



Protect and Defend **the ultimate antimicrobial system.**

The only solution where antimicrobial technology is an integral part of the panel protecting it from microbial degradation for its lifetime.



Jemiclad

Protect and Defend Antimicrobial protected ceiling and wall cladding

■ Properties

- Resistance to a great many chemicals
- Silver antimicrobial product protection
- Colour match weld rod
- Antimicrobial protection for the life of the product
- Antibacterial properties unaffected by processing
- DIN 22196:2011
- Food grade
- Easy care
- Resistance unaffected by frequent cleaning
- Impermeable, air and watertight system
- Low maintenance
- Shock resistant
- Joints can be welded superbly
- Elite certified installers globally
- Internal and external angles can be heatformed to increase protection
- Chemical resistant

■ Environmental protection of tested reliability

Correct storage

Always store Jemiclad sheets on a level surface in a dry, air conditioned environment at about 15–20 °C. The packaged sheets may not be exposed to weathering effects and direct sunlight.

Ecological manufacture

In line with our environmental guidelines, Jemiclad PVC-U sheets are safe for humans and the environment during their manufacture, use, and disposal. They are free of formaldehyde, asbestos, lindane, PCB, PCP, CFCs, cadmium, and lead and do not contain any monomers, biocides, or plasticisers. At the end of their service lives, the sheets or sheet residue can be recycled. They are processed in shredders or grinders and then introduced to the manufacturing process for new sheets.

Certified quality

True to our "Ever better principle", the acclaimed high quality of our products bear the hallmarks of our research and development work as well as decades of experience with synthetic materials. Tests are conducted over all stages from the incoming raw materials to the final inspection of the finished products. Regular examinations by independent testing institutes confirm this high level of care. Logically, our quality assurance system has been DIN ISO 9001 certified.



Antimicrobial protection for life!

Jemiclad Protect and Defend Antimicrobial sheets and weld offer active silver ion antimicrobial product protection, continually reducing microbial growth, keeping the cladding and weld free from microbial degradation. The sheets are designed for cladding walls and ceilings and are resistant to flames and many chemicals.

Jemiclad sheets satisfy the standards demanded by health authorities for food plants, medical facilities, catering firms and many other areas (DIN 22196:2011) The sheets antimicrobial properties offer product protection against microbial degradation.

The antimicrobial protection does not protect users or others against disease causing microbes or harmful organisms. The technology is not a replacement for cleaning protocols.



Overview of applications

Public areas

- Household kitchens
- Professional kitchens
- Catering
- Canteens
- Sportsschoolpools
- Showers
- Laundries

Medical areas

- Healthcare pools Laboratories
- Pharmaceutical areas
- Retirement and nursing homes
- Hospitals
- Mortuaries

Food areas

- Food production
- Cold stores Clean rooms

Delivery programme and colours

Dimensions and thicknesses (mm)

- 2500 x 1220 x 2,5
- 3000 x 1220 x 2,5

Protect & Defend

White
similar
RAL 9003

- x
- x



Technical Data

Mechanical properties	European Standard	USA Standard	Unit	WA
Apparent density*	DIN EN ISO 1183	ASTM D792	g/cm ³	~ 1,43
Yield stress (tensile strength)	DIN EN ISO 527	ASTM D638	Mpa	□ 55
Elongation at tear	DIN EN ISO 527	ASTM D638	%	□ 15
Flexural strength	DIN EN ISO 178	ASTM D790	Mpa	□ 80
Compressive strength	Based on DIN EN ISO 844		Mpa	□ 70
Modulus of elasticity	DIN EN ISO 527-2/1A/50	ASTM D638	Mpa	□ 3000
Notched impact strength	DIN EN ISO 179-1ePA	ASTM D256	KJ/ m ²	>8
Impact strength	DIN EN ISO 179		KJ/ m ²	
	0 °C			no failure
	-20 °C			-
	-30 °C			-
	-40 °C			-
Water Vapour Transmission		ASTM E96	g/m ² /24hr	<0.12
Ball indentation hardness (358 N/30 s)	DIN EN ISO 2039		Mpa	~ 100

Thermal properties	European Standard	USA Standard	Unit	WA
Vicat softening temperature	DIN EN ISO 306 (Process B50)		°C	75
Deflection temperature	DIN EN ISO 75	ASTM D648	°C	60
Coefficient of linear thermal expansion from – 30 °C to + 50 °C	DIN EN ISO 11359-2 (Process Ae)		mm/mK	0,08
Thermal conductivity from 0 °C to + 60 °C	DIN EN ISO 22007	ASTM C177	W/mK	0,16

Certifications

Properties	Standard	Unit	Value
Water absorption after 7 days	DIN EN ISO 62	%	<0.08
Fire behaviour: surface spread of flame	BS 476 Part 7 (1987)	Class 1 Class 1Y	1–4 mm 2.5–3 mm
Fire behaviour: fire propagation	BS 476 Part 6 (1989)	Class 0	
Fire behaviour	DIN 4102 (DE)	B1	1–3 mm
	NF P 92-501 (FR)	M1	1.2–8 mm
	USA – ASTM E84 Class A	M2	10–30 mm
	CAN – Can/UCL-S102.2		
	UL 94 (USA)	V0/5VB	1–30mm
	AS NZS 3837 1998 Tested		
	EN13501B-S3-D0		

For chemical resistance properties please visit the website

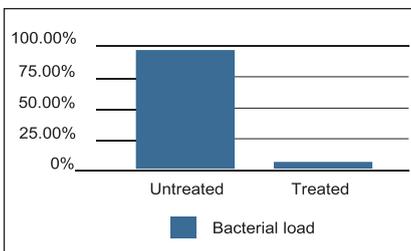
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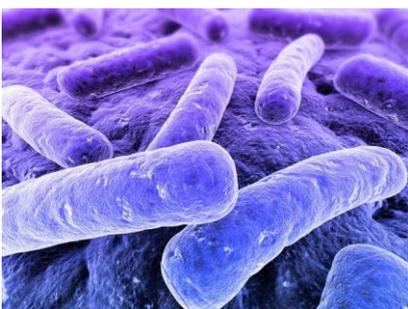
A pilot study undertaken at a large National Health Service Trust examined the bacterial contamination found upon products in a clinical setting containing silver-ion technology

The study compared two clinical settings one with no antimicrobial in place and the other using products treated with silver-ion technology. Products exhibited a 95.8%* reduction in bacterial contamination. The outcome is a reduction in the risk of bacterial load, therefore reducing the risk of contamination.



Compared to a ward with no antimicrobial products in place, the ward containing silver treated products exhibited an overall effect of reducing bacteria levels by 95.8%* in the environment, thus greatly reducing the risk of cross contamination.

The untreated ward contained all standard items normally seen in a ward; the silver protected ward contained the



same items but with the silver technology applied either to the coating on the surfaces or directly into the substrate itself.

Biomaster additives can be found in a wide range of hospital and care home products including bed frames, curtains, hand soap dispensers, hand sanitizer dispensers, sinks, taps and medical case note holders.

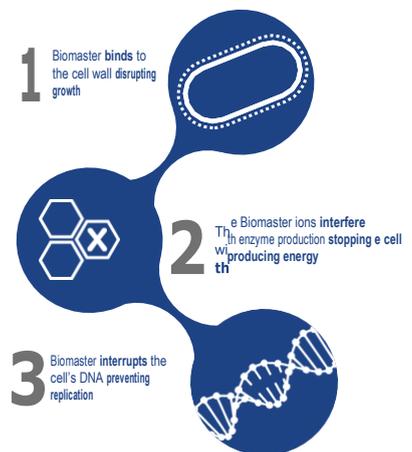
These products incorporate silver-based technologies which, when challenged by the presence of bacteria on a surface, release silver ions which inhibit the cell's ability to reproduce.

The silver ions enter the cell through its outer layer, block the enzymes thus preventing cell from generating energy, and disrupt its DNA thereby removing the cell's ability to split and create a duplicate of itself.

A clinical swab of surfaces within the silver treated clinical area revealed a reduction of 92.6% in bacterial load.

The evidence demonstrates the effect of silver ions in the reduction of bacterial load in clinical settings.

A clean environment benefits both patients and staff in areas where good hygiene levels are crucial for clean, safe care.



Biomaster
Antibacterial Technology

Biomaster technology guarantees fast, effective and long lasting antibacterial protection



Bacteria, both good and bad, are a fact of life and they are all around us.

Most bacteria are rendered harmless by the protective effects of our immune systems and some are beneficial. But several species of pathogenic bacteria, such as Campylobacter, MRSA, E.coli, Legionella, Listeria and Salmonella can cause serious infectious diseases.

Independently tested in thousands of applications, Biomaster is proven to inhibit the growth of these harmful bacteria and many others.

Easily incorporated into any plastic, textile, paper, paint or coating, Biomaster becomes an integral part of the manufacturing process to provide effective and lasting antibacterial protection for the lifetime of the product.

Antibacterial protected products are used in many environments such as hospitals, care homes, schools, gyms and offices – in fact anywhere where large numbers of people gather closely is a potential application for antibacterial technology. Biomaster is also used extensively

in meat processing, consumer packaging and in the food service industry to reduce the risk of food poisoning,

Our range of unique formulations can be blended to suit just about any application.

If you have an application that could benefit from antibacterial protection, Biomaster are the industry leaders in providing the technical and marketing support you need to ensure the launch of your product is successful.



Silver is a natural antimicrobial

Biomaster pioneered the modern day use of silver-ion technology and is recognised as the world's leader in this field.

The benefits of silver as a natural antibacterial, however, have been known since the time of the Pharaohs. Silver has been used for thousands of years to prevent the growth of bacteria without the high toxicity associated with other metals.

In ancient Greece, Hippocrates, often called the Father of Medicine, wrote that silver had both healing and anti-disease properties. In the Middle Ages, the wealthy would feed their children using a silver spoon to give them protection against disease. It's believed that this gave rise to the phrase 'born with a silver spoon in your mouth'.

It was also thought that the use of silver cutlery would provide protection against the plague.

American pioneers travelling west kept their water and milk fresher for longer by putting a silver coin in the storage barrels, and early settlers in Australia placed silver forks or spoons into their water tanks in order to keep the water clean.

Up until the introduction of antibiotics in 1938, colloidal silver was used by physicians as a mainstream antibiotic treatment. More recently, NASA used it to purify water on the space shuttle.

How does it work?

When bacteria come into contact with a Biomaster protected surface, the silver ions prevent them from growing, producing energy or replicating, therefore they die

Biomaster Protection is incredibly durable, long lasting and highly active. When added, it is dispersed throughout the entire item and becomes an integral part of the product.

Silver is inorganic and non-leaching which means that, unlike organic antimicrobial technologies, it stays within the item to which it is added and doesn't leach out. The active ingredient provides maximum antibacterial protection for the lifetime of the product.



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Round the clock antibacterial protection at work, at leisure and in industry

Protection in healthcare

Healthcare associated infections such as MRSA acquired during hospital stays are the most common complications of hospital care and one of the most serious patient safety concerns.

Biomaster is used extensively in hospitals, dental surgeries, care homes and GP practices around the world in products ranging from beds to cubicle curtains, nurse call systems to wall and ceiling paints, flooring and door handles to showers, pull cords and even case note folders.

Protection for food and catering

Throughout the food chain, good hygiene practices are essential to prevent the spread of E.coli, Campylobacter, Listeria and Salmonella. Biomaster reduces food contamination from bacteria - and the risk of food poisoning - throughout its preparation, processing, packing and distribution. For example, it will inhibit bacterial growth on the outer packaging of fresh meat products through every stage between farm and fork.

Restaurants also use Biomaster antimicrobial technology in kitchen surfaces, appliances, flooring and wall paint and even in the coating on their menus.

Protection in the office

Wherever large numbers of people gather together, the chances of exposure to germs and the risk of cross-infection increase. Some office germ hot-spots carry more harmful bacteria than the average toilet seat.

Biomaster is easily added to any frequently handled item in the workplace, giving complete and ongoing protection against harmful bacteria.

Protection in education

Even if a nursery or a classroom starts out clean, germs can build up throughout the day. Harmful bacteria collect on frequently touched surfaces, especially in areas where there is a lot of hand-to-mouth contact, such as the school dinner table.

Tested and compliant

We know Biomaster is highly effective at reducing bacteria levels but it is essential you are just as confident that your finished product is effective.

That's why our antimicrobial testing to the latest ISO standards is completely independent and conducted only at leading microbiology laboratories.

The Biomaster regulatory service will ensure your product complies with all the relevant legislation for biocidal products including:

- Biocidal Products Regulation (BPR)
- Environmental Protection Agency (EPA)
- Food and Drug Administration (FDA)

We also work closely with our customers to ensure they comply with the required regulations regarding the manufacture, importing and marketing of products incorporating Biomaster.

Trusted globally by blue chip companies

Biomaster antimicrobial additives are exported globally and our growth has been recognised by the Queens Award for Enterprise in International Trade.

We are the only antimicrobial additive supplier to be honoured in this way.



Biomaster is the acknowledged leader in antibacterial technology and the trusted partner of global brands.

Our worldwide network of distributors are chosen specifically for their knowledge of antimicrobial additives and local regulations.



Jemiclad

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