



Delta Unveils World's First Anti-Microbial Cooling Tower

The risk of propagation of deadly cooling tower-borne pathogens, such as Legionnaire's Disease, can be minimized through the use of towers made of anti-microbial HDPE.

(Roxbury Twp., NJ) Legionella, the bacteria that causes potentially fatal Legionnaire's Disease, and other strains of deadly pathogens that are hosted by some cooling towers, have been substantially reduced by the development of a unique anti-microbial HDPE material introduced by Delta Cooling Towers (deltacooling.com) on September 1, 2016.

Delta, which pioneered the HDPE (high-density polyethylene) plastic cooling tower in the 1970s, has just launched a line of towers constructed of anti-microbial resin, which is fully compounded into the base cooling tower material. The anti-microbial resin contains additives that operate on a cellular level to continuously disrupt and prevent uncontrolled growth of microorganisms and biofilm within the cooling tower. Efficacy tests were performed by Special Pathogens Laboratory, The Legionella Experts[®].

Although the public concern about Legionnaire's Disease was paramount during the outbreaks of the mid-1970s, there have been many occurrences since then, including over a dozen cases in the U.S. this year, as well as several in Europe and Australia.

According to the CDC, in many of these cases Legionella is incubated and spread through water systems, including the cooling towers that are essential items in commercial building HVAC systems and industrial process cooling.

It has been well established that, under certain common conditions, cooling towers can propagate Legionella, a virulent bacteria that can produce severe lung infections. This has recently led ANSI/ASHRAE to publish its Standard 188, *Legionellosis: Risk Management for Building Water Systems*, which documents new risk standards and requirements for engineers that design new buildings and renovations to existing structures.

John Flaherty, president of Delta Cooling Towers, points out that the aforementioned standards and requirements do not significantly detail the maintenance practices necessary to keep water systems, such as cooling towers, healthy. He says that competent maintenance; consistent, top quality water treatment and accurate monitoring are essential to that effort.

“Without consistent, competent water treatment, the legionella risk is not completely eliminated, even with the new antimicrobial cooling tower,” Flaherty explains. “While cooling tower conditions are often managed by water treatment chemicals, such treatment is sometimes inadequate and poor piping designs, lead to ‘dead legs,’ creating an environment in which pathogens – including Legionella – can thrive.”

Flaherty adds that cooling tower design and materials can be very significant in the prevention of pathogen growth. Also, the best water treatments for Legionella prevention are oxidizing biocides which react aggressively toward metal surfaces, effectively attacking metal-clad cooling towers and shortening service life. However, because Delta’s cooling tower fills and shells are constructed of anti-microbial plastic, they are virtually impervious to corrosive water treatments and also minimize the risk of microbial growth. A 20-year factory warranty provides evidence of the durability of these HDPE cooling towers.

The design of many cooling towers creates pockets where water may stagnate, another condition that can lead to microorganism development. The stagnant water areas are prime breeding grounds for Legionella to grow. To avoid such problems, Delta's cooling tower designs feature a sloped basin and/or basin sweeper system.

While other cooling tower manufacturers may market a tower with an anti-microbial fill (the medium over which the hot water is distributed as it is being cooled), no company other than Delta has engineered a cooling tower featuring both the fill and structural casing composed of anti-microbial material.

For more information, contact Delta Cooling Towers, Inc., 185 US HWY 206, Roxbury Twp., NJ 07836; Phone: 800-289.3358); Fax: 973.586.2243; E-mail: sales@deltacooling.com; or visit the web site: www.deltacooling.com

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