

Cleaning and disinfection of BAC cooling towers and evaporative condensers

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Keeping surfaces clean within a cooling tower or evaporative condenser system not only ensures that the thermal performance is optimised but also that the growth of biofilm and harmful bacteria, including legionella, is avoided. This is achieved by effective water treatment and a programme of manual cleaning and disinfection.

It is recommended cooling towers and evaporative condensers are cleaned at least once a year (or when there are high bacteria or legionella counts). Cleaning is not a substitute for water treatment but part of an overall programme for effective bacteriological control.

Description

- The area around the unit is cordoned off and hazard signs displayed.
- Pre-disinfection before cleaning.
The recirculating water is disinfected by dosing an oxidising biocide solution (normally sodium hypochlorite or hydrogen peroxide) together with a biodispersant. This is intended to attack the biofilm, loosen deposits and disinfect the system prior to cleaning. The chlorinated water is circulated for a few hours whilst monitoring regularly that the available oxidant in the water is at the specified level.
- The water is neutralised before draining.
- All accessible surfaces within the unit are cleaned by physical means or using a pressure washer. The drift eliminators, spray branches, nozzles, grommets and strainers are removed and cleaned. The fill pack is inspected and cleaned as needed. All sludge, deposits and debris are removed from the sump.
- The sound attenuation baffles are disinfected by spraying with a biocidal solution.
- All components are re-installed and the unit re-filled with water.
- Post disinfection after cleaning. The pre-disinfection procedure is repeated.
- The system is flushed and then re-filled with fresh water.
- The water treatment programme is re-instated.
- A disinfection certificate is provided.

Regulatory background

In the UK the Approved Code of Practice (ACoP) within HSC document L8 "Legionnaires' disease – the control of legionella bacteria in water systems" requires systems and the water in it to be kept clean. Routine cleaning and disinfection of cooling towers and evaporative condensers is a vital part of maintaining system cleanliness. Cleaning and disinfection carried out by BAC Balticare fully satisfies the Guidance in L8 for cleaning operations.



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Cleaning in operation

Benefits

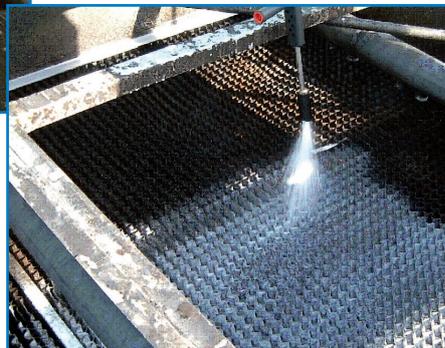
- Cleaning and disinfection procedures are in full compliance with national or regional legislation and codes of practice for controlling the risk of legionella bacteria.
 - Cleaning and disinfection can be extended to include associated plant such as water softeners and heat exchangers.
 - All cleaning and disinfection service personnel are BAC Balticare trained and wear suitable personal protective clothing and equipment.
- Cleaning and disinfection procedures are carried out in accordance with regulatory or site specific health and safety requirements.
 - A unique benefit is that cleaning and disinfection can be combined with inspection and mechanical maintenance of the BAC cooling tower or evaporative condenser. Each maintenance visit includes a detailed report on the condition of the equipment and recommendations for further repair or refurbishment.



Evidence of biofilm



Circulation of the disinfecting solution



Disinfection

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