

SteriTouch® Technical Guidance - Antimicrobial Additives for PC/ABS

INTRODUCTION

PC/ABS is generally a straightforward material from an antimicrobial perspective and one of the most common materials for which we provide additives. We will work with you to ensure optimum performance in the grade you use.

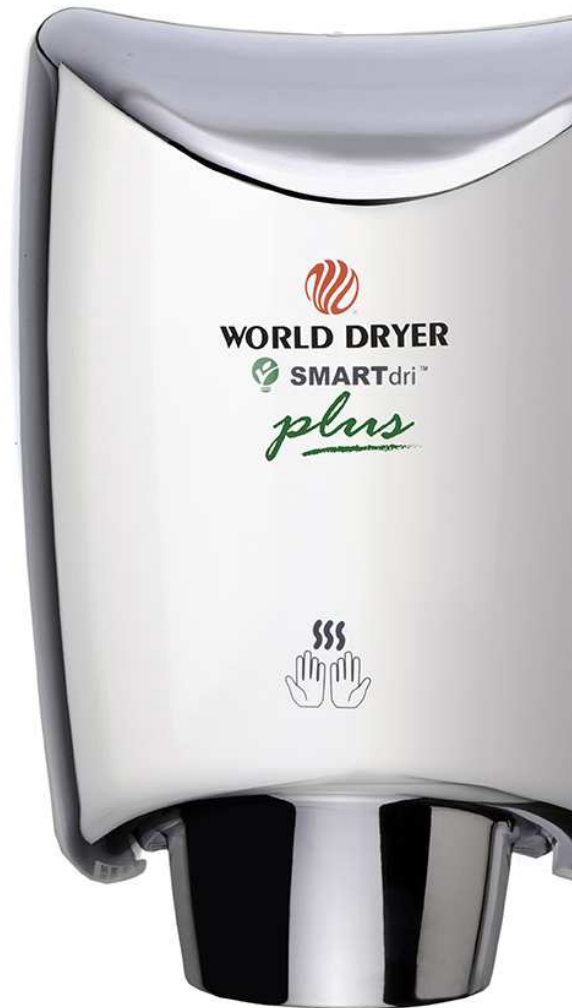
TYPICAL APPLICATIONS

PC/ABS is used in a very broad range of applications and there are many that will potentially benefit from the use of antimicrobial additives, to reduce the growth of bacteria and mould.

<i>Examples</i>	Remote control handsets Electronic equipment enclosures Computer keyboards & mice Hand dryer internal mouldings Medical equipment Macerator cases
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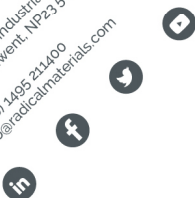
IN-HOUSE CAPABILITIES & EQUIPMENT

<i>Processing</i>	30mm twin-screw extruder 36mm twin-screw extruder Boy 15T injection moulder Arburg Allrounder 270S injection moulder
<i>Testing</i>	Q-Lab QUV weathering station Atlas SunTest CPS+ Xenon 10kN Tinius Olsen tensile tester Mecmesin 250N tensile tester Mecmesin 250N compression/flexure test Ray-Ran IZOD impact tester Ray-Ran CHARPY impact tester



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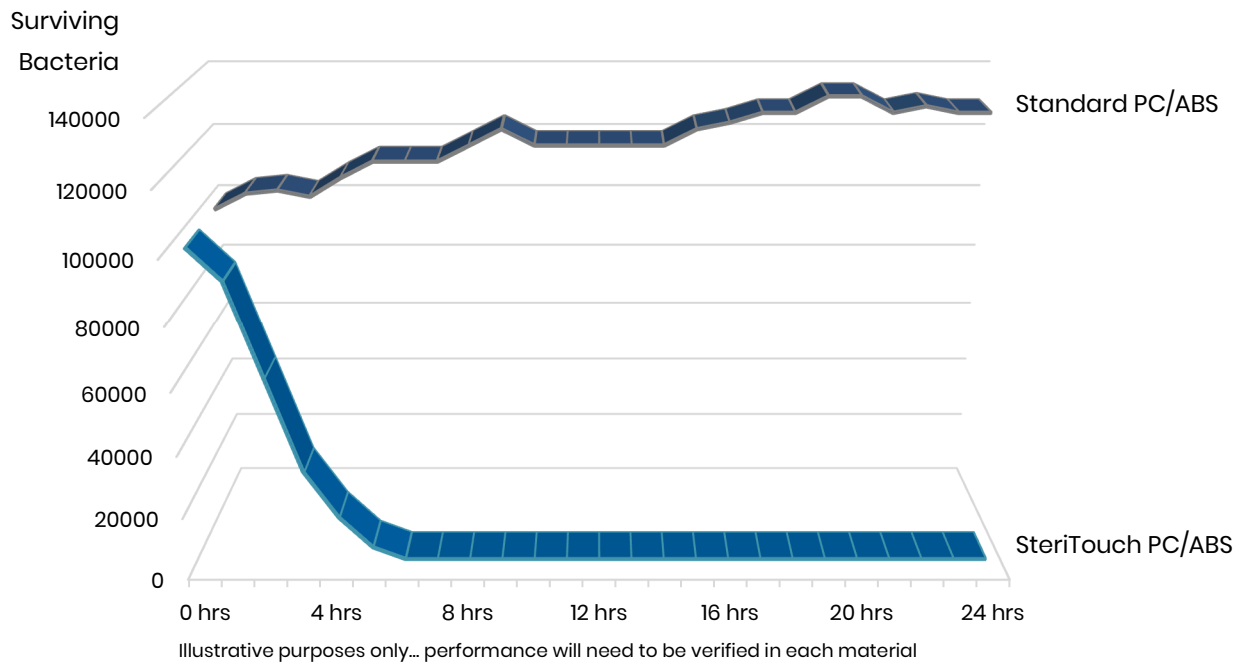
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ANTIMICROBIAL PERFORMANCE

As with most polymers, there are some potential issues (highlighted in the compatibility testing section below) but in most grades of PC/ABS it is relatively straightforward to achieve excellent levels of antimicrobial performance.

In most cases, our recommended level of masterbatch would be sufficient to provide minimum of log3 or 99.9% reduction when tested using the ISO 22196 or JIS Z 2801 method.

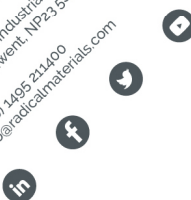


ORGANISM	TEST METHOD	RESULT
METHICILLIN RESISTANCE STAPH. AUREUS	JIS Z 2801	>99.99% REDUCTION
ESCHERICHIA COLI	JIS Z 2801	>99.99% REDUCTION
PSEUDOMONAS AERUGINOSA	JIS Z 2801	>99.99% REDUCTION
SALMONELLA ENTERITIDIS	JIS Z 2801	>99.99% REDUCTION
KLEBSIELLA PNEUMONIAE	JIS Z 2801	>99.99% REDUCTION
CAMPYLOBACTER JEJUNI	JIS Z 2801	>99.99% REDUCTION
LISTERIA MONOCYTOGENES	JIS Z 2801	>99.99% REDUCTION
CANDIDA ALBICANS	JIS Z 2801	>99.99% REDUCTION
PENICILLIUM FUNICULOSUM	JIS Z 2801	>99.99% REDUCTION



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COMPATIBILITY TESTING

Most grades of PC/ABS do not cause any antimicrobial performance issues, but the compositional variations between different grades, primarily the ratio between PC and ABS, necessitate antimicrobial testing in each grade that might be used in production.

As always, flame retardant ratings require consideration. Since most FR PC/ABS is non-halogenated, the likelihood of negative effects is not significant, but evaluating FR performance following the use of any additive is strongly recommended.

As with all materials, another consideration is the potential interaction of pigments with the antimicrobial additive. This is relatively uncommon, but some pigments (e.g. sulphur containing blue, or chlorinated green) can adversely affect the antimicrobial performance. For this reason, it is important to conduct antimicrobial testing on each colour variant.

It is generally also recommended to test for changes in chemical & physical properties such as tensile or impact strength, as well as the effects of external factors such as pH, moisture, temperature and UV light.

ADDITIVE RECOMMENDATIONS

ADDITIVE TYPE	PRODUCT CODE	ADDITION RATE	NOTES
Masterbatch	STI0244	3% by weight	n/a

ADDITIONAL INFORMATION

Packaging	1kg, 5kg, 25kg
Shelf Life	12 months from date of supply
Storage:	Use original containers Recommended storage temperature 5°C - 30°C Protect against humidity, heat and direct sunlight



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Notes: These characteristics do not constitute a sales specification. The information contained in this document is intended to be of assistance to users but is without guarantee. Variations can occur in application and users are advised to conduct their own tests. Suggestions for use neither give nor imply any freedom from patent infringement.



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