Membrane Element Storage

CAPABILITY PROFILE

Q&A about Veolia Membrane Element Storage

Why is Membrane Element Storage important?

All spiral-wound membrane elements feature flat sheet membranes manufactured in a wet process. Water must always be present in the membranes pores to keep the membrane water permeable. If the pores in the membrane dry out completely, it is difficult, and for RO and NF membranes, which have very small pores, practically impossible, to rewet the pores. For that reason, membranes that have not been preconditioned with a humectant must always be kept moist.

After being tested, the membrane elements are placed vertically to drain for a certain time before being bagged together with an oxygen scavenger. The oxygen scavenger maintains an anaerobic atmosphere inside the bag, which prevents growth of most microbes. The membrane is still moist, called drip-dry.

The preservation process does not require any chemicals, so it reduces the need for extensive rinsing of new elements during start-up. The principle is to ensure the preservation of membrane characteristics, flow, and selectivity during storage, and this is achieved by storing a water-wet element in an oxygen-free environment, preventing growth of mold for the given guaranteed period.

What Are Ideal Storage Conditions?

Membrane elements should be stored in the original factory bag and box prior to installation. Membrane element boxes should be stored inside, in a dry, cool place out of direct sunlight. Cooler ambient temperatures are better than warmer, but avoid freezing. Elements shipped from Veolia are not completely filled with water. If the water freezes, it will not damage the elements, provided the elements do not move. If the elements move or vibrate, ice crystals formed during the freezing or thawing processes might damage the membrane. There is no documented case where elements have been damaged by freezing, but if high solute passage through the membrane is caused by cuts in the membrane, any warranty is void.

Storage of Element Pallets?

Large quantities of membrane elements are supplied on shrink-wrapped pallets. Pallets can be stacked two high unless posted, “DO NOT DOUBLE STACK” or a similar warning is affixed to the side of the pallet. Never stack more than two pallets under any circumstances.

How Long Can Elements be Stored?

In original factory packaging, out of direct sunlight or artificial light, and at below 100% relative humidity, membrane elements can be stored for the following periods with full warranty. The time is from that the element left the Veolia facility:

Non-Cellulosic Elements	
32- 86°F (0 - 30°C)	12 months
86-122°F (30 - 50°C) at any time	3 months
Above 122ºF (50ºC) at any time	0 months

Cellulosic Elements	
32 - 86°F (0 - 30°C)	3 months
Above 86°F (30°C) at any time	0 months

Can Unused Elements be Returned?

All membrane elements being returned for re-stocking must be returned unused in their original packing. A restocking fee will be applied (25%). Membrane elements returned not conforming to said criteria will be subject to rejection or additional fees to restore membrane elements to sellable condition. If a membrane element is to be returned for warranty inspection, the User must obtain a Return Goods Authorization (RGA) number from Veolia before returning the membrane element. Membrane elements are to be returned freight prepaid to Veolia, and Veolia will return any warranty replacement membrane element to the customer prepaid. Membrane elements must be kept moist at all times and must be clean and bagged in a watertight bag before returning. Only Veolia-approved cleaners, biocides, dispersants, or other chemicals may be used with the membrane elements. Use of other chemicals may void the warranty. The User is responsible for knowing the membrane element material and for ensuring that chemicals harmful to the membrane or material are never in contact with the membrane element.

Should I be concerned if the element is loosely packed in the element bag?

If the element bag is not opened or punctured, there should be no concern if the bag appears loose. During the packaging process, the element is sealed under vacuum into the bag along with oxygen scavengers. The bag does not need to be completely void of air or tight to the element. The oxygen scavengers will remove the oxygen and prevent bacterial growth even if the bag is loose.

Should I be concerned if I find moisture in the element bag that is yellow or brown in color?

Many elements are wet tested and then drip-dried. Following the drip-dry process, there is still some residual moisture in the element that will settle in the element bags. Often the moisture will take on a yellow or brown color from the preservative and/or oxygen scavenger. This discoloration will not have an impact on the element's performance.

Where can I direct additional questions or concerns?

Please direct additional questions or concerns to our website, our Veolia representative:
http://www.veoliawatertechnologies.com

Veolia Water Technologies
Please contact us via:
www.veoliawatertechnologies.com