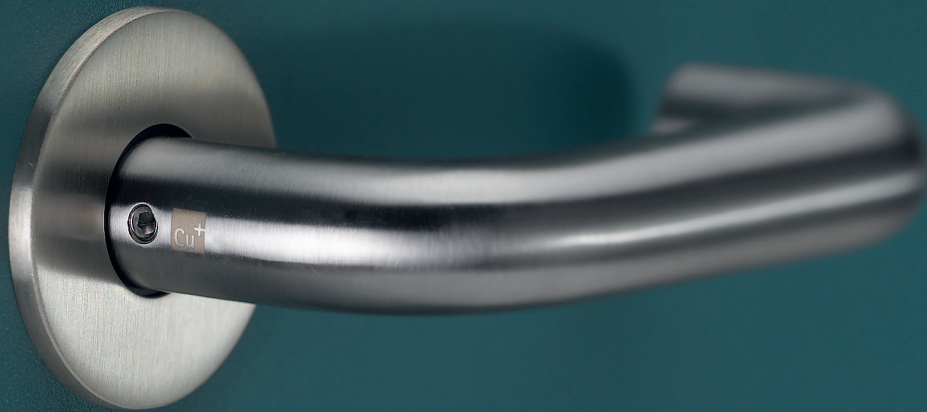


# @lgood



**Contego** - Antimicrobial Copper



EMS 552362



FS 14846

Front cover:  
CS3502 lever handle  
Inside front cover:  
CS6596 pull handle

Created from a unique copper alloy, the Contego range of ironmongery from Allgood provides the antimicrobial properties integral to copper, but with the appearance of stainless steel.



# introduction



Antimicrobial Copper is the most effective touch surface material in the fight against pathogenic microbes. Killing greater than 99.9% of bacteria within 2 hours of exposure, no other material comes close.

Above: CS3502 lever handle  
Right: Test evidence from  
Selly oak hospital

## Antimicrobial Copper

Antimicrobial Copper is the most effective touch surface material in the fight against pathogenic microbes, killing greater than 99.9% of bacteria within 2 hours of exposure. No other material, such as silver-containing coatings, comes close.

Three main characteristics make Antimicrobial Copper the most effective touch surface material:

- **Continuously kills microbes** - Copper's efficacy as an antimicrobial is scientifically proven to be far greater than conventional materials, continuously killing microbes that cause infections.
- **Never wears out** - The antimicrobial property of copper is intrinsic to the metal, providing continuous and ongoing antimicrobial action, even after repeated scratches and abrasions.
- **Safe to use** - As copper is inherently antimicrobial with no chemicals added, it is not harmful to people and is completely recyclable.

Touch surfaces should be continuously killing microbes – day and night, between touches and cleanings. Everywhere you look there are opportunities to upgrade stainless steel or plastic touch surfaces to Antimicrobial Copper.

By replacing fixtures, fittings and other touch surfaces with Antimicrobial Copper you can continuously kill pathogenic microbes, providing an additional weapon in the fight against healthcare-associated infections.

Infections spread by touch may also have a significant effect in other environments where people are in close quarters, such as offices, schools and transport systems. Contego can help to reduce risk of infection in these areas.

## Test evidence

There is now a solid body of laboratory and clinical evidence to demonstrate the antimicrobial efficacy of copper against

the most important pathogens challenging public health. The scientific literature cites the efficacy of copper to kill or inactivate many different types of harmful bacteria, fungi and viruses, including:

- *Acinetobacter baumannii*
- *Adenovirus*
- *Candida albicans*
- *Campylobacter jejuni*
- *Carbapenem-resistant Enterobacteriaceae (CRE)*
- *Clostridium difficile* (including spores)
- *Coronavirus (Human 229E)*
- *Enterobacter aerogenes*
- *Escherichia coli* O157:H7
- *Helicobacter pylori*
- *Influenza A (H1N1)*
- *Klebsiella pneumoniae*
- *Legionella pneumophila*
- *Listeria monocytogenes*
- *Mycobacterium tuberculosis*
- *Norovirus* or *Norwalk-like virus*
- *Penicillium chrysogenum*
- *Poliovirus*
- *Pseudomonas aeruginosa*
- *Salmonella enterica*
- *Staphylococcus aureus* (MRSA, E-MRSA and MSSA)
- *Tubercle bacillus*
- *Vancomycin-resistant enterococcus (VRE)*
- *Vibrio cholerae*

Clinical trials in a variety of hospital wards around the world have shown a continuous reduction in bacteria of greater than 80% on copper surfaces compared to non-copper equivalents.

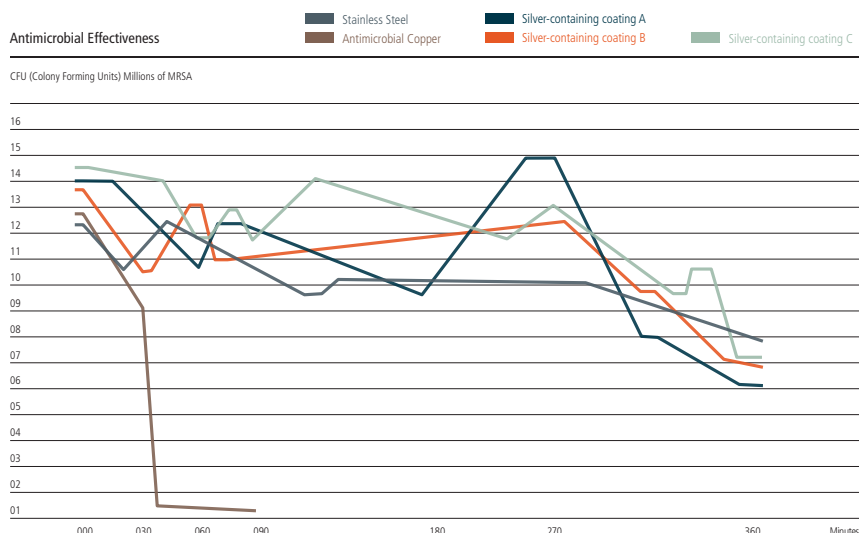
A clinical trial was undertaken at Selly Oak Hospital - part of University Hospitals Birmingham NHS Trust – under the control of Professor Tom Elliott and supported by Copper Development Association, where the approach of utilising copper items to reduce infection prevention was tested.

The first results from the trial showed conclusively that copper is antimicrobial in a real ward situation and that copper-containing surfaces had 90-100% less contamination than controls made from conventional materials such as plastic, aluminium and chrome plate.

A multi-centre trial in US hospitals further showed that replacing just six touch surfaces in an ICU room with antimicrobial copper items reduced a patient's risk of acquiring an infection by 58%.

Laboratory tests, simulating typical touch, droplet or splash contamination events, show that Antimicrobial Copper is the most effective touch surface material. No other material, such as silver-containing coatings, or stainless steel, comes close.

By continuously reducing background contamination levels, copper alloys may also have a role to play in fighting antimicrobial resistance (AMR). Bacteria can pass on resistance messages via their DNA when sitting on surfaces in close proximity to other microbes. Copper kills bacteria and destroys the genetic material, making it impossible for the processes that drive AMR to happen.





# contego



The Contego range is formed from an alloy containing Antimicrobial Copper, with the appearance of stainless steel.

Right: Antimicrobial Copper logo  
far right: Cu<sup>+</sup> certification mark for  
use on product



## Contego

Contego is the Antimicrobial Copper range from Allgood that provides the properties of copper with the appearance of stainless steel.

The antimicrobial properties of copper are well-established, and where pure copper may not suit a design aesthetic, Contego is an attractive option for a wide range of modern interiors.

By using a copper alloy approved under the Cu<sup>+</sup> scheme, buyers of Contego know the product is produced and marketed in line with strict guidelines based on the body of scientific research.

The use of the Antimicrobial Copper marks by an organisation indicates permission on



Top: CS finish  
Far left: CS1005  
cabinet handles

behalf of International Copper Association, Ltd, based upon adherence to strict usage rules. These rules guide that organisation's understanding of the underlying technology and the way they promote, advise and deploy it in line with existing research, regulatory and legislative requirements.

## Finish

- **CS** - Contego Satin Antimicrobial Copper.

Contego items bear the Antimicrobial Copper Cu<sup>+</sup> mark, making them easily recognisable.

Antimicrobial  
Copper



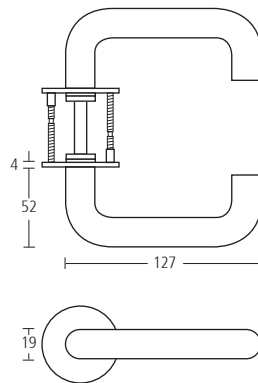




## 3502

Modric Quadaxial lever handle assembly formed from Contego antimicrobial material.

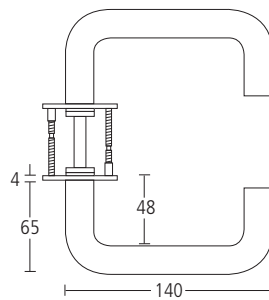
**Finishes:** CS



## 3502D

As above but with 69mm projection from the door.

**Finishes:** CS



Antimicrobial Copper **Cu<sup>+</sup>**

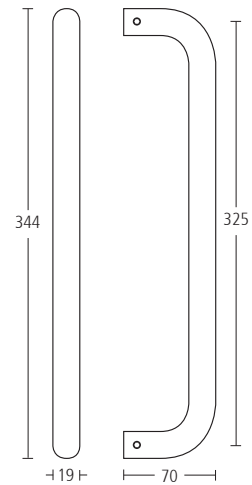


## 6595

Modric pull handle with concealed fixings formed from Contego antimicrobial material.

**Note:** Add suffix 'BB' for a pair with back-to-back fixings.

**Finishes:** CS



Antimicrobial Copper **Cu<sup>+</sup>**



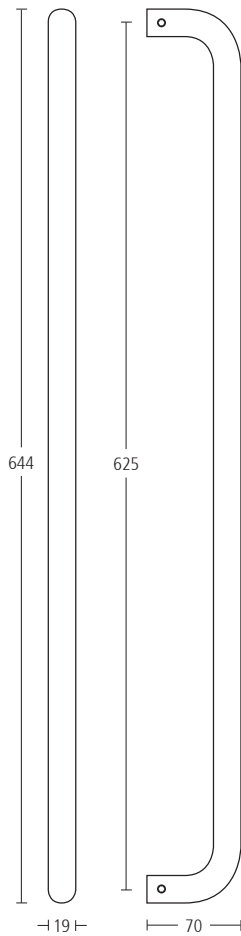
# Lever handles, pull handles and push plates



**6596**

Modric pull handle with concealed fixings formed from Contego antimicrobial material.  
**Note:** Add suffix 'BB' for a pair with back-to-back fixings.

**Finishes:** CS



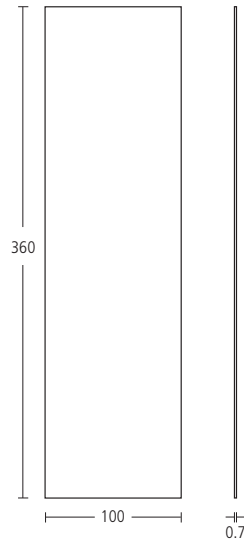
Antimicrobial Copper **Cu<sup>+</sup>**



**6805**

Modric self adhesive push plate formed from Contego antimicrobial material.

**Finishes:** CS



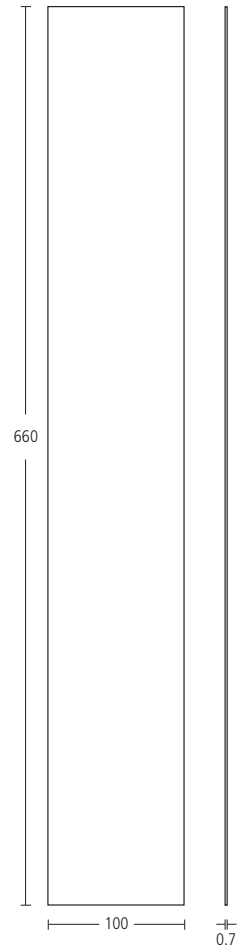
Antimicrobial Copper **Cu<sup>+</sup>**



**6806**

Modric self adhesive push plate formed from Contego antimicrobial material.

**Finishes:** CS



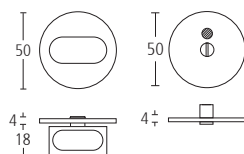
Antimicrobial Copper **Cu<sup>+</sup>**



## 97873

WC turn on concealed fixing rose with emergency release indicator formed from Contego antimicrobial material.

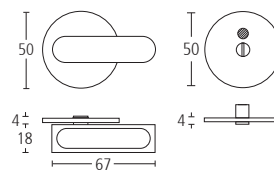
**Finishes:** CS



## 97874

Disabled WC turn on concealed fixing rose with emergency release indicator formed from Contego antimicrobial material.

**Finishes:** CS



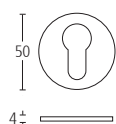




## 796Q

Modric euro profile escutcheon formed from Contego antimicrobial material.

**Finishes:** CS



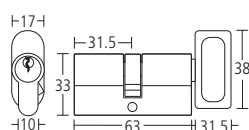
## 7429A

Euro profile double cylinder with key operation on one side and turn formed from Contego antimicrobial material on the other.

**Variations (mm)**

	V	W
a	63	31.5
b	71	35.5

**Finishes:** CS



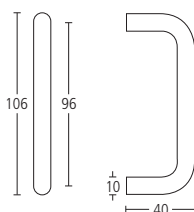
Antimicrobial Copper **Cu<sup>+</sup>**



## 1005

Modric cabinet handle with bolt through fixings formed from Contego antimicrobial material.

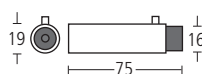
**Finishes:** CS



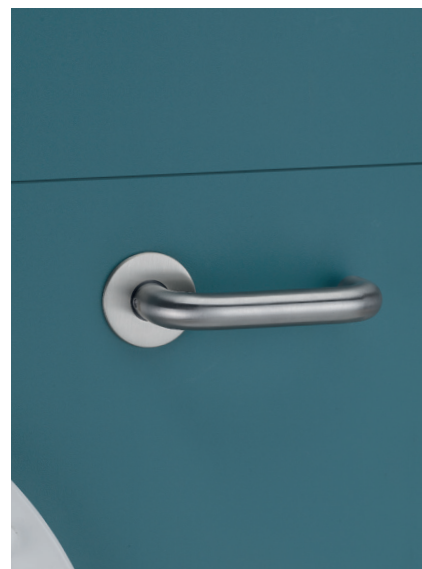
## 6552N

Modric buffered coat hook.

**Finishes:** CS



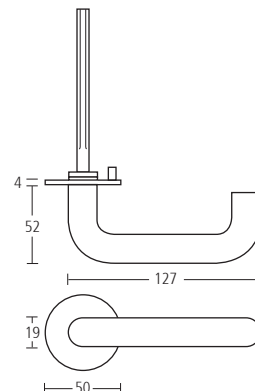
Antimicrobial Copper **Cu<sup>+</sup>**



## 6625

Modric cistern handle formed from Contego antimicrobial material complete with cistern spindle.

**Finishes:** CS



Antimicrobial Copper **Cu<sup>+</sup>**

## What is copper?

Copper is an essential element required by both plants and animals to live. Copper is also an industrial metal that possesses superior electrical and thermal conductivity, is easy to process and, through the incorporation of other metals, can deliver broad technical performance. This makes it a very important material in a wide range of consumer and industrial applications.

## Is copper recyclable?

Copper is one of the few materials that can be recycled, time and time again, without any loss in performance. Nearly one third of annual copper demand is met through recycling and, according to the Fraunhofer Institute, two thirds of the copper produced since 1900 is still in use today.

## What are copper alloys?

An alloy is created when a metal is mixed with one or more elements. This mixture allows the combined elements to take on properties that they would not have individually in their pure states.

## What is meant by 'antimicrobial'?

'Antimicrobial' is the ability of a substance to kill or inactivate microbes, such as bacteria, fungi (including moulds), and viruses.

## Does copper have antimicrobial properties?

Yes. Man has exploited the inherent antimicrobial properties of copper since the dawn of civilisation. It has been demonstrated clearly in many scientific studies conducted over several decades that copper has rapid, broad spectrum antimicrobial efficacy against some of the most toxic species of bacteria, fungi and viruses.

## Which microbial pathogens can copper kill?

The scientific literature cites the efficacy of copper to kill or inactivate many different types of harmful bacteria, fungi and viruses, including:

- *Acinetobacter baumannii*
- *Candida albicans*
- *Clostridium difficile*
- *Escherichia coli* O157:H7
- *Influenza A (H1N1)*
- *Listeria monocytogenes*
- *Norovirus*
- *Pseudomonas aeruginosa*
- *Staphylococcus aureus*
- *Vancomycin-resistant enterococcus*
- *Adenovirus*
- *Campylobacter jejuni*
- *Enterobacter aerogenes*
- *Helicobacter pylori*
- *Legionella pneumophila*
- *MRSA (including E-MRSA)*
- *Poliovirus*
- *Salmonella enterica*
- *Tubercle bacillus*

## Which variables affect the antimicrobial efficacy of copper?

Copper's rate of microbial inactivation can be affected by temperature, copper content of alloy, the type of microorganism with which it is in contact and the type of contamination event - be it a touch, sneeze or wipe. While some laboratory tests can differentiate the differences between alloys, no differences are discernible in the dynamic clinical environment. Clinical studies demonstrate the continuous and effective activity of both copper and copper alloys over many years.

## Is it just pure copper that has an antimicrobial effect?

No, selected copper alloys do too.



## **Are the Antimicrobial Copper surfaces coated?**

No, the antimicrobial property of copper is intrinsic to the metal. In order to maintain antimicrobial effectiveness, oils, waxes, glosses, paints and other coatings must NOT be applied.

## **Are copper platings and coatings effective too?**

While coatings and platings may initially display antimicrobial characteristics, they are susceptible to wear and any surface damage may not only remove the active copper coating but may introduce scratches, which can harbour germs. Surfaces made from solid copper or copper alloys are antimicrobial through and through. Coatings are specifically excluded from the US EPA Registration and therefore from the Industry Stewardship Scheme (Cu<sup>+</sup>) due to concerns over durability and long-term efficacy.

## **How does copper work as an antimicrobial?**

Copper is an essential nutrient for humans as well as bacteria but, in high doses, copper ions can cause a series of negative events in bacterial cells.

## **How quickly do copper alloys kill MRSA?**

Laboratory tests have demonstrated that copper alloys kill 99.9% of MRSA within two hours.

## **Does this mean that there is a delay in the antimicrobial effect?**

No, copper starts to have its antimicrobial effect immediately. The times stated are for scientific tests carried out under strictly controlled conditions and therefore state the times for total elimination in a particular set of conditions. In these tests, an extremely high challenge of bacteria is used, many orders of magnitude higher than would be encountered in a real clinical situation. When tests are repeated using lower doses of contamination, total elimination of, e.g., MRSA, takes as little as 15 minutes. In laboratory tests closely simulating a dry touch, kill times have been demonstrated at under five minutes for typical levels of contamination.

## **Has copper been tested in clinical trials?**

Yes, antimicrobial copper surfaces have been proven to harbour at least 80% less bacterial contamination than conventional touch surfaces in hospital trials around the world, including Selly Oak in Birmingham, UK.

In Department of Defense funded US trials, carried out in intensive care unit (ICU) rooms at three hospitals, rooms with copper surfaces demonstrated an 83% reduction in average microbial bioburden compared to controls, better than the level achieved by 'terminal' cleaning: the regimen conducted after each patient vacates a room.

Furthermore, the results demonstrated that the use of antimicrobial copper surfaces in ICU rooms resulted in a 58% reduction in the risk of acquiring a hospital infection.

## **If copper kills pathogens, does that mean it doesn't need cleaning?**

No, copper alloy products will need to be cleaned in the same way as other touch surfaces, to remove dirt and grime that can prevent contact with the copper surface. Prescribed hygienic practices for the cleaning of touch surfaces, along with hand-washing, are the first lines of defence and copper alloy surfaces are a supplement to, and not a substitute for, standard infection control and hygienic practices. Copper alloy products are active 24/7 and help reduce microbial contamination in between cleanings.

### How should copper and copper alloy components and surfaces be cleaned?

The usual cleaning materials used in hospitals are fine for use on copper and even bleach-containing solutions can be used as long as items are washed down afterwards as described in the current NHS cleaning guidelines.

### Won't microorganisms develop resistance to copper?

This is highly unlikely for three reasons:

- Copper is naturally present in the earth's crust and, to date, no resistant organisms have been demonstrated. Copper-tolerant organisms do exist but even these die on contact with copper surfaces.
- Copper kills microorganisms by multiple pathways rather than by acting in a specific way on one receptor.
- Microorganisms are killed before they can replicate, thus they cannot pass down genetic material which would ultimately allow it to evolve and develop resistance.

### Will copper and copper alloy surfaces change colour over time?

Copper and many copper alloy surfaces naturally oxidise and darken over time. The amount of time needed for a colour change to occur depends on the alloy and exposure conditions. The alloy used to form the Contego range is naturally resistant to oxidation in all environments.

### Does oxidation deter copper's antimicrobial effect?

No. In fact, studies show that as uncoated copper, brass and bronze surfaces oxidise, or darken, they become more effective at eliminating disease-causing bacteria.

### If copper reduces microbes, is it safe?

Yes, copper, brass and bronze surfaces are safe and long lasting. The copper industry initiated a Voluntary Risk Assessment for copper. The assessment process was agreed with the Italian Government's Istituto Superiore di Sanità, acting as the review country on behalf of the European Commission and the EU Member States. The risk assessment has now been completed and one of the main conclusions, accepted by the European Commission and EU Member State experts, is 'the use of copper products is in general safe for Europe's environment and the health of its citizens.' Copper is also an essential micronutrient in the human diet, along with zinc and iron. An adult needs 1mg of copper every day. Foods rich in copper include chocolate, nuts and seeds. A balanced diet should provide enough copper to avoid a copper deficiency.

### How can I recognise a product made from Antimicrobial Copper?

Leading manufacturers of hospital equipment, furniture and fittings use the Cu<sup>+</sup> mark to indicate that their products are made from approved Antimicrobial Copper alloys.

### How is copper superior to other antimicrobial surfaces?

Copper and copper alloy products are antimicrobial through and through. Even when surfaces made of these materials are scratched, their antimicrobial efficacy continues to work and they won't wear away like coatings or other treatments can.

### Do aluminium, stainless steel and plastics have antimicrobial properties?

No. Comparative antimicrobial efficacy studies have been conducted on copper, aluminium, stainless steel, PVC and polyethylene. While it has been clearly demonstrated that copper is able to kill microbes quickly and effectively, there is no evidence that aluminium, stainless steel, PVC or polyethylene exhibit antimicrobial properties.





Allgood would like to thank PB Digital and Rob Wyatt Photography for their contributions to this brochure.

All information and details in this brochure are correct at time of going to press. However, Allgood plc reserves the right to change the product specifications without prior notice.

All dimensions are subject to production tolerances of  $\pm 1\text{mm}$ .

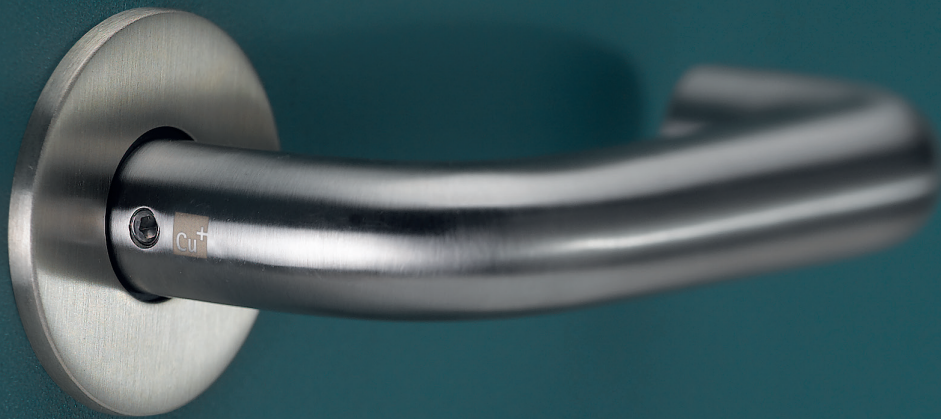
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