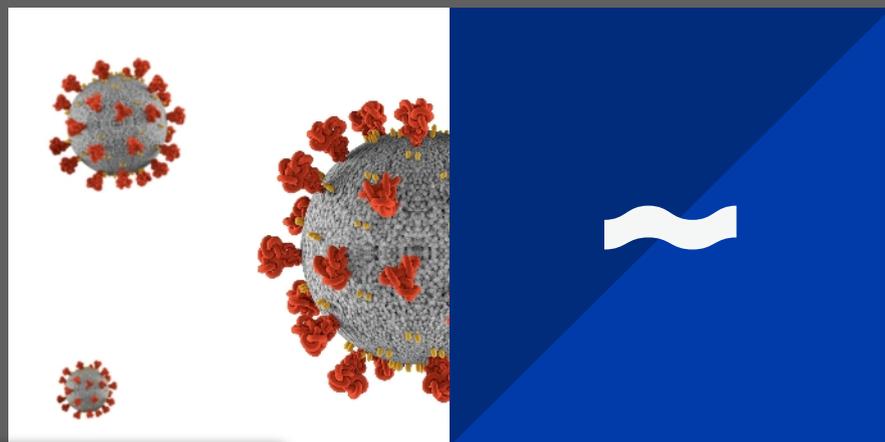




TOUCH ANTIMICROBIAL

The worlds only permanent, retrofit, hard film coating that dries crystal clear and provides protection against enveloped viruses and bacteria, including SARS-CoV-2 (the virus responsible for COVID-19) and MRSA for all hard surfaces for up to 5 years.



24/7 PROTECTION

Proven to work against all known bacteria as well as enveloped viruses such as SARS-CoV-2



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SHORT HISTORY OF BROMOCO INTERNATIONAL

17 years of coating excellence

Bromoco International has been protecting buildings and structures all over the world since 2004 and the performance of the coatings have gone well beyond the scope of their own guarantees and the competition.

McLaren F1 2009

In 2009 Bromoco applied their coatings to the famous McLaren F1 H.Q. in Woking UK. The coatings are still in place 12 years later and have more that doubled their 5 year guarantee showcasing just how well Bromoco Internationals coating perform in the real world.



2013 - THE DEVELOPMENT OF TOUCH ANTIMICROBIAL

In 2013 founder and technical director Mr Anthony Semple, along with leading biochemists, were able to add silver ion technology to the Bromoco Internationals coating solution in an attempt to provide a coating that could protect against bacteria such as MRSA and E.coli. The result was an antimicrobial coating unlike anything seen before. A hard film coating that is crystal clear, can be applied to virtually any surface and works 24/7.

This was the birth of TOUCH Antimicrobial coating and in 2014 testing confirmed that the already proven silver ion technology within the already proven coating was performing successfully with the coating passing ISO22196 - Antibacterial Activity.

At the time the focus of the coating was on protecting against all known bacte-

ria, however 2019 brought SARS-CoV-2 and with it COVID-19.

Silver ions had already been proven to breakdown the envelope of enveloped viruses and this new threat was another enveloped virus that TOUCH Antimicrobial could protect against. In 2020 TOUCH was tested against ISO21702 - Antiviral Activity.

TOUCH passed the test showing a reduction of 99.99% of the viral load of the surrogate virus in just 2 hours.

The end result of 17 years of development and manufacture of world leading protective coatings resulted in the worlds only permanent, retrofit, hard film coating that dries crystal clear and protects against enveloped viruses and all known bacteria, such as SARS-CoV-2 and MRSA, 24/7.



These Premises are **PROTECTED**

Antimicrobial Coatings



TOUCH ANTIMICROBIAL IS HEAD AND SHOULDERS ABOVE ANYTHING ELSE CURRENTLY AVAILABLE



**CLAIRE KIRBY
DIRECTOR AT INNOVATION
HYGENE CONSULTANCY**



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Testing against Phi6 would show that the coating is effective against similar enveloped viruses, such as SARS-CoV-2



Rob Limburn
HRAD Group Manager - Campden BRI

TEST RESULTS

Since 2013 TOUCH Antimicrobial has been tested against international standards to ensure the antimicrobial additive is performing as expected.

ISO 22196 - Measurement of Antibacterial Activity on plastics and other non-porous surfaces

In 2014 TOUCH Antimicrobial was tested in accordance to ISO 22196 by Biocote. The results found that TOUCH Antimicrobial was effective in protecting against E. coli and MRSA - the two bacterial on either end of the known bacterium spectrum. The results mean that TOUCH is effective against all known bacteria.

In 2021 TOUCH was once again tested against ISO 22196 as part of our continual development and testing of the product.

Boeing aircraft's BSS7434 protocol

After requests from Boeing and several airlines, TOUCH was tested against Boeings BSS7434 protocol. Here it conformed to all relevant tests

ISO 21702 - Measurement of Antiviral Activity on plastics and other non-porous surfaces

In 2020 TOUCH Antimicrobial was tested according to the ISO 21702 methodology to determine its effectiveness against enveloped viruses such as SARS-CoV-2 - The virus responsible for COVID-19.

Due to the dangers of testing directly against SARS-CoV-2 a surrogate was needed for this test. We chose to use Phi6 as a surrogate as its structure is extremely similar to that of SARS-CoV-2 - it is an enveloped RNA virus with a particle size of ~100nm. It is also more resilient than SARS-CoV-2 and is harmless to humans.

The viral load of Phi6 was tested after 2 and 4 hours, the industry standard, and the results were:
2 hours - Viral load reduced by 99.99%
4 hours - Viral load reduced by 99.9995%

These results show that TOUCH Antimicrobial is effective at protecting against enveloped viruses such as SARS-CoV-2 - COVID-19



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HOW DOES THE COATING WORK?

Silver Ion technology has been used for centuries and dates back to the ancient Greeks using silver and copper to purify water for drinking.

Fast forward to the 21st century and Bromoco International have developed the technology further to create a coating that can protect all against enveloped viruses and harmful bacteria.

TOUCH Antimicrobial coating can be applied to products in situ with no need to replace or factory apply.

TOUCH combines our ground breaking coating technology with antimicrobial qualities which have been developed together by Bromoco International and leading biochemists. This virtually invisible coating is suitable for application on-site, or in the factory. This makes TOUCH Antimicrobial coating systems the first of its kind providing high levels of long term antimicrobial protection.

Antimicrobial is simply the term used to describe something that has the ability to resist the growth of microbes. While the term 'antibacterial' refers only to bacteria, antimicrobial refers to a wider range of organisms including bacteria, moulds, fungi and others. The antimicrobial technology is incorporated

into our coating at the time of manufacture. Once incorporated, the antimicrobial additives provide continuous, built-in, antimicrobial protection for the expected lifetime of the product. The silver ions on the surface of a material treated with the coating bind with microbes that come into contact with the surface, disrupting their normal cell function, which stops them from reproducing and results in the death of the cell.

Our biochemist partners are trained microbiologists and chemists with extensive experience working with antimicrobial and anti-bacterial agents. They are leading professionals in the field of antimicrobial technology and are dedicated to increasing awareness of the danger of harmful microbes and accelerating the uptake of microbe-preventative technology across the globe.

PEACE OF MIND

2 hour self sanitisation

The treated surface will self sanitise every two hours. Removing 99.99% of all known bacteria and enveloped viruses

99.9%



VIRUS SURVIVAL

Some enveloped viruses, such as SARS-CoV-2, can last up to 15 days on untreated surfaces such as door handles, desks and light switches

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THE RETROFIT SOLUTION FOR EVERYWHERE

Without the restrictions of having to be added during the manufacturing process, TOUCH Antimicrobial is more versatile than many other options for protecting your space from enveloped viruses and bacteria. Being able to add it in retrofit to your current door handles, desks and chairs etc. you save the cost of purchasing new purpose built antimicrobial treated furniture.

Recent surveys have found that the cost to fully protect an office space with TOUCH Antimicrobial is far more cost effective than the cost of replacing all the desks alone. And the treatment would protect more than just the desks!



Our qualified application network conducted surveys in schools and found that the cost to coat all desks, chairs, door handles and light switches in an average school would cost around £10 per head. That's 1 pence per day over the 5 years period the coating is guaranteed for.

It really is a no brainer.

- Office Spaces
- Schools
- Warehouses
- Sports facilities
- Gyms
- Playgrounds
- Shopping centres





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THE ALTERNATIVES AND THEIR RISKS

It is not uncommon to hear of nano (or ceramic) coatings being used for antiviral protection, however these have some major flaws that have a negative impact on their effectiveness.

Nano Coatings and their wearability

Several companies have developed nano coatings in response to the COVID-19 pandemic. These coatings include very similar technology to TOUCH Antimicrobial, except in the way the coating is applied and stays in place is very different.

Nano coatings often rely on their “sticky nature” to stay adhered to the surface they are coating. While in place they will add a layer of protection, however due to their sticky nature they will not stay in place for long. Every time the coating is touched by anything, or any friction is created on the surface, the coating will stick to the new item and be removed. This results in the highest touch points, those needing the protection most, having the coating stripped away very quickly.

Beyond that, the silver ions may then be released from the treated surface and can enter local waterways and environments where harm can be done as they may

have a toxic effect on fish, crustaceans, algae etc. You will often read in the guarantee that they last x months when no friction is applied as a result of this.

How Does TOUCH Antimicrobial Differ from a Nano coating

As TOUCH is a permanent film coating it is not removed anywhere near as easily. Even on the highest touch points the coating will last far longer than any nano coating out there.

Furthermore, the silver ions in the coating cannot leach out meaning that there will be no negative impact on the surrounding environment and ecosystem.

This not only makes TOUCH Antimicrobial a longer lasting solution to nano coatings, it also makes it a far safer solution with no negative residual impact.



The active ingredients that are released from the (nano) coatings containing silver, zinc and copper could have toxic effects on fish, crustaceans, algae, etc. Such toxic ingredients consumed by fish are eventually consumed by humans.



Dr. Artul Tiwari
Ph.D., FRSC, Flora Coatings
<https://www.pcimag.com/articles/107649-a-guide-to-antimicrobial-coatings>

WHY USE TOUCH ANTIMICROBIAL

Permanence

In recent years there have been multiple ways advertised to ensure your surfaces remain clean from bacteria, viruses and super bacteria. However, until now, no method has provided a permanent solution. TOUCH Antimicrobial coating is permanent. Once applied the coating immediately starts working to protect the surface it has been applied to.

In 30 minutes it is touch dry and is fully cured in 4 hours meaning that it can be applied quickly and not disrupt day to day operations.

Longevity

Treating surfaces with a nano coating or "fogging" an area can create a clean environment and sterilise the area, however these are not permanent solutions. Nano coatings will quickly be removed upon the surface being touched due to how nano coatings work. Nano coatings stay in place due to the sticky nature of the

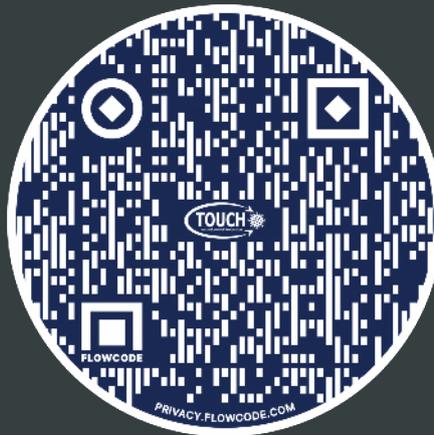
molecules and it is that same nature that means they are removed easily. "Fogging" an area is limited in its coverage due to the lack of directional control. Surfaces will be coated in a disinfectant, but not long after the surfaces are once again susceptible to microbes landing and growing on them.

Once treated with TOUCH Antimicrobial any surface is protected for up to 5 years due to it being a hard surface coating.

Peace of Mind

Once a surface is treated with TOUCH Antimicrobial it can be cleaned as usual. No need for harsh chemicals or vapourised disinfectant adding a risk of digesting harmful chemicals. Meaning you can relax back to a standard cleaning routine without worrying about your protection.





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