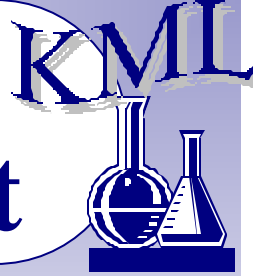


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Open System Water Treatment



Are you getting a quality chemical treatment program for your open cooling system? If your answer is I'm not sure or no, let KML explain why a quality water treatment program is so important.

Cooling systems for comfort air conditioning and industrial processes usually have a cooling tower. The purpose of the cooling tower is to remove heat from a circulating stream of water. This is accomplished by making the water fall in a stream of fine droplets and drawing air through the stream to cause evaporation.

Since the air contains particles of dust and dirt of various kinds, the recirculating water becomes contaminated with a variety of materials. This creates fouling on the inside surfaces of the system which can lead to under-deposit corrosion and loss of heat-transfer efficiency. In addition, air dissolves in the water making it saturated with corrosive oxygen at all time during tower operation and creating conditions that are ideal for corrosion.

Loss of heat-transfer efficiency translates directly into increased cooling costs. Corrosion of system components can be very costly in terms of service disruption, loss of production, and increased maintenance.

Since a cooling tower contains warm water, is open to sunlight, and traps a variety of life forms and nutrient sources, they are perfect breeding grounds for algae, fungi and bacteria. Corrosion is frequently found beneath these deposits as a result of under-deposit corrosion or direct attack from species that consume iron in order to propagate.

What is the simplest way to prevent these kinds of problems?

- ✓ Implement a properly designed chemical treatment program
- ✓ Install and maintain a filter for the system water
- ✓ Regularly test and inspect the system to ensure uninterrupted performance of the treatment program

How can KML help me accomplish these objectives?

KML's chemicals are carefully chosen to suit the local conditions, raw water quality, air quality, and materials of construction. Inhibitors will be maintained at consistent levels at all times, while biocides will be applied in slug doses on a product-alternating basis. KML will monitor chemical, microbiological, and corrosion levels for you. The water will be tested periodically to maintain set levels of chemical and microbiological activity. The corrosion rate will be monitored through the use of a corrosion coupon rack and pre-weighed samples of metal. This gives KML the ability to prove to you that our program is working as promised. Do you know the corrosion rate of your system?

What KML's Chemical Treatment Program Provides:

- Water Meters, where necessary
- Chemical metering pumps, where necessary
- Corrosion Coupon Racks, where necessary
- All chemical inhibitor to maintain < 3.0 mils of mild steel corrosion, < 1.5 mils copper corrosion, and controlled deposition.
- All biocide additions necessary to maintain <10⁵ bacteria cultures with no detrimental affect to employees or WWT
- Periodic water testing by a KML service technician with a written report
- Periodic corrosion analysis by KML service technician and KML laboratories
- A monthly summary report detailing water-testing data (pH, conductivity, calcium hardness, total alkalinity, inhibitor levels, and Ryznar stability index), makeup water usage, bacteria culture results, and corrosion rates
- Assistance in installing and maintaining a water filter
- Any technical assistance needed from KML

KML's fundamental goal is to lower your operating costs while increasing your level of service, reporting and accountability.