semi- or non-aqueous feed mediums or with other specie rejections
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. Refer to "[How to Evaluate the Active Membrane Area of Seawater Reverse Osmosis Elements](#)" for a description of the measurement method.

Element Dimensions



DOW FILMTEC™ Element	A		B		C	
	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)
FORTILIFE XC-N	40.0	1,016	1.125 ID	28.6 ID	7.9	201

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.

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
pH Range, 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 guidelines in "[Cleaning Procedures](#)" for more information.

^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](#)
- [Handling, Preservation and Storage](#)

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.

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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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