

INNOVATION
SERVING HYGIENE



GLASS UNLIMITED

— ANTIBACTERIAL GLASS™

AntiBacterial Glass
ab
by AGC Flat Glass



Lacobel AntiBacterial glass™ makes an ideal wall covering in places prone to bacterial development, such as bathrooms.

ANTIBACTERIAL GLASS™

INNOVATION SERVING HYGIENE

AntiBacterial glass™ by AGC Flat Glass Europe is a major innovation in the world of glass design. The antimicrobial action of the silver ions inside the glass eliminates 99.9% of all bacteria that form on its surface whilst also preventing the spread of fungi. This remarkable property makes it perfect for places where strict hygiene is a must.

DID YOU KNOW?

- Five seconds' contact is enough to pick up 99% of bacteria from a contaminated surface¹ ;



- Although most micro-organisms are harmless to humans, some bacteria can have serious consequences by causing infection or disease.

¹ Congress dedicated to Hygienic Coatings & Surfaces (Orlando, USA, 26-28 January 2004).



Innovation benefiting health: AntiBacterial glass™ testifies to AGC Flat Glass Europe's dynamic R&D approach.

ANTIBACTERIAL GLASS™

OPERATION AND PERFORMANCE

The process developed and patented by AGC Flat Glass Europe involves diffusing silver ions into the upper layers of the glass: the ions interact with bacteria and destroy them by disabling their metabolism and disrupting their division mechanism. The antibacterial effect of the glass is ongoing, particularly in warm and moist conditions favouring the development of bacteria and mould.

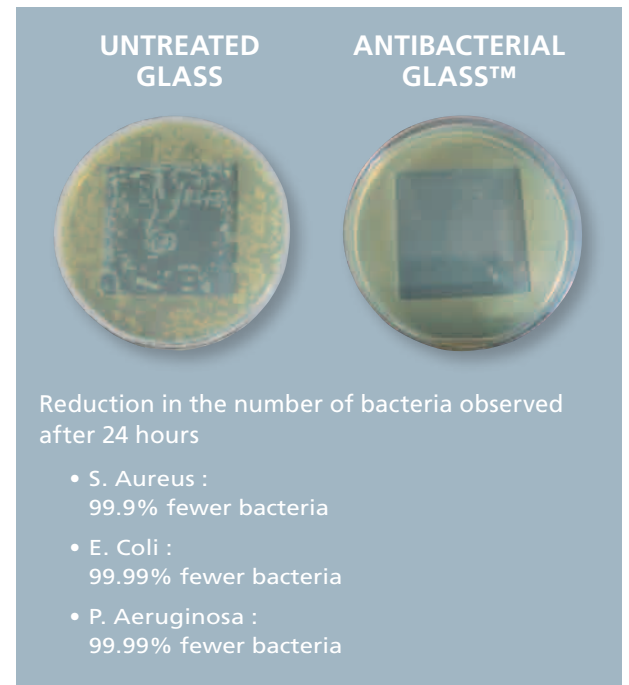
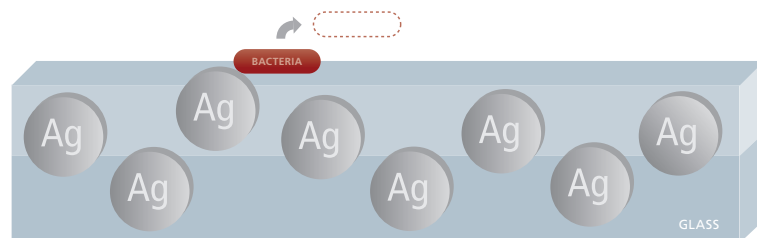
PERFORMANCE TESTS

To evaluate the performance of AntiBacterial glass™, tests have been conducted on a representative range of bacteria and fungi:

1. Bacteria
 - Staphylococcus Aureus
 - Escherichia Coli
 - Pseudomonas Aeruginosa
2. Fungi
 - Aspergillus Niger
 - Candida Albicans

The results showed a drastic reduction in the initial bacterial concentrations as well as a cessation of fungal growth.

Though present in low concentrations, the silver ions give the glass its bactericidal and fungicidal effects.





NOSOCOMIAL INFECTIONS

(infections acquired while in hospital)

- Between 5 and 10% of patients in modern hospitals in developed countries contract one or more nosocomial infections (“Clean Care is Safer Care” – Global Patient Safety Challenge 2005-2006 – WHO);
- The bacteria tested on AB glass are found mainly in hospitals and are particularly responsible for nosocomial infections;
- Some of the bacteria responsible for nosocomial infections are MRSA (Methicillin-Resistant Staphylococcus Aureus), i.e. germs that are multi-resistant to antibiotics. The main weapon in the fight against MRSA is basic hygiene (hand washing, environmental cleaning), but architectural prevention is also important. This involves cataloguing and using materials with a bactericidal effect when renovating and constructing hospital buildings for the most vulnerable patients (isolation rooms, haematology/geriatric departments, etc.).

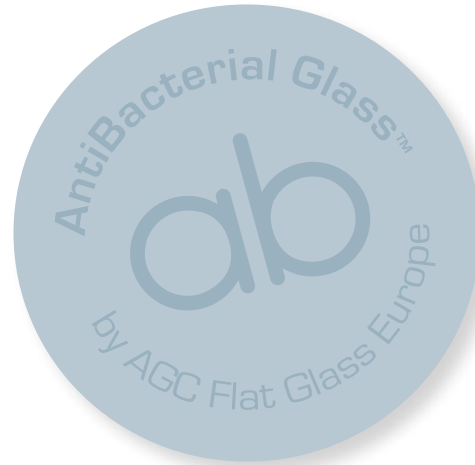
AntiBacterial glass™ has been proven effective in independent laboratory tests.

THE RANGE

AGC Flat Glass Europe's AntiBacterial glass™ range comprises **three products**:

- PLANIBEL AB : clear glass
- LACOBEL AB : painted glasses (25 standard colours)
- MIROX AB : mirrors

AntiBacterial glass™ is stamped with a special mark (see logo opposite) certifying it as AB.



PLANIBEL AB Tinted, laminated PLANIBEL AB used on waiting room benches



MIROX AB mirrors

APPLICATIONS

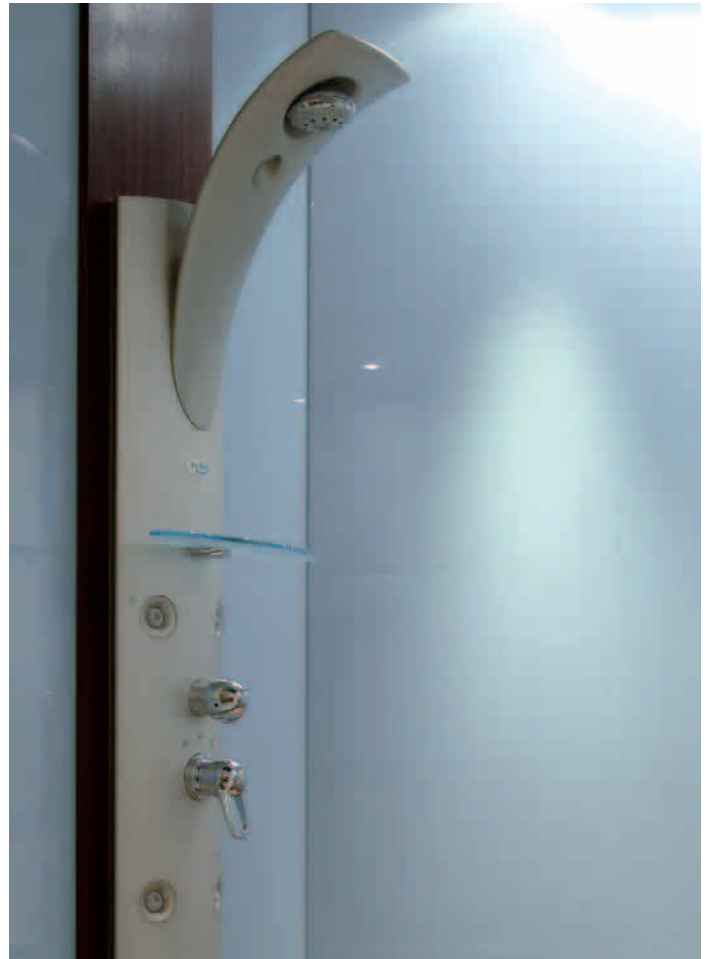
AGC Flat Glass Europe's AntiBacterial glass™ can be used in a wide range of interior design applications.

Lacobel or Mirox AB is ideal for wall covering in places that are:

- **subject to specific hygiene requirements:**
 - hospitals, haematology, oncology and geriatric units, isolation rooms, burns units, sterilisation rooms, etc.
 - clinics, infirmaries, maternity units
 - pharmacies and laboratories
 - rest homes
- **damp and thus prone to bacterial and fungal development:**
 - showers and bathrooms
 - health spas
 - sports halls
 - swimming pools, etc.
- **others:**
 - canteens, toilets, etc.
 - waiting rooms, etc.

Planibel AB can be fitted as partitioning or double glazing.

Wall covering, partitions, double glazing and more: AGC Flat Glass Europe's range of glass with a bactericidal effect is a comprehensive interior design solution.



Lacobel AB used as wall covering in a shower.

BENEFITS



VARIED, CONTEMPORARY LOOKS

AntiBacterial glass™ offers a range of looks depending on the product:

- LACOBEL AB
opaque, reflective glass – 25 standard colours available;
- PLANIBEL AB
this clear glass is perfect for partitioning off spaces while maintaining a transparent aspect;
- MIROX AB
used in wall applications, mirrors create a feeling of extra space.

SAFETY

Each type of AB glass has its own safety version¹:

- Decorative LACOBEL AB glasses and MIROX AB mirrors can be covered in a SAFE film: if the glass breaks, the fragments stick to the film;
- Clear PLANIBEL AB glasses can be used in a laminated assembly.

EASY TO MAINTAIN

AntiBacterial glass™ is easy to clean and is resistant to cleaning products, including those used in hospitals. Tests have shown that even abrasive maintenance products do not impede the glass's antimicrobial effect.

EASY TO FIT

Fitting AntiBacterial glass™ is easy. Installation techniques differ depending on the product chosen. Please refer to the installation guides for products available in AB (Lacobel, Planibel, Mirox) on our website: www.YourGlass.com.

For more information, go to www.YourGlass.com or contact your nearest sales outlet.



¹ AB glass cannot be toughened as this might diminish its antimicrobial effect.



PHARMACY Drawers using painted Lacobel AB glass.

DISCLAIMER

The company AGC took into consideration the requirements laid out in the European Directive 98/8/CE of February 16, 1998 (hereinafter the "Directive"), which will replace, on the date of its entry into force (expected for 2009/2010), the national regimes of the European Union Member States, and will impose the requirement of obtaining prior authorization for placing any active substances approved for inclusion in the biocidal products on the market in the European Union.

At the present time, in conformity with the Directive, the active substance found in the glass AB [Silver - CAS 7440-22-4] is still subject to examination prior to its approval at the European Community level.

Considering the maximum duration of this examination of ten years starting from May 14, 2000, AGC presently cannot predict the Commission's decision relating to the final approval of this substance.

In the interim, AGC will attempt, to the extent possible, to take into account specific national rules, which are likely to continue to be applied in the Member States and which will maintain certain specific temporary regimes likely to be different from the regime eventually provided for by the Directive.

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