

Technical Service Bulletin 101

Receipt of Elements, Short-Term Storage, and Disposal of Used Elements

Receiving Inspection

After a shipment arrives, conduct a visual inspection of all packages to confirm that:

1. Shipment arrived without damage to the packaging or its contents.
2. All packages listed on the packing list arrived in good order.

LG Chem strongly recommends inspecting the product for any visible damage or defects immediately upon receipt. If any issues are encountered, please contact an LG Chem Customer Service representative before accepting the delivery to ensure that your rights are protected. In such cases, LG Chem will promptly identify possible causes of the damage and determine whether it occurred during transit.

Please notify your carrier or freight forwarder and a LG Chem Customer Service Representative IMMEDIATELY of any damaged merchandise or product shortages. Each RO element box contains an element with one brine seal installed and one interconnector with four O-rings installed. It is expected that the RO element boxes will only be opened right before loading. Should any brine seals, interconnectors, or O-rings be missing, please notify LG Chem for immediate shipment of replacement.

Storage

After factory performance testing, elements are preserved in a 0.5 wt% sodium metabisulfite solution and vacuum sealed in oxygen barrier plastic bags.

Maintain elements in their original shipping containers and store in a protected area that is NOT subject to extreme heat (greater than 35°C / 95°F).

LG Chem elements should NOT be stored in areas exposed to direct sunlight.

Elements stored in 0.5% SMBS solution will freeze below -2°C, however this will not affect the membrane's performance as long as it is thawed in room temperature before installation.

LG Chem elements should NOT be stored in areas where damage can occur from moving equipment such as forklifts and pallet jacks.

A full standard pallet contains a maximum of 40 (8-inch) diameter element boxes (5 elements wide by 8 elements high). Full standard pallets cannot be stacked on top of each other. A single 8-inch diameter element box can only be stacked 8 boxes high or less.

For long-term storage (greater than 60 days), periodically re-inspect the shipping containers to ensure that there is no physical damage or leakage. Any leakage may indicate a loss of integrity of the membrane element preservative.

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For storage lasting longer than 6 months, preserved elements should be visually inspected for biological growth and periodically examined every 3 months thereafter. If the preservation solution appears to be murky, the elements should be re-preserved and vacuum sealed. Another method for checking the integrity of the preservative is through pH measurements. The bisulfite in the preservative can oxidize into sulfuric acid which will cause the pH to drop. If the pH of the preservative drops below 3, the elements must be re-preserved. Please contact LG Chem Technical Service for instructions and supplies for re-preserving the elements.

Elements stored per the conditions listed in this bulletin, with original factory packaging and vacuum seal intact, are likely to meet expected performance for storage periods up to 12 months and possibly longer.

Disposal of Used Elements

Used LG Chem elements should be disposed of in accordance with all local and federal regulations. Used elements can be disposed of as municipal waste provided that no preservation solution or other hazardous liquids remain within the element and there are no deposition of hazardous substances on the membranes at concentrations exceeding regulatory standards.

If the user wants to recycle the elements, the material components by weight of an unused element can be found below:

Material	Weight (kg)	Weight (lb)
Polysulfone	0.81	1.78
Polyester	6.73	14.8
Polypropylene	1.59	3.51
Polyurethane (2Part)	0.83	1.65
Epoxy (2Part)	0.71	1.57
E Glass Roving	1.73	3.81
ABS (Acrylonitrile-Butadiene-Styrene)	0.99	2.18
Polyamide Layer including Nanomaterials	0.05	0.11
EPDM (ethylene propylene diene monomer) Rubber	0.03	0.08

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