

**JAMES
CROPPER**

EST. 1845



**TECHNICAL SERVICES DOCUMENT
USA VERSION**

PaperGard™

**ANTI-MICROBIAL
PRODUCT PROTECTION**

TARGET SECTORS

Packaging, Stationery, Publishing,
Healthcare Documents



MANUFACTURED IN GREAT BRITAIN





**ANTI-MICROBIAL
PRODUCT PROTECTION**

James Cropper is expert at applying silver ion technology to paper, with anti-microbial papers having been a part of the product portfolio since 2006. PaperGard™ offers permanent product protection for the lifetime of the paper, incorporating Biomaster® anti-microbial technology from the UK's leading additive specialist, Addmaster.

The silver ion treatment in PaperGard™ is incorporated into the paper during manufacture; it cannot be removed with any amount of wear and tear. It becomes an integral part of the material.

The technology prevents the growth of unwanted microbes that can cause product degradation, discoloration, staining or odor. This is achieved with silver ions, preventing microbes from multiplying.

The silver ions in Biomaster interact with a wide range of molecular processes within microorganisms resulting in a range of effects from inhibition of growth, loss of energy production, and prevention of DNA replication and new cell formation, thereby accounting for the high efficacy of Biomaster as an anti-microbial agent.

How PaperGard™ works:

1. Silver ions bind to the cell wall of the micro-organism; preventing growth
2. The silver ions interrupt enzyme production; stopping the microbe from producing energy
3. Silver ions interrupt the cell's DNA; preventing DNA replication and new cell formation

PaperGard™ technology can be applied across the portfolio of paper products manufactured by James Cropper, including papers and boards for premium packaging or greetings cards. The Biomaster silver ion technology, when applied to paper, provides anti-microbial product protection against unwanted microbes.

APPLICATION SUITABILITY

PaperGard™ by James Cropper is designed for use in applications where product surface protection is a priority, including but not exclusively:

- Shopping bags
- Folding boxes
- Greetings cards
- Envelopes
- Medical stationery
- Folders and leaflets
- Menu Cards

PRINT SUITABILITY

Suitable for all major print and converting processes relating to the product application.

What is PaperGard™?

PaperGard™ provides surface protection for paper through the inclusion of Biomaster anti-microbial silver ion technology. Both paper faces are protected with the inbuilt silver ion treatment.

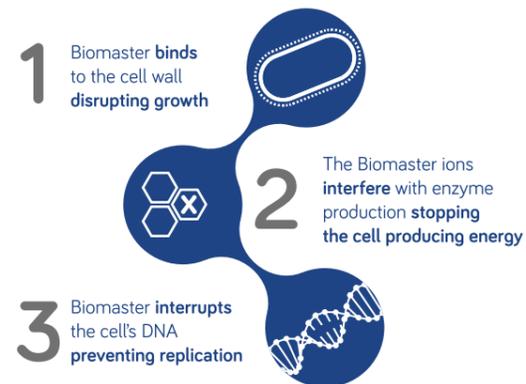
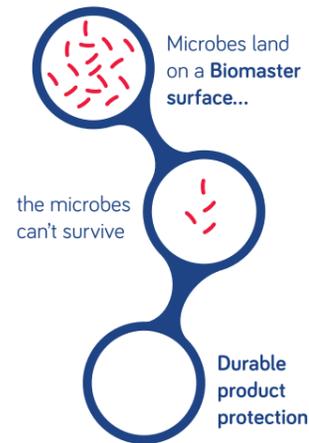
What is the science behind PaperGard™?

PaperGard™ offers permanent anti-microbial protection for paper. Unlike antibiotics, micro-organisms are unable to build up a resistance to the way in which silver ions disrupt their growth.

The Biomaster technology is effective in all applications, is easily added in the paper manufacturing process and is effective for the lifetime of the paper.

Biomaster is based on silver ion technology and has three modes of action. When microbes come into contact with a Biomaster protected surface, the silver ions prevent them from growing, producing energy or replicating, therefore they die.

Silver ion technology is incredibly durable, long lasting and highly active.



How effective is silver ion technology on paper?

Independent laboratory testing showed a 99.9% reduction in microbes over 24 hours.

The controlled release of the active ingredient provides maximum anti-microbial protection for the lifetime of the product.

Our anti-microbial testing is to the latest ISO standards and is completely independent and conducted only at leading microbiology laboratories.

Advantages

Silver is an element found naturally in the environment. Silver is inorganic and non-leaching which means that unlike organic anti-microbial technologies, it stays within the item to which it is added.

- Non-toxic
- Phthalates free
- REACH compliant
- EN-71 compliant
- Non-leaching
- Anti-microbial product protection against unwanted microorganisms that could damage the paper

The Biomaster treatment complies with the requirements of the United States Environmental Protection Agency.

How long is the treatment effective for?

The silver ion treatment in PaperGard™ is effective for the life of the product, it is incorporated into the paper during manufacture and it cannot be removed with any amount of wear and tear. It becomes an integral part of the material.

Why did we choose Biomaster technology?

We choose to use Biomaster technology for PaperGard™ because it offers fast, effective, long-lasting and highly active anti-microbial product protection.

What's the difference between anti-microbial and anti-bacterial?

An anti-microbial inhibits the growth of micro-organisms that can cause product degradation.

An anti-bacterial specifically prevents the growth of bacteria.

Does the treatment affect a product in any way?

No. Biomaster only imparts anti-microbial properties and does not affect the basic color or surface finish of any product in which it is used.

You can't see, smell or even taste it!

What happens if I over-print the product?

Print with minimal surface coverage is absolutely fine. For complete over-printing or overall coating with a varnish we recommend the addition of the treatment into the print or varnish itself.

Together with Biomaster we can provide recommendations and solutions for specific conversion processes. We can also produce varnished papers on-site with the PaperGard™ silver treatment.

How do I know my product has protection?

You can rest assured that when you stipulate PaperGard™ treatment on your product, there is a chain of custody in production to verify the legitimacy of our material.

If required, certification can be organised via an independent laboratory.



**The anti-microbial technology in PaperGard™ is not a substitute for good hygiene and/or cleaning practices.
The anti-microbial technology does not protect the user or others against disease causing organisms.**

ENVIRONMENTAL CREDENTIALS



Controlled
Wood Sources



Fully Recyclable



CONEG
Compliant



Anti-microbial



94/62/CE &
EN71-3 Compliant



REACH
Compliant
(EC No 1272/2008)



Elemental
Chlorine Free



CHP Recycling
Energy

MILL CERTIFICATIONS

ISO 14001 cert. no. EMS 57536

ISO 9001-2000 cert. no. FM 10048

ISO 50001:2011 cert. no. ENMS 623280

OHSAS 18001 cert. no. OHS 93474

FSC® STD-40-004 cert. no. TT-COC002177

PEFC/ 16-44-002 cert. no. BMT-PEFC-0252

Manufactured in Great Britain
Printed on: White Porcelain 300gsm
with PaperGard™ technology

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