



centro ricerche-sviluppo
laboratorio prove settore legno-arredo

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TECHNICAL REPORT n°: 124545 / 3 del 18/02/11

Date received: 23-12-10
Date of test: 15-02-11
Date of issue: 18-02-11
Sample name: Laminam 3+ Avorio.

LAMINAM S.P.A.
VIA GHIAROLA NUOVA, 258
41042 FIORANO MODENESE (MO)
ITALIA

Technical Report

Object

Assessment of the hygiene properties of a surface by in-house developed test method.

Tested material

Slides of material named Laminam 3+

Aim of the test

The test is aimed at assessing the hygiene properties of the material by measuring the degree of removal of bacterial contaminants previously inoculated on the surface, after cleaning with a biocide-free detergent.

Material

Bacterial strain: *Escherichia coli* DSM 787

Detergent:

dodecylbenzene sodium sulfonate 1,9 g/l
alchilaryl polyglycoether 1,9 g/l
ethanol 0,75 g/l
water up to 1 l

Nutrient broth:

meat extract 3 g/l
peptone 5 g/l
water up to 1 l

Nutrient agar:

meat extract 3 g/l
peptone 5 g/l
agar 15 g/l

Head of Department
Dott. Franco Bulian

Managing Director
Dr. Andrea Giavon

The sample name and, when relevant, its description, are given by the orderer, and CATAS does not assume responsibility on this matter. This test report relates to the sample submitted for the test and no others. Additions, deletions or alterations are not permitted. This test report must always be reproduced in its entirety. Unless otherwise stated, sampling has been carried out by the orderer.

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water up to 1l

Procedure

1 ml aliquots of serial dilutions (1:10; 1:100 1:10⁴) of *Escherichia coli* suspension in nutrient broth are inoculated onto the surface of 2 specimens (200x200 mm) of the test material. The stock suspension contains 2x10⁹ cfu/ml. A PVC disk of 90 mm diam. is placed on each inoculum, so as to evenly spread the suspension on a 64 cm² area.

The bacterial cells are left in contact with the surface for 4 hours, then the PVC disks are removed and any residual liquid is allowed to dry for 30 min.

One of the two specimens is cleaned by spraying the surface with detergent with the composition described above, and wiping with tissue paper. The other specimen is left untouched.

Each area that was initially contaminated is swabbed with a disk of nutrient agar, which is then incubated in a sterile Petri dish for 24 hours at 37°C.

At the end of the incubation period, the swabs taken from each area, either cleaned or not, are examined for colony formation.

Results**Not cleaned specimens**

Confluent growth of colonies. Photo 1 shows colonies formed on the swab taken from the area with the lightest contamination (2x10⁵ cfu/ml).

Cleaned specimens

Colony formation was observed only on the swab taken from the area with the heaviest contamination (2x10⁸ cfu/ml), yielding 85 colonies. Thus, the removal of bacteria by the cleaning procedure was > 99%.

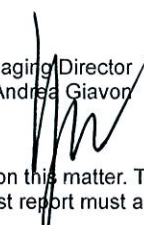
Photo 2 shows the swab taken from the area with the lightest contamination (2x10⁵ cfu/ml), for comparison with the situation of Photo 1: no colonies were observed.

Conclusions

Given the high degree of removal (> 99%) of bacterial cells inoculated on the surface of the test material, obtained by simply cleaning the surface with a biocide-free detergent, it can be concluded that the material shows hygiene properties, intended as ease to clean it up from microbial contamination.

Attachment**Photos**

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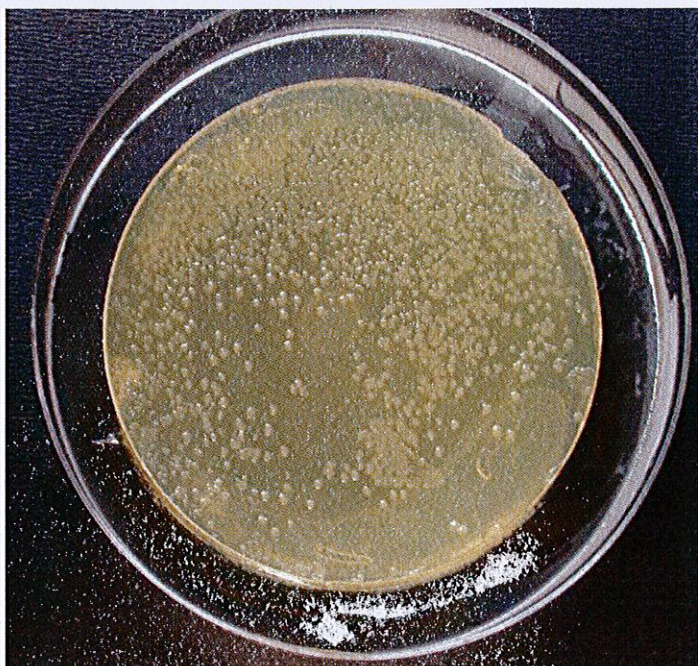


PHOTO n. 1
Swab taken from Laminam surface
contaminated by E.coli suspension containing
 2×10^5 cfu/ml: confluent growth, uncountable
colonies.

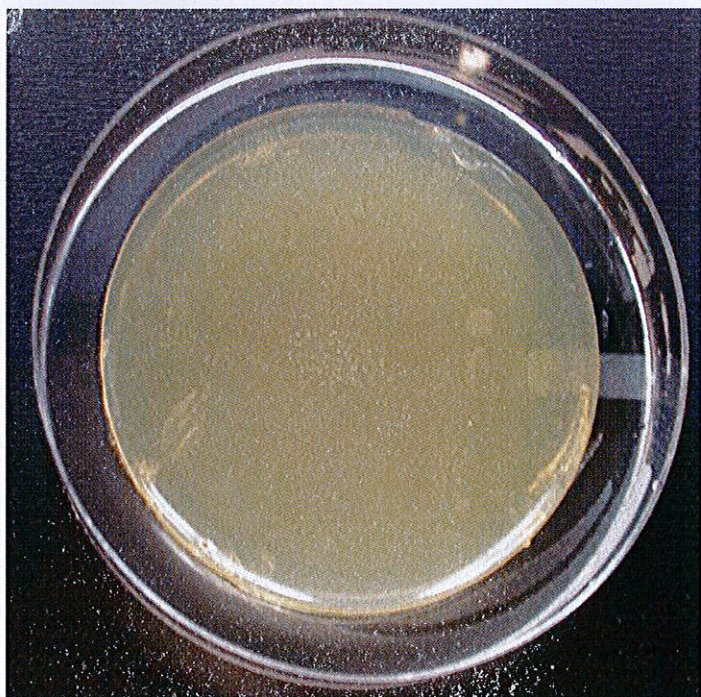


PHOTO n. 2
Swab taken from Laminam surface
contaminated by E.coli suspension containing
 2×10^5 cfu/ml, cleaned with biocide-free
detergent: no colonies.