



Technical Bulletin 173

Insulated Covers – Biological
Processes

by:

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Insulated Covers – Biological Processes

Environmental Dynamics offers several biological processes which can be enhanced with the addition of insulated covers on the reactor basin. These insulated covers (BioInsulate) have demonstrated excellent capability to maintain temperatures in the biological treatment process and maintain the biological reaction rate at elevated levels to achieve maximum treatment results. EDI routinely offers insulated covers for its biological processes, particularly for the IDEAL™ system, complete mix aerated lagoon systems, and earthen basin extended aeration applications in cold climates.

In addition to the insulated covers, EDI offers the BioShade™ type of covers which are designed for control of sunlight and control of evaporation. BioShade covers are specifically engineered for minimizing or controlling the growth of algae in the basins following a high rate system.

EDI reviewed the overall options for these insulated covers and the covers for algae control and have a working relationship with the firm IEC to deliver the superior products for these applications. The IEC product is well proven with hundreds of installations. The structural components and access capability provided with the IEC covers is particularly useful in the insulated variety. Ability to walk on the covers and have access for aeration mixing systems is a critical item.

The insulated and the BioShade covers are structural components that are designed for heavy-duty service in severe conditions. EDI is pleased to provide a warranty on these systems for its intended service and utilizes the structural design and the structural warranty of our partner that manufactures the covers to provide this warranty. It should be noted that, like any structural device, the covers are subjected to widely varying loading conditions, particularly wind loads and atmospheric conditions. EDI offers suggestions for long term service that we believe are beneficial to all parties.

- As with any structural component the intended service is routine, however, unusual circumstances may develop or occur which would create damage.
- The nature of the covers is such that it is subject to widely varying conditions and unpredictable loading conditions particularly wind loads.
- EDI's experience would suggest that the 1-year manufacturer's warranty is a valuable item; however, it is only partial protection when warranted against high wind loadings. The burden of documentation of actual operating conditions or conditions

that caused damage on the covers is extremely difficult. We have found the more realistic insurance approach is one that protects all parties and provides the greatest service to the end user.

EDI has negotiated with insurance companies to determine how we can provide a long-term warranty or how we can support the engineers, contractors, and customers against excess wind loads on these covers. Unfortunately, the insurance companies will not insure EDI as a supplier of premium products that we purchase from IEC.

EDI has been advised that the insurance of these covers should be carried by the City or by the Customer for proper or full protection.

These covers are considered a structure and similar to a building. The insurance cost for coverage on these units is very small and strongly recommended for full coverage and protection of the asset under all conditions. When this cover is integrated into the City or Owners total insurance package, the rates are even lower. Insurance is the only way to get full protection, eliminate the proof of operating conditions or warranty limitations, and provide all risk coverage for a nominal cost.

EDI recognizes there are some companies that offer wind load warranties that may be as high as 100 mph. It is interesting to note that those warranties are being offered with terms, conditions and caveats that we believe are not beneficial to the Owners. Using the insurance approach is one which gives full coverage and is one that EDI strongly recommends for your protection. For assistance please contact EDI and we will work with you to demonstrate how the full coverage insurance program is a major benefit.

C. E. Tharp, P.E.

Chairman

