An Important New Ally in Fight Against Germs

The spread of infectious and often deadly diseases in our hospitals has been deemed a major threat to patient safety by the U.S. Centers for Disease Control (CDC), which estimates that infections acquired in healthcare facilities result in nearly 88,000 deaths each year in the USA.

As the CDC advocates improved sanitary procedures to ensure the health and safety of patients, there is important new research that shows copper and its alloys, such as bronze and brass, can be valuable allies in the fight against infection.

Every year, nearly 2 million patients are infected while receiving health care in U.S. hospitals. Most infections are spread from direct or indirect contact with an infected healthcare worker and are especially common in intensive care units where the use of body-invasive equipment makes transmission of germs much easier.

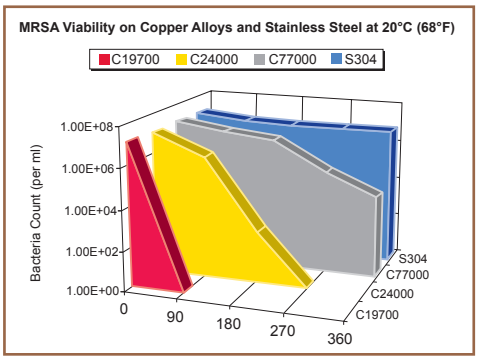
A Growing Threat: Drug-Resistant Bacteria

Adding to the problem, hospital infections are growing more resistant to antimicrobial drugs. One of the deadliest bacteria found in hospitals today is Methicillin Resistant *Staphylococcus Aureus* (MRSA), a so-called "superbug," which does not respond to conventional antibiotics.

Drs. C. William Keevil and J.O. Noyce of the University of Southampton in England recently announced exciting new findings that could help prevent the spread of MRSA bacteria.

At the annual meeting of the American Society for Microbiology last May, they reported that copper is able to stop the spread of MRSA by limiting the time the bacteria are able to stay alive on its surface.

Their study determined that MRSA can survive for only 90 minutes on a surface made from 99% copper, yet stays alive for 72 hours or more on stainless steel — the most common metal used in healthcare facilities today.



MRSA bacteria thrive on stainless steel (blue) but die off quickly on copper (red) and copper alloy surfaces.

Preventing Foodborne Illness

A similar study demonstrates that copper is also effective at eliminating *Listeria monocytogenes* — a bacterium that originates in soil and water and is spread during food handling.

Some 500 people die from *Listeria* contamination every year, according to the CDC, and approximately 2,500 get sick. Eliminating bacteria like *Listeria* is one of the reasons we rinse raw vegetables and fruits before eating and are instructed to cook all meat and poultry thoroughly.

When *Listeria* bacteria are placed on a copper, brass or bronze surface, they survive only 60 minutes, the study found. However, the bacteria can survive for up to several days on stainless steel, the predominant work surface used in restaurants.

Research is continuing, but these and other studies suggest that a better choice for both food handling and hospital applications would be doorknobs, push plates, work surfaces, and other hardware products made from durable, cost-competitive copper alloys.

For more information on copper's antimicrobial properties, visit www.copper.org/environment/homepage.html. Cu