



# REPORT

Customer:

**Battistella B.G. Srl**

Location:

ROSSANO VENETO (VI), VIA BESSICA, 219

Project:

EVALUATION OF SANITATION EFFICIENCY WITH OZONE -  
"GEA" BATTISTELLA G.B. APPARATUS

Date:

09 July 2018

## INTRODUCTION

On 19 June 2018, tests were carried out to evaluate the effectiveness of an ozone sanitization procedure performed with the "GEA" equipment produced by Battistella B.G. srl. The test was performed by measuring the reduction of microbial contamination obtained by exposing cotton fabric samples ( thickness 0.8 mm - dimension of 10 x 10 cm) previously contaminated with know microbial strains.

## PROCEDURE

The microorganisms used for the contamination were chosen on the basis of different characteristics.

- A typical human dermal bacteria with good resistance from disinfecting agents: ATCC 6538 *Staphylococcus aureus*
- A microbiological indicator of faecal contamination: ATCC 25922 *Escherichia coli*
- A spore-forming bacteria: ATCC 6633 *Bacillus subtilis*
- A fungus, possible human pathogen: ATCC 10231 *Candida albicans*.

The samples contamination was performed in triplicate immediately before the beginning of the tests; in addition a fourth sample not subjected to the treatment has been contaminated, representing the reference "blank". After the inoculation the samples have been hung inside the "GEA" cabinet and subjected to treatment with the following characteristics:

- Sanitizer: Ozone
- Exposure time: 40 min
- Operating method: continuous forced air circulation inside the cabinet

At the end of sanitizing treatment, the samples were removed and transported quickly on sterile conditions to the laboratory, where all the surviving microorganisms were recovered and determined. Given the possible overlap with any other microorganisms already present inside the “GEA” cabinet, it was decided to analyze the total microbial count.

## RESULTS

Sample description: Cotton fabric (0,8 mm thickness)

Sample description	<i>Staphylococcus aureus</i>	E. coli	<i>Bacillus subtilis</i>	<i>Candida albicans</i>	Total microbial count
Sample treated (average of 3)	< 20 CFU	< 20 CFU	< 80 CFU	1.000 CFU	2.000 CFU
Untreated sample	28.000.000 CFU	9.000.000.000 CFU	18.000.000 CFU	66.000.000 CFU	9.800.000.000 CFU
Abatement (Log)	6,1	8,6	5,3	4,8	6,7

## CONCLUSIONS

Regard to the type of fabric tested, the results shown in the table above indicate an overall effectiveness of high-grade sanitization (overall average of microbial abatement is above 6 log).

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