More Efficient, Higher Capacity

Owens Corning’s Science & Technology Center Sees a Major Upgrade in its Wastewater Treatment System

When Owens Corning needed to increase industrial wastewater treatment capacity and efficiency at its Newark, Ohio, plant, its list of requirements was long and stringent. The company needed the flexibility to vary production levels at the manufacturing site, while seamlessly integrating their current Sequencing Batch Reactor (SBR) and maintaining a high quality effluent. The challenge was in finding an upgrade capable of functioning within the vigorously mixed, high-rate jet aeration SBR.

Owens Corning looked to Entex Technologies to specifically design interlocked BioWeb modules that would meet all of the criteria and still provide a significant increase in reactor biomass.

Entex installed a fixed-film system utilizing 15 BioWeb modules—especially engineered to meet Owen Corning’s specific operational requirements and footprint. As part of the custom design, the BioWeb modules are fully submerged throughout the processing cycle. This was only the second time fixed-film media had been used in an SBR system, a technique many industry experts once considered impossible.

Entex provided a novel application is efficient, economical, and offers a flexible method to achieve additional biological treatment capacity, guaranteeing a bright future in treating various industrial wastewaters.

The upgrade has successfully allowed Owens Corning to vary production levels, with “timely delivery, a smooth installation and excellent engineering and support.”

“We are extremely pleased with the quality of Entex BioWeb modules and their immediate, positive impact on system performance.”

*Cliff Merritt
Senior Principal Engineer for WW management
Owens Corning
**Technological Description**

IFAS blends the process flexibility and advanced treatment benefits of activated sludge with the inherent stability and ease of operation of attached growth film systems, increasing capacity and/or level of treatment. Adding attached growth media to a suspended growth reactor provides additional stabilized biomass for increased treatment without increasing the clarifier solids loading. Media can be added to either aerobic and anoxic zones for kinetic optimization resulting in less tankage.

BioWeb is a patented fabric developed in 1996 designed to maximize biomass growth comprised of high strength polyester filaments. It is designed to foster the growth of a healthy and thinly distributed biofilm, one of the most important aspects of an effective IFAS system.

**Design Parameters - Local Standards**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Influent (mg/L)</th>
<th>Effluent (mg/L)</th>
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<tbody>
<tr>
<td>COD</td>
<td>1127</td>
<td>733</td>
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<tr>
<td>NH3-N</td>
<td>72</td>
<td>4.2</td>
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<tr>
<td>Color removal</td>
<td>&gt;50%</td>
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</tbody>
</table>

**System Process**

![System Process Diagram]

**Site Plan**

![Site Plan Diagram]