The effect of HOCL CCS Solutions on moisture and humidity on various fabrics

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Introduction:

HOCL is a unique substance that has properties that make it very suitable for use in disinfection of various objects. It is completely natural, environmentally friendly, safe to humans and a large variety of materials and a powerful disinfectant. It kills 99.999% of all pathogens including Covid 19.

The hotel and hospitality industry has been severely affected by the pandemic. Fogging of HOCL has been proven to be an excellent method of disinfecting hotels and hospitality venues with a Log kill of Log5 and Log 6.

There has not been a previous study to see the effect of HOCL on different fabrics

Hypothesis

HOCL CCS Solutions is an appropriate disinfectant that causes no damage to any fabric and can be safely used to disinfect all fabrics

Aim

To independently test the effect of HOCL CCS Solutions different fabrics

Materials and methods

1) Measure temperature and keep constant
2) Use a cool, dry area away from sunlight
3) Parameters to test –
    A. Performance of material
    B. Moisture levels post fogging
    C. Drying time after fogging
4) Materials to test
    A. 100% POLYESTER LOOSE MATERIAL (I.E. BATH MAT)
    B. 100% POLYESTER TIGHT MATERIAL
    C. 100% WOOL
    D. 80% WOOL 20% POLYAMMIDE(NYLON)
    E. 100% COTTON
    F. LEATHER
    G. 100% NYLON

5) Test areas per material

    A. FRONT AND REAR
    B. FRONT AND REAR
    C. FRONT AND REAR
    D. FRONT AND REAR

E. FRONT AND REAR
F. FRONT AND REAR

Process

1 Material to be touched, sat on and walked on prior to testing and 10 minutes after testing for subjective assessment of performance. Please score on a scale of 1-10. 1 being normal and 10 being abnormal
2 Using moisture monitor measure the moisture from all the selected areas for each material and record
3 Using a Fogsasfe Method, fog the material adequately to ensure total coverage. Record the time needed for each material.
4 Repeat a moisture test for all areas immediately after fogging, at 5 minutes and at 10 minutes. If moisture content at 10 minutes is higher than base line do a further test at 15 minutes
5 Video the whole process

Measurement tools

Moisture Measuring Tool: EXTECH DUAL MOISTURE METER (MO55)

Independence

These tests were conducted by Mr Robert Kendell, a professional musician himself and CEO of DONAU Express Services LTD, a specialist cleaning company.

Results: Moisture levels and humidity

100% Polyester loose	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Bath Mat	2.7	5.3	4.7	2.9

100% Polyester Tight	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Lining of a rucksack	2.8	12	5.3	2.6

100% Wool	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Cashmere Jumper	3	5.3	4.3	2.8

80% Wool 20% Polyammide	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Clothing	2.7	5.3	4.3	2.8

100% Cotton	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Stock material	3.3	6.8	5.7	3.1

Leather	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Craft Piece	5.4	10	5	5.5

100% Nylon	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Strapping	3.3	14.9	8	3.3

Unknown	Pre fogging	Immediate post fogging	5mins post fogging	10mins post fogging
Carpet with hard backing	5.9	8.8	5.5	5.4

Analysis

The results were analysed and are in the table below

Fabric	Post fogging increase in moisture	Time to return to normal
100% Polyester loose	96%	10 minutes
100% Polyester tight	57%	10 minutes
100% Wool	77%	10 minutes
80% Wool 20% Polyammide	96%	10 minutes
100% Cotton	106%	10 minutes
Leather	85%	5 minutes
100% Nylon	351%	10 minutes
Unknown – Carpet with hard backing	49%	5 minutes

So the analysis showed

1. There was an increase in moisture in all recordings
2. 100% Nylon had the highest increase in moisture and the average increase for all fabrics was 114%
3. The increase was significant but returned to normal within 10 minutes for all fabric types
4. From a visual appearance and feel there was no change in all fabrics

Conclusions

We already know that HOCL CCS Solutions is extremely effective in disinfection and is safe to humans. These tests have also confirmed that fogging various fabrics whilst increased the moisture levels significantly did not cause any detrimental effect and does not cause any sustained increase in moisture levels.

We recommend HOCL CCS Solutions to be used by fogging using Fogsafe Method to disinfectant all fabrics

Partnered with Fogsafe .