Test report

On behalf of Mursall Active Coating GmbH, investigations were carried out to reduce the biocontamination of surfaces coated with the ACTIVE COATING system.

Experimental set-up:

Three glass plates with different coatings were used for the investigation, on the one hand the Active Coating System for glass surfaces “pure air” and on the other hand the Active Coating System for wall materials “pure wall”. Uncoated glass was used as the third sample which was the reference sample.
The three different sample materials were specifically contaminated with a germ suspension with 107 germs/ml. The germ suspension involved bacteria that occur ubiquitously, meaning on the ground, on people or in the air.
The sterility of the plates before contamination was demonstrated. The time course of the germ reduction was determined with the help of classic microbiological methods. The total number of aerobic microorganisms on the sample surfaces was determined using contact plates from VWR.
An HOi lamp with light at a wavelength of 630 nm (70 watts, daylight with UV filter) was used as the light source. The decisive factor in the experimental setup was to use light as a radiation source without any UV component and with as little heat emission as possible in order to be able to prove the germ-reducing effect of the active coating systems without being influenced.

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Results:

1. Test series:

Microbiological control	"pure air"	"purewall"
	GC/25cm^2	GC/25cm^2
Sample immediately after germ application	>3.0*10^7	>3.0*10^7
Sample after 1h	nd	150
Sample after 2.5h	nd	nd
Sample after 4h	nd	nd
Sample after 6h	nd	nd
Sample after 10h	nd	nd
Sample after 13h	nd	nd

nd ... not detectable; **GC** Germ count

Interpretation:

The germ-reducing effect of the active coating systems "pure air" and "pure wall" can be confirmed.
However, the sampling intervals were chosen too large in order to be able to detect a time course of the germ reduction. No more bacteria were detectable on the "pure air" sample plate after 1 hour and on the "pure wall" plate after 2.5 hours.
The test was repeated with the "pure wall" sample plate against a reference sample (uncoated glass) with shorter intervals for sampling

2. Test series:

Microbiological control	"reference glass"	"purewall"
	GC/25cm^2	GC/25cm^2
Sample immediately after germ application	>3.0*10^7	>3.0*10^7
	n.a.	136
	n.a.	24
	n.a.	62
	n.a.	16

nd ... not detectable; **GC** Germ count **n/a ... not evaluable (GC so high that it cannot be counted)**

Interpretation:

The germ-reducing effect of the wall coating could be clearly demonstrated, because after only 15 minutes of exposure time a significant reduction in the
bacteria was detectable. On the other hand, no germ reduction could be detected on the reference plate even after 90 minutes.

Summary:

As part of the series of tests carried out by the Competence Centre Meat in cooperation with the private HTL for food technology, the properties of surfaces coated with the ACTIVE COATING system with regard to the reduction of bacterial contamination could be examined and confirmed.

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