



DOW FILMTEC™ Membranes

DOW FILMTEC Food and Dairy Prorated Limited Warranty

Dow Water & Process Solutions (DW&PS) provides a limited warranty on the materials, workmanship, and performance of its spiral-wound reverse osmosis and nanofiltration elements¹, when installed and operated in accordance with Dow's recommended design and operating specifications, according to the following provisions:

Materials and Workmanship Limited Warranty

Dow Water & Process Solutions warrants that its new reverse osmosis and nanofiltration elements are free from defects in materials and workmanship. DW&PS's obligation under this limited warranty covers a period not to exceed 12 months from date of receipt by Buyer, provided that such elements are operated and maintained in accordance with DW&PS's published specifications and good engineering practices. DW&PS's obligation under this limited warranty is limited to the repair or, at Dow's discretion, credit of any element which, when examined by DW&PS, appears to be defective under this provision of the limited warranty.

Prorated Performance Limited Warranty

Dow Water & Process Solution warrants the performance of its elements for 12 months from whichever of the following events occurs first:

- a. First use in system;
- b. Three (3) months following date of shipment from Minneapolis to a location in the United States, Puerto Rico, Canada, and Mexico; or
- c. Six (6) months following date of shipment to any other destination.

Performance

Should any element(s) not meet performance specifications, and Buyer notifies DW&PS of such deficiency, Dow will, upon confirmation of faulty performance, repair or issue a credit for the defective element(s). Shipping costs, in such case, will be paid by DW&PS.

Performance During 12-Month Limited Warranty Period

During the first 12 months of operation of the element(s), DW&PS warrants that minimum permeate flow, when operated under standard conditions published by Dow, shall be at least 70 percent of the specified initial average flow. Dow Water & Process Solution further warrants that maximum salt passage¹, when an element is operated under standard test conditions published by DW&PS and pressure required to give the initial rated flow, will not exceed 1.35x the specified maximum value. DW&PS will, on confirmation of loss of performance during the warranty period, credit 1/12 of the original purchase price of the element for each unused month of the warranty period toward the purchase of a element at the current prevailing price.

^{1 2} Nanofiltration elements shall be tested on magnesium sulfate when determining salt passage.

Conditions of
Prorated
Performance
Limited Warranty

The performance limited warranty described in the previous section, *Performance During 12-Month Limited Warranty Period*, shall be null and void if any of the following conditions are not met:

- a. The design parameters (array, recovery, etc.) plus instrumentation and other components of the system in which the element(s) are employed shall be consistent with sound engineering practice. DW&PS reserves the right to review system design.
- b. Feedwater temperature shall be less than 122°F (50°C).
- c. Feedwater shall contain no ozone, permanganate, or other strong oxidizing agents.
- d. Backpressure (where permeate static pressure exceeds reject static pressure) shall not exceed 5 psi at any time.
- e. The element(s) shall be operationally protected against hydraulic transients (water hammer).
- f. The element(s) shall be maintained in a clean condition, unfouled by particulate matter or precipitates or biological growth; *If scaling or fouling should occur, cleaning procedures must be employed in accordance with the procedures as published in the literature pieces entitled "[Dow Food Processing and Sanitary Element Cleaning Guide](#)" (Form No. 609-00077).*
- g. During continuous operation the pH shall be no less than 2.0 nor greater than 11.0.
- h. There shall be no membrane fouling by colloidal or precipitated solids.
- i. Adequate provisions against microbiological contamination shall be incorporated into the system design, as well as into all operating and maintenance procedures.
- j. The reverse osmosis or NF element(s) shall not be exposed during cleaning, or in shutdown periods, to a pH less than 1.8 nor greater than 11.2 *as published in the literature pieces entitled "[Dow Food Processing and Sanitary Element Cleaning Guide](#)" (Form No. 609-00077).*
- k. Neither nonionic nor cationic surfactants should be used for membrane cleaning or come in contact with DOW FILMTEC™ elements. The buyer is fully responsible for the effects of non-compatible chemicals on DOW FILMTEC elements; their use will void the warranty.
- l. Buyer is responsible for providing the user with adequate system operating and maintenance manuals, operator and supervisor training; ensuring user's ability to perform cleaning and other performance restoration and diagnostic procedures.
- m. Buyer shall ensure that frequent, adequate system and subsystem normalized performance data are routinely recorded in a systematic format and reviewed. Such information to be available to Dow Water & Process Solutions on a reasonable basis in the event a claim is made against DW&PS pursuant to this performance warranty.
- n. Element(s) must be stored in accordance with DW&PS's published guidelines as published in the literature piece "[Handling, Preservation, and Storage](#)" (Form No. 609-02103).
- o. Customer must keep Element(s) moist at all times after initial wetting.
- p. Permeate and concentrate obtained from first hour of operation should be discharged.

Repair or Credit

Buyer's sole remedy for any breach of warranty is limited to and shall be fully discharged by DW&PS repairing any defective element or, at DW&PS's discretion, replacing same at the then selling price f.o.b. Dow Water & Process Solution's plant. DW&PS reserves the right to test the alleged defective elements and the reverse osmosis systems on user's or Buyer's premises or to request Buyer to perform such inspections or tests and forward the results thereof to DW&PS. If the element failure is determined to be from cause other than breach of warranty as set forth above, Buyer shall pay to Dow Water & Process Solutions a fee of \$1000 per day, plus direct travel expenses incurred by DW&PS's employees, in connection with any inspection and testing of such elements and system on Buyer's premises. Elements shipped to DW&PS for warranty examination must be shipped freight prepaid. Elements examined as part of a warranty claim which are found to be performing as warranted will be returned to the Buyer freight collect.

Reminders

Before returning any element(s) to Dow Water & Process Solution for warranty examination, see the Element Return Procedures technical bulletin.

Warranty Notice

Failure or refusal to fully disclose to Dow Water & Process Solutions the use and operating parameters of DOW FILMTEC™ membrane elements shall render all warranties other than that covering materials and workmanship null and void.

LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY, AND PUNITIVE DAMAGES ARE EXCLUDED.

DOW FILMTEC™ Membranes

For more information about DOW FILMTEC membranes, call the Dow Water & Process Solutions business:
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NOTICE: The use of this product 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.

Notice: No freedom from any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, 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 Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow 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.

