



Based on BS ISO 21702:2019

Testing of the antiviral activity of Puraguard Touch antimicrobial coating

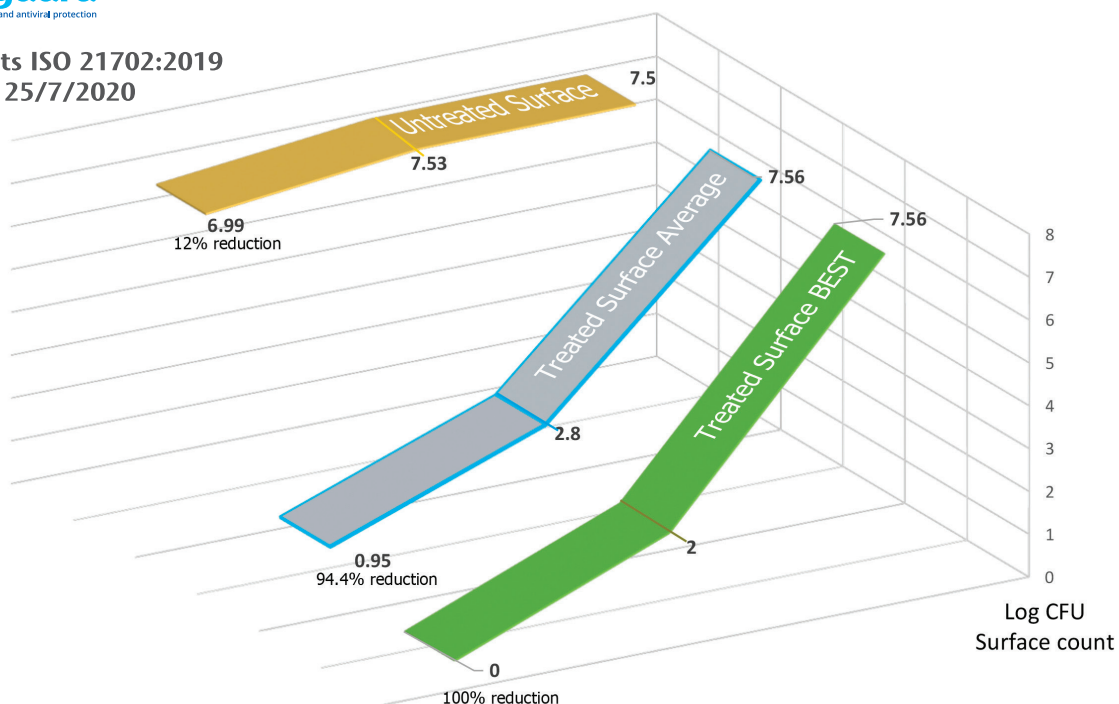
The method used in this trial is based on BS ISO 21702:2019 - measurement of antiviral activity on plastics and other non-porous surfaces and varies from the standard method with regard to the test microorganisms assessed and the contact time applied (ISO 21072 is based on a 24h contact time).

The virus used in the trial is Phi6 bacteriophage, an enveloped RNA virus which is used as a surrogate for coronavirus and influenza. Structurally the Phi6 (or $\Phi 6$) virus particle is remarkably similar to SARS-CoV-2 - they are both about 100nm, they have a lipid (fatty) envelope, and their genes are made of RNA. It does not infect plants or animals, including humans - and so is much safer to work with than SARS-CoV-2.

This trial is designed to assess efficacy of the product against the Phi 6 after 2- and 4- hours exposure to coated surfaces. No log reduction target is identified in BS ISO 21702, but a 4-log reduction is commonly targeted by surface disinfectant treatments (e.g. BS EN 16777:2019) and may be considered a suitable target reduction.



Test results ISO 21702:2019
Test date 25/7/2020



Summary:

Results showed that under the test conditions, a 4.2-log mean reduction in infectious viral titre of Phi6 was achieved on Puraguard Touch antimicrobial (EPC) coated surfaces after 2 hours' contact time when compared with uncoated stainless-steel control surfaces.

After 4 hours' contact time, a mean log reduction of 5.32 logs in Phi6 was observed on coated surfaces.

Antiviral activity results for phi 6 bacteriophage:

Verification of test

- All controls and validations were within the basic limits of the test.
- The variability of the log PFU/cm² counts of the control surfaces was within limits (max count-min count/mean count ≤ 0.2).
- The log PFU/cm² counts recovered from untreated test surfaces after 2 and 4 hours' incubation were greater than the stated minimum level of 6.2×10^2 PFU/cm².

Surface material and dimensions:	Stainless steel, 5x5cm
Storage conditions of product:	Dark, ambient temperature
Test temperature (°C):	25
Contact time:	2 hours, 4 hours

Exposure time (hours)	Replicate	Log PFU/cm ² count		Reduction*
		Control	Test	
0	1	6.35	-	-
	2	6.30	-	-
	3	6.35	-	-
	mean	6.34	-	-
2	1	6.03	2.46	4.20
	2	5.62	0.80	
	3	5.79	1.57	
	mean	5.81	1.61	
4	1	5.79	-0.20	5.32
	2	5.55	0.18	
	3	4.88	0.27	
	mean	5.40	0.08	

*Reduction is calculated as the difference between the mean log PFU/cm² counts from the control and surfaces at each contact time.

Conclusion:

All controls and acceptance criteria were verified. The product, Touch Antimicrobial (EPC), showed antiviral activity towards enveloped viruses (e.g. coronavirus, influenza) when tested with a method based on BS ISO 21702:2019 using phi6 bacteriophage as a surrogate virus under the selected test conditions (25°C, 2 hours and 4 hours contact time).

The following mean log reductions were observed after each contact time:

2 hours: 4.20 logs 4 hours: 5.32 logs

Work performed by Campden BRI (Chipping Campden) Limited
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Ask us for more information, and to request Puraguard antibacterial and antiviral protection.

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