

## Log4+® - Antimicrobial Ceramic Coating

Log4+® is a novel, patented, pure visible light activated (VLA) photocatalytic antimicrobial coating for ceramic that has been designed to be coated during the firing process as a liquid.

Visible light and oxygen in contact with Log4+® triggers a chemical reaction resulting in the decomposition of organic and inorganic substances offering bacteria kill rates up to 99.99% (Log 4). Log4+® is effective in indoor lighting conditions; not requiring UV. As Log4+® is sintered into the ceramic surface at high temperature, it is permanent, long-lasting, scratch resistant and invisible.

### Uses include:



#### Washroom equipment

Urinal, bath, sink, shower trays.



#### Wall and floor tiles

Swimming pool, bathroom, public buildings, hotel, airport, kitchen, cleanrooms.



#### Crockery & Packaging

Cookware, food storage, packaging



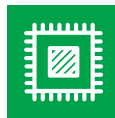
#### Counter tops

Food preparation and cleanroom surfaces.



#### Oil and Gas

Production, storage and transport.



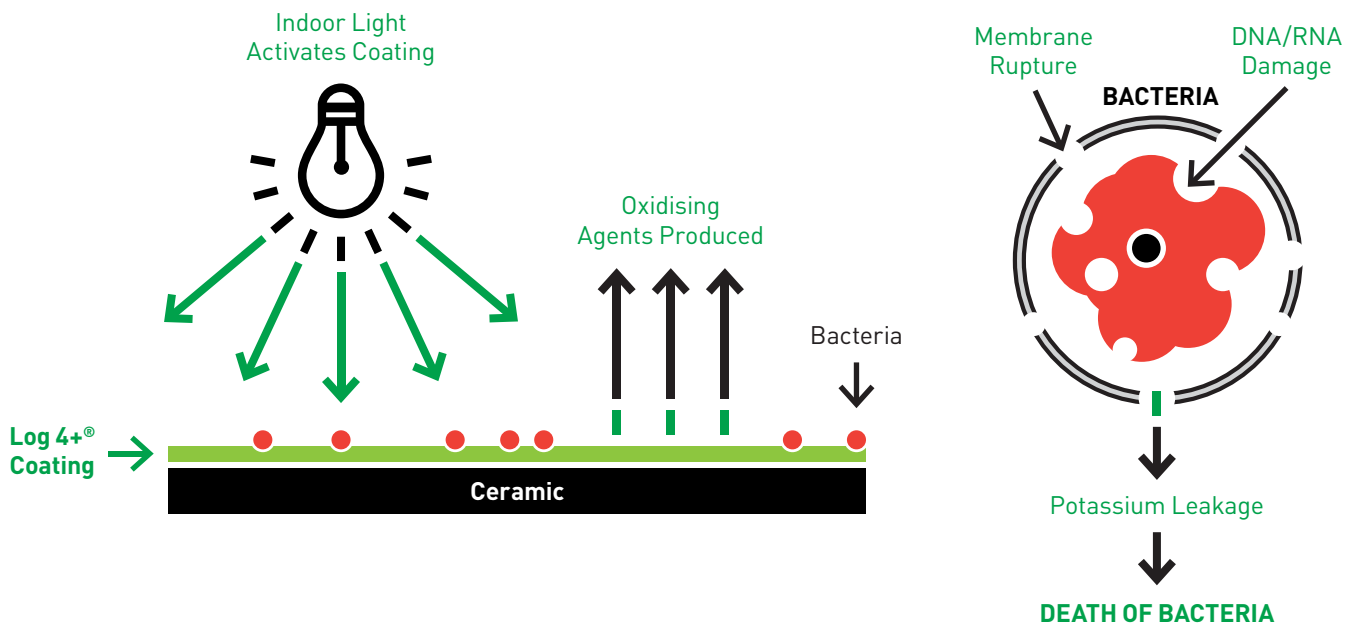
#### Electronics

Semiconductors, spark plugs, super conductors, transistors & antennae

### KASTUS CERAMICS

- Is coated on ceramic during the firing process with no additional production steps required
- Is effective against gram positive and negative bacteria, fungi and mould creating enhanced product benefits for commercial partners
- Is supplied in a liquid form with no toxic additives, VOC or harmful bi-products
- Can be tailored for different applications depending on customer requirements
- Offers unique selling points giving the customer revenue generation potential
- Treated ceramic tiles will eliminate the risk of contracting athletes foot infection in swimming pools
- Anti-odour and air cleaning properties
- Will not adversely affect the functionality of the core ceramic product
- Reduce cleaning requirements in public buildings, swimming pools and airports

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### TECHNICAL ADVANTAGES

- Antimicrobial test ISO 27447:2009 (8mm white ceramic floor tile) returned a kill rate under the light of 99.99% and 99% in darkness against Staphylococcus Aureus
- Scrub-rig testing ISO 11998:1998 indicates excellent durability of coatings, no samples showed scratches after 500 cycles
- Coating thickness 30 - 40 nm
- The coating cannot be visually detected on the ceramic surface
- Humidity test ASTM D2247 passed effective
- Determination of resistance chemicals ISO 10545 -13:1997
- Determination of resistance to stains ISO 10545 -14:1997
- Tests for in vitro cytotoxicity showed no relevant cytotoxic effect when tested to standard ISO 10993