ANTIBACTERIAL COATING

# Randi-Line®, Classic-Line® and Novo-Line® products - now available with antibacterial coating

EN Bacterial infections are a serious and rapidly growing problem. Due to the widespread use of antibiotics we are exposed to an increasing number of resistant bacteria that are difficult or even impossible to treat.

In many parts of the health sector infections and bacteria spread are serious problems especially in hospitals, nurseries, kindergartens and nursing homes, where children, the elderly and weakened persons are particularly vulnerable.

A major cause of infection is bacteria and viruses transmitted by contact with infected objects. It may be objects touched by many people such as door handles, electrical switches etc.

## Antibacterial X-BAC® Coating

X-BAC® is a varnish coating that effectively eliminates a wide range of bacteria, viruses and fungi. The antimicrobial effect of the coating is based on a patented additive system. The varnish contains no harmful substances, silver or nanoparticles.

The coating is available in transparent version or colour and gloss as agreed. Properties of the surface with respect to abrasion, scratch resistance, chemical resistance and UV-resistance surpasses the properties of the typical engineering plastics types.

**The coating is tested against the following bacteria:**

- **E Coli**
  representative of Gram-negative bacteria), complies with JIS Z 2801 )1
- **Pseudomonas Aeruginosa**, complies with JIS Z 2801)1
- **Staphylococcus Aureus**
  ATCC 6538 (representative of Gram-positive bacteria) complies with JIS Z 2801)1

**The antimicrobial additive is further more tested against the following microorganisms:**

- Enterococcus Faecalis
- Staphylococcus Aureus
- Bacillus Subtilis
- Streptococcus Pyogenes
- Klepsiella Pneumonine
- Pseudomona Aeruginosa
- Echerichia Coli
- Salmonella Cholerasius
- Salmonella Enteritidis
- Legionella
- Candida Albicans
- Aspergillus Niger
- Penicillum Funiculosum DSM
- Paecilomyces Variotii DSM 1963
- Giocladium Virens DSM 1963
- Chaetomium Globosum DSM 1962
- Various algea

**Bio-compatibility**
The antimicrobial effect of the coating is based on metal ions. Due to the applied substanses and the functional principle the X-BAC® is not subject to the EU biocide directive.
The additives have no harmful or hazardous effect on human cells. Resistance formation is also excluded.

**Long-term Effect**
The calculated durability of the antimicrobial effect of GJP Antibac 1001 far exceeds normal industrial products lifetime. )2 . The real life is only limited by the durability of the coating and the underlying material )3.

**The additives are not listed in any negative lists and they are listed in the inventory lists or positive lists for chemical substances of the following countries:**

Canada DSL / NDSL
USA (TSCA)
Europe (EINECS / ELINCS)
China (NEPA)
Japan (ENCS)
Korea (ECL)
Philipines (PICCS)
Australia (AICS)

**)1** The JIS Z 2801 standard requires a reduction of > log2 bacteria after 24 hours, this requirement is met by GJC Antibac 1001 in less than 3 hours.
A non-standardized and more practice-related test at 'Rigshospitalet, Copenhagen' with Cerratia marcescens bacteria showed a very high bacterial reduction in less than 45 minutes. The bacteria was transferred as by fingerprints and the sample was kept at room temperature.

**)2** The JIS Z 2801 standard does not include testing or documentation of the antimicrobial durability or life, and it therefore provides no information on the effect's duration, or lifetime. A series of tests and studies have shown that typical nano silver-based products have an extremely limited durability with lifetimes down to a few weeks.

**)3** The mechanical properties of the GJC Antiba 1001 coating such as wear resistance, scratch resistance, chemical and UV resistance exceeds the properties of many typical engineering plastic materials.