



Certificate

regarding the antimicrobial effectiveness of SecuSan® door and window handles
from HOPPE Holding AG

The effectiveness testing took place on the basis of the standards JIS Z 2801:2000 and ISO 22196:2011 with the strains recommended by the German Society for Hygiene and Microbiology (Deutsche Gesellschaft für Hygiene und Mikrobiologie, DGHM).

<i>Staphylococcus aureus</i>	ATCC 6538
<i>Enterococcus faecium</i>	ATCC 6057
<i>Enterococcus hirae</i>	DSM 3320
<i>Escherichia coli</i>	ATCC 11229
<i>Proteus mirabilis</i>	ATCC 14153
<i>Pseudomonas aeruginosa</i>	ATCC 15442
<i>Aspergillus niger</i>	ATCC 16404

This is to certify that on SecuSan® door and window handles, a significant and strong decrease in the deployed pathogens as representatives of typical infectious agents is achieved in accordance with the following log₁₀ stages:

	Reduction log ₁₀	Reduction %
Gram-positive cocci		
<i>Staphylococcus aureus</i>	3,8	99,9
<i>Enterococcus faecium</i>	1,8	99,0
<i>Enterococcus hirae</i>	1,4	99,0
Gram-negative enterobacteria		
<i>Escherichia coli</i>	3,9	99,9
<i>Proteus mirabilis</i>	3,8	99,9
Gram-negative non-fermenter		
<i>Pseudomonas aeruginosa</i>	1,9	99,0
Fungi		
<i>Aspergillus niger</i>	1,8	98,7

This certificate expires 5 years after the date of issue.

Marburg, 12 September 2018

Prof. Dr. R. Mutters