

HOW TO IMPROVE THE PERMANENT HYGIENE OF YOUR SURFACES

Microbes - or rather, **microorganisms** - are a category of **very small** living beings (less than 0.1 mm), visible only under a microscope, which include bacteria, fungi and moulds.

Microorganisms are found in almost all natural environments. Some play an important role in nature and can have beneficial effects, so much so that they are actually used by humans in various industries, such as the food industry. Others, meanwhile, can cause unpleasant smells, food waste and a reduction in some products' shelf life.

These microbes can be transferred by way of food, animals or in the environment, others spread through **contact between humans or with contaminated surfaces**.

This is why one of the most effective hygiene measures is **protecting surfaces with antimicrobial coatings** capable of reducing the presence of microbes such as bacteria and mould.

Indeed, bacteria such as MRSA (considered antibiotic-resistant) and *Escherichia Coli* can survive on hard surfaces for several months, resulting in significant possibility of cross-contamination.

By introducing antimicrobial coatings to surfaces such as **radiator covers**, **door handles**, **hand rails**, **Bank ATMs**, **ceilings**, **beds**, **forniture**, **etc**. those surfaces will be more hygienic because they contain a technology that has been deliberately included to actively reduce the number of microbes on the protected surface. By doing so, these coatings can **reduce the potential of cross-contamination** from those surfaces, which in turn are **easier to keep clean** (therefore helping cleaning regimes) and are **less likely to become stained** from microbial growth (e.g. mould).

A SOLUTION TAILORED TO YOUR NEEDS

Stardust Powder Coatings has developed a solution capable of reducing the presence of bacteria: Guardian AM[®], the antimicrobial coating with integrated BioCote[®] technology.

Applying this coating to your material means putting hygiene first.

Thanks to the addition of a high level of protection to your product, your customers will have some of the finest coated products on the market in terms of quality, durability and usability.

Guardian AM, with the BioCote[®] technology, offers **a second layer of hygiene defence** to existing cleaning regimes, becoming part of the ultimate hygiene solution alongside cleaning and hand hygiene.

As with all Stardust coatings, **Guardian AM** is available in small, **made-to-order batches starting from 25 kg**, making it possible for you to decide all the features of your coating product, which is therefore tailor-made according to your needs.

HOW IT WORKS

Our **Guardian AM** powder coating, formulated with BioCote[®] additives, releases silver ions in a controlled manner through an ion exchange mechanism contained within the coating.

BioCote[®] technology is long-lasting and effective against all common bacteria, fungi and moulds and it has been tested against ISO 22196:2011 and ASTM G21, all whilst not affecting the functionality or aesthetics of the products it is applied to.

The protection provided by BioCote[®] additives to the coating they are integrated into is **permanent** and guarantees continuous action against microbial colonisation throughout the lifecycle of the product to which it is applied: the antimicrobial load remains stable even if there are scratches on the coated surface. In addition, **Guardian AM** is compatible with existing cleaning and sanitation products.

Guardian AM harnesses the performance of ionic silver, meaning that it reduces microbes on its surface and inhibits their growth, contributing to the creation of a more hygienic and better-protected surfaces. Indeed, the active ingredient of the BioCote[®] additive contained in our **Guardian AM** coating is classified as **non-toxic** to humans by the relevant authorities.



Imaging performed by Dr. Robert K. Shaw, Imaging Specialist, Technology Hub Imaging Core, College of Medical and Dental Sciences, University of Birmingham.

PROVEN TO BE EFFECTIVE

It has been demonstrated that BioCote[®] active substances contained in Stardust **Guardian AM** coatings can reduce up to 86% of the bacterial load on a product protected with the coating in 15 minutes, and up to 99.5% in just 2 hours.





FIELDS OF APPLICATION AND ADVANTAGES OF GUARDIAN AM

Guardian AM is suitable for use in many settings, including hospitals, schools, restaurants, gyms, hotels, public transportation, lifts and furnishing accessories (furniture, doors, handles, railings, etc.).

BioCote[®] technology can be integrated into all product families offered by Stardust, such as epoxies, epoxy-polyesters, polyesters and polyurethanes.

The antimicrobial tests conducted on **Guardian AM** metallic coatings also returned positive results.

This coating is available in all finishes – from super matte to gloss - and colours, including metallic ones, and can be chosen by sample or simply by the major international colorimetric systems, such as **RAL**, **NCS**, **PANTONE**[®], etc.





GUARDIAN AM ARCHITECTURAL THE SOLUTION DESIGNED FOR THE ARCHITECTURAL FIELD

Stardust's antimicrobial powder coating, **Guardian AM** with BioCote[®] technology, has also returned positive test results when integrated with Qualicoat-approved polyester coatings.

Stardust's coating offers **long-lasting protection without compromising on appearance**: **Guardian AM** allows for antimicrobial protection on the parts of buildings with which we constantly come into contact, such as windows, doors and all related fixtures.

Guardian AM is the ideal choice also for **aluminium profiles**, **curtain walls and metal architecture** in general to ensure a winning combination of **antimicrobial effectiveness**, **outdoor durability and attractive finishes**.

GUARDIAN AM MEDICAL THE SOLUTION DESIGNED FOR THE HOSPITAL FIELD

Stardust has developed Guardian AM Medical which, in addition to integrating BioCote[®] technology, has specific features for the hospital sector, such as resistance to scratching, light, penetration by cold liquids (cleaning/ disinfection products), wet heat and dry heat.

Stardust makes no public health statements with regard to its **Guardian AM** products. The antimicrobial protection it provides is understood to relate only to the coating, and not as protection against pathogenic organisms.



STARDUST GUARDIAN AM COATINGS HAVE BEEN POSITIVELY TESTED BY BIOCOTE® AGAINST

		BACTERIA ANTIBIOTIC RESISTANT	BACTERIA	MOULD AND FUNGI
CANDIDA ALBICANS	ATCC 2091			V
ESCHERICHIA COLI [BETA-LACTAMASE]	ATCC 35218			
ESCHERICHIA COLI	ATCC 8739		V	
ENTEROCOCCUS HIRAE	ATCC 10541		V	
ENTEROCOCCUS FAECALIS [VRE]	NCTC 13632	V		
LISTERIA MONOCYTOGENES	ATCC 13932		V	
STAPHYLOCOCCUS AUREUS (MRSA)	ATCC 43300	V		
PSEUDOMONAS AERUGINOSA	ATCC 12903		V	
SALMONELLA ENTERITIDIS	ATCC 13076		V	
STAPHYLOCOCCUS AUREUS	ATCC 6538P		V	
ACINETOBACTER BAUMANNII	ATCC 19606			V
LEGIONELLA PNEUMOPHILA	NCTC 11192		V	
ASPERGILLUS NIGER	ATCC 10535		V	
KLEBSIELLA PNEUMONIA [CRE]	ATCC 13440	V		



Founded in 2007, Stardust Powder Coatings boasts comprehensive entrepreneurial experience in the sector which, combined with its unparalleled expertise, have allowed it to become a solid **company at the international level** in the space of just a few years, with a production facility and a highly-specialised research laboratory.

Stardust has specialised in the production of small, made-to-order batches, an approach characterised by a non-repetitive production process which heavily involves the client in deciding on the features of their desired coating product.

The extensive growth it has experienced has not prevented Stardust from retaining all the added value of an independent, family-owned company: a **direct relationship** with clients, who can rely on a stable partner which remains constant over time; an impressive degree of **flexibility** and **speed** in making decisions; and the development of **truly tailor-made solutions**.

- BIOCOTE® CERTIFIED





PREMIUM PARTNER



