

## Wedge Wire Screens Tackle Fibrous Cottonwood Seeds in Summer



**Problem:** Open air cooling towers and other open loop water systems collect airborne particulate including cottonwood seeds which can get stuck in filter screens. As unchecked debris accumulates in cooling towers, fouling, sludge and bio-film buildup breakdown the cooling tower system.

**Solution:** Install Forsta self-cleaning filtration systems with wedge-wire screens to prevent the stapling effect that may occur with fibrous material.

## Cooling Towers

Because of the operating environment of cooling towers, and because of the nature of their technology, cooling towers are vulnerable to the elements. They are susceptible to a variety of particulates that are introduced by the wind. As air quality and wind conditions change, cooling towers undergo wide variations in particulate loading. Operation can be significantly affected by the quality of the water making up the system.

Atmospheric particulate matter can originate from dust storms, living vegetation, fires and industrial processes, which may all, at various times contribute to patterns of particle loading in cooling towers. The mineral dusts of airborne soils/sand, ash, cement etc. (comprised of oxides and carbonates) can all contribute to higher particle loading in cooling tower water.

It is commonly known that poor water quality (including high particle loading) can lead to the following common problems within an open-recirculating cooling tower system: corrosion, scaling, fouling and microbiological activity. These problems are inter-dependent to the extent that prevention of one may help reduce the magnitude of the others.

## Cooling Tower Filtration

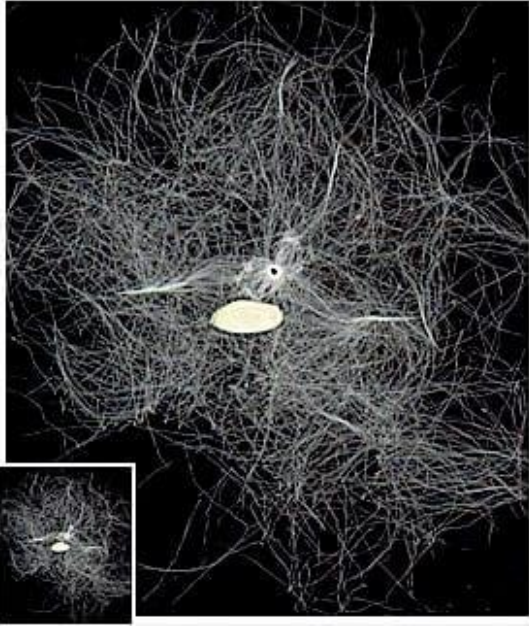
An effective filtration system lowers the particulate levels in the cooling water, which directly reduces fouling. Because microbiological organisms will feed on organic particulates, reduction of particulates also corresponds directly with a reduction in biological growth. It follows that filtration will prevent corrosion that occurs as a result of microbiological growth, and scaling which occurs as a byproduct of fouling and corrosion. The fact of the matter is simple: filtration minimizes all the risks associated with cooling tower operation. When designed properly, a filtration system will save on water, energy, time and money.

Cooling tower filtration systems pull water from the sump, filter out particulates, and return the cleaner water to the tower. This allows the system to function more efficiently, requiring less additional makeup water and chemicals. As stated, filtration is considered especially helpful if the cooling tower system is exposed to dusty atmospheric conditions.

## Cottonwood Seeds

Drifting on winds every June, fluffy cottonwood seeds dot the sky and fleck local waterways.

A single cottonwood tree can release more than 25 million seeds, each suspended by a frizzy mass of cottony fibers that can transport the seed far from the tree.

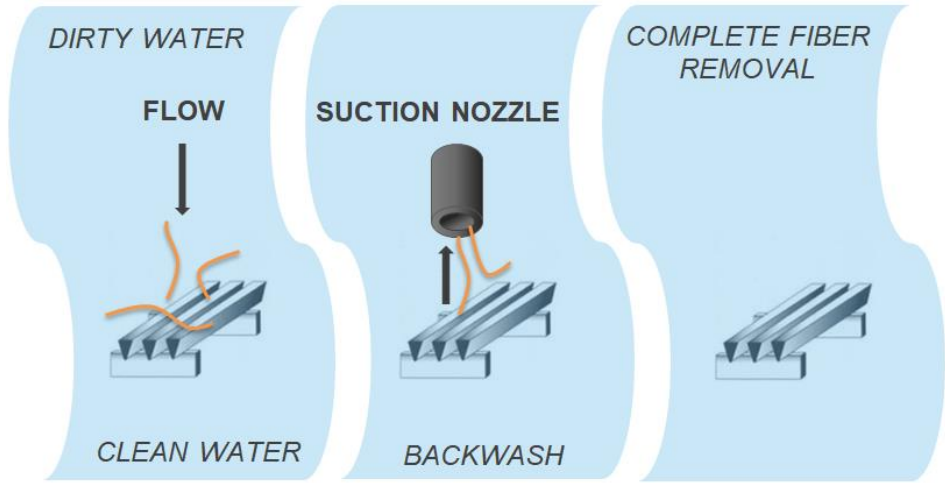


The fibers of the cottonwood seed (shown at left) make it prone to stapling on certain types of filtration screens that may be used in open air water systems.

Sintered mesh screens which are highly effective for sand, silt and other soft organics are not ideal for fibrous cottonwood seeds that become abundant in summer months.

Alternatively, the V-shaped configuration of wedge-wire screens prevents the stapling effect that may occur with fibrous material such as cottonwood seeds on sintered mesh. In Forsta self-cleaning filters, suction nozzles easily vacuum fibers from

wedge wire screens.



Forsta self-cleaning filters with wedge wire screens ensure efficient and reliable filtration for cooling tower systems throughout the summer months when cottonwood seeds are abundant.

## Custom Filtration Sizing

Contact Forsta Filters to find the perfect filtration solution for your cooling tower. Filter systems are selected based on the flow rate, pipe size and operating pressure of the system.



About the Author: Polly Stenberg is Director of Sales with Forsta Filters Inc. - A California-based original equipment manufacturer. Stenberg has conducted case study reviews with customers using Forsta self-cleaning filters in drinking water, wastewater, cooling, agricultural/landscape irrigation and industrial process systems.

Polly can be reached at 310-837-7177 x 1003 or by emailing [polly@forstafilters.com](mailto:polly@forstafilters.com)

Visit Forsta on the web at [www.forstafilters.com](http://www.forstafilters.com)

### More About Forsta:

Forsta Filters, Inc. specializes in design and fabrication of self-cleaning screen water filtration systems. Using an efficient point-of-suction backwash technique, Forsta products offer filtration solutions that do not interrupt system flow during the self-cleaning cycle. Forsta's expertise includes filter design, fabrication, research and development, technical support, installation and startup, servicing, and onsite training.