Product Data Sheet

FilmTec™ Membranes

FilmTec™ Tape-Wrapped 4040 Elements for Commercial Applications

Description

A complete range of FilmTec™ 4040-size Elements is available to meet a wide variety of customer needs for commercial applications, from the highest purity water to the lowest total system costs.

- FilmTec™ XLE-4040 is the most productive, lowest pressure RO membrane available, delivering the lowest total system cost.
- FilmTec™ TW30-4040 is the industry standard for reliable operation and production of the highest quality water.

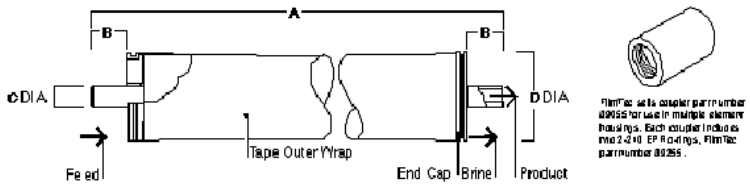
Tape-wrapped elements are built with the same high quality membranes and materials of construction as industrial elements, except for the hard outer shell, and are more economical for commercial systems with one or two elements per housing.

Typical Properties

Product	Part number	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m^3/d)	Stabilized Salt Rejection (%)
XLE-4040	154546	28	2,600 (9.8)	99.0
TW30-4040	80610	34	2,400 (9.1)	99.5

1. Permeate flow and salt rejection based on the following test conditions: 77°F (25°C), 15% recovery and applied pressure: 100 psig (6.9 bar) for XLE-4040 and 225 psig (15.5 bar) for TW30-4040. FilmTec™ TW30-4040 specifications are based on a 2,000 ppm NaCl feed stream. FilmTec™ XLE-4040 specifications are based on a 500 ppm NaCl feed stream.
2. Permeate flows for individual elements may vary +/-20%.
3. For the purpose of improvement, specifications may be updated periodically.

Element Dimensions



Dimensions – Inches (mm)				1 inch = 25.4 mm
Product	A	B	C	D
XLE-4040	40.0 (1,016)	1.05 (26.7)	0.75 (19)	3.9 (99)
TW30-4040	40.0 (1,016)	1.05 (26.7)	0.75 (19)	3.9 (99)

1. Refer to FilmTec™ Design Guidelines for multiple-element systems of midsize elements (Form No. 45-D01588-en).
2. FilmTec™ TW30-4040 and FilmTec™ XLE-4040 Elements fit nominal 4-inch I.D. pressure vessel.

Form No. 45-D01518-en, Rev. 1
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Operating and Cleaning Limits

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Feed Flow Rate	14 gpm (3.2 m^3/hr)
Maximum Pressure Drop	13 psig (0.9 bar)
pH Range	
Continuous Operation[a]	2 - 11
Short-Term Cleaning (30 min.)[b]	1 - 13
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 FilmTec™ Design Guidelines for multiple-element systems of 8-inch elements (Form No. 45-D01695-en) for more information.

Important Information

Proper start-up of reverse osmosis water treatment systems is essential to prepare the membranes for operating service and to prevent membrane damage due to overfeeding or hydraulic shock. Following the proper start-up sequence also helps ensure that system operating parameters conform to design specifications so that system water quality and productivity goals can be achieved.

Before initiating system start-up procedures, membrane pretreatment, loading of the membrane elements, instrument calibration and other system checks should be completed.

Please refer to the application information literature entitled Start-Up Sequence (Form No. 45-D01609-en) for more information.

Operation Guidelines

Avoid any abrupt pressure or cross-flow variations on the spiral elements during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. During start-up, a gradual change from a standstill to operating state is recommended as follows:

- Feed pressure should be increased gradually over a 30-60 second time frame.
- Cross-flow velocity at set operating point should be achieved gradually over 15-20 seconds.

General Information

- Keep elements moist at all times after initial wetting.
- If operating limits and guidelines given in this bulletin are not strictly followed, the limited warranty will be null and void.
- To prevent biological growth during prolonged system shutdowns, it is recommended that membrane elements be immersed in a preservative solution.
- The customer is fully responsible for the effects of incompatible chemicals and lubricants on elements.
- Maximum pressure drop across an entire pressure vessel (housing) is 30 psi (2.1 bar).
- Avoid static permeate-side backpressure at all times.

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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