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# CERTIFICATE

## Confirmation of the antimicrobial effectiveness of microPLUS

The evaluation of antimicrobial effectiveness of the antimicrobial equipped material microPLUS was performed according to JIS Z 2801, 2010-12 / ISO 22196, 2011-08 with modifications after a contact times of 7h.

The material was challenged with the following test micro-organisms:

- Pseudomonas aeruginosa ATCC 15442
- Escherichia coli ATCC 8739
- Salmonella enterica ssp. enterica NCTC 6017

The initial load was  $1 - 5 \times 10^5$  cfu / sample.

After a 7 h contact time, a significant microbial reduction could be determined for the test micro-organisms.

While Escherichia coli and Salmonella enterica ssp. enterica are indicator germs for faecal contamination, Pseudomonas aeruginosa is a representing germ for water quality.

The following microbial reductions were evaluated after 7 h contact time:

- Pseudomonas aeruginosa ATCC 15442: > 4.18 log<sub>10</sub>-levels (> 99.99 %)
- Escherichia coli ATCC 8739 : 2.42 log<sub>10</sub>- levels (99.6 %)
- Salmonella enterica ssp. enterica NCTC 6017 : > 4.69 log<sub>10</sub>- levels (> 99.99 %)

If necessary the complete test report with the laboratory number 240820M124 can be requested at Pfeleiderer Deutschland GmbH.

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