



PR686 issued: 15/07/2005

## **COPPER TOUCH SURFACES IN HEALTHCARE FACILITIES - NATURALLY ANTIMICROBIAL**

**Research demonstrates rapid antimicrobial activity of copper against MRSA with 99.9% inactivation in 90 minutes.**

Recent and ongoing research by Professor Bill Keevil and Dr Jonathan Noyce at the University of Southampton has shown that copper inactivates disease-causing germs on its surface in as little as 90 minutes. Studies have clearly demonstrated such an antimicrobial effect on a range of microbes including *Methicillin-resistant Staphylococcus aureus* (MRSA), *E. coli O157*, *Listeria monocytogenes* and other hospital-acquired infections.

This natural hygienic property makes copper and its alloys, such as the brasses, ideal for hospital touch surface products including door handles, push plates, light switch plates, bed rails, intravenous poles, drug trolleys, counter and table tops and hand rails. These touch surfaces are all potential reservoirs of infection, and reducing numbers of live germs on these surfaces could help in controlling the spread of MRSA and other hospital-acquired infections.

The antimicrobial effect does not take place immediately but, as Figure 1 shows, on copper surfaces MRSA survival was limited to just 1.5 hours. The brass surface showed a significant reduction in live bacteria after 3 hours, with complete invariability after 4.5 hours. The copper-nickel-zinc showed significant and continuing reduction in live bacteria after 4.5 hours. Survival time on stainless steel continued beyond 72 hours.

To the naked eye, stainless steel and aluminium doorknobs and push plates, commonly used in hospitals today, appear to be clean yet can still harbour deadly microbes. Although some copper alloys may tarnish slightly, there are many viable options available for different applications. Tests show that slightly tarnished surfaces of copper alloys are more effective against microbes than fresh, untarnished surfaces of the same alloys.

Copper has been used throughout history and around the world as a hygienic material and there is a long list of touch surfaces that could benefit from copper's antimicrobial properties today. A few low cost and easy to implement improvements in facilities design can reduce the viability of microbes on the most frequently touched surfaces. To keep costs down, it

may be possible to retrofit door handles in those areas of hospitals where the transmission of infectious diseases is a special concern, e.g. intensive care units or quarantined areas.

### COPPER ANTIMICROBIAL INTEREST GROUP

The Copper Antimicrobial Interest Group has been formed for designers, healthcare professionals, facilities managers, product manufacturers and material suppliers who wish to keep up with the latest developments, research and in-situ trials from the US, Japan and Europe. The prime aims of the group are information dissemination and networking to help bring the antimicrobial benefits of copper and copper alloys to healthcare facilities. To apply to join please email your expression of interest to: [alison.brett@copperdev.co.uk](mailto:alison.brett@copperdev.co.uk).

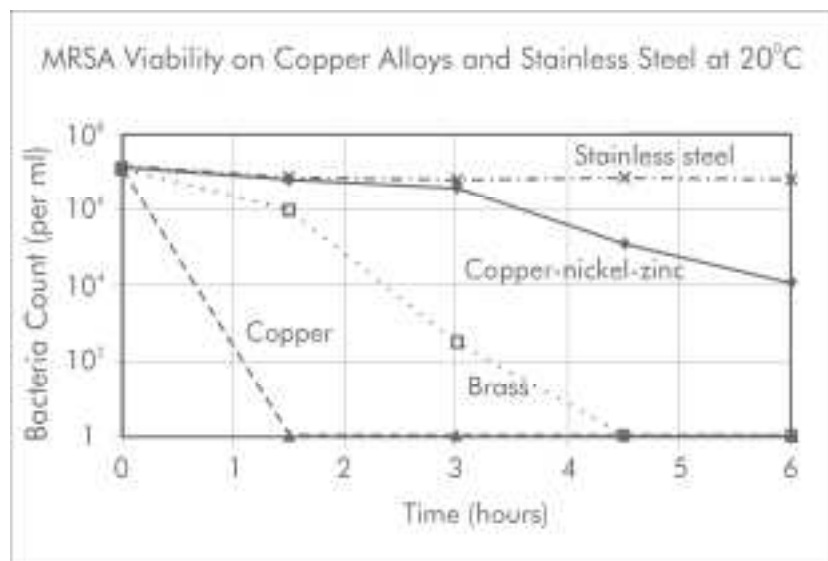


Figure 1: Source University of Southampton, Keevil et al. 2004

Survival times of Methicillin-resistant Staphylococcus aureus (MRSA) on three copper alloys and stainless steel at room temperature.

Copper - commercially pure 99% copper

Brass - 80% copper, 20% Zinc

Copper-nickel-zinc - 55% copper, 27% zinc, 18% nickel

Stainless steel - 18% chromium, 9.5% nickel

## **COPPER - ESSENTIAL FOR HEALTH**

It is important to remember that, as well as being antimicrobial, copper is also a micro-nutrient that is essential to all plant, animal and human life.

- Copper is necessary for the growth, development and maintenance of bone, connective tissue, brain, heart and many other body organs
- Copper is involved in the formation of red blood cells, the absorption and utilisation of iron, and the synthesis and release of life-sustaining proteins and enzymes
- Copper is known to stimulate the immune system, repair injured tissues and promote healing
- Copper is essential of the normal growth and development of human foetuses, infants and children.

- Ends -

Word count from 'Starts....to....ends': 600 words

For further information contact:

Alison Brett  
Copper Development Association  
5 Grovelands Business Centre, Boundary Way  
Hemel Hempstead, Herts HP2 7TE  
Tel: 01442 275705, Fax: 01442 275716  
Email: [alison.brett@copperdev.co.uk](mailto:alison.brett@copperdev.co.uk)  
Websites: [www.cda.org.uk](http://www.cda.org.uk) & [www.brass.org](http://www.brass.org)

### **Note to editors:**

JPEGs @ 300dpi available by email from [alison.brett@copperdev.co.uk](mailto:alison.brett@copperdev.co.uk)