

EVALUATION OF THE ANTIMICROBIAL PROPERTIES OF FINTEX homeStop glassfiber fabric ACCORDING TO STANDARD JIS Z 2801: 2000

Introduction

The objective of this study is to evaluate the antimicrobial activity on the surface of 2 samples according to standard **JIS Z 2801: 2000**.

Materials and methods

a. Description of the samples

The samples measure 5 X 5 cm² and were not sterilized or disinfected in order not to deteriorate the various components of the product for the tests of antimicrobial activity.

The tests were carried out on glassfiber fabric stuck on plasterboards and painted (sample B). The reference for the experimentation is a plasterboard sample only painted (sample A).

Composition of sample A (reference):

Plasterboard	Vinyl adhesive	Fiberglass fabric	Finishing
Standard BA13	-	-	Standard acrylic painting

Composition of sample B:

Plasterboard	Vinyl adhesive	Fiberglass fabric	Finishing
Standard BA13	Standard	Fintex homeStop	Standard acrylic painting

b. Bacterial strain

The bacterial strain used for these tests was:
- Staphylococcus aureus, stock of collection ATS 6538

c. Inoculation of the samples

Each sample was placed in a sterile Petri dish. A volume of 400 µL of the suspension of inoculation was placed on the sample. The Petri dish was then closed and placed in a drying oven at (37±1) °C during (24±1) h.

d. Analyzes samples

After incubation, the number of colonies per box is counted. The bacterial concentration and the value of the antimicrobial activity (R) by sample are then calculated according to the formula:

$$R = \log^A_{(X)}, \text{ with}$$

A: median number of viable cells on a control sample (A) after 24:00

X: median number of viable cells on an antimicrobial sample after 24:00 (sample A or B)

3 series of measure are carried out to limit the variations.

Only the values of R higher to 2.0 indicate that the product tested has an antimicrobial efficiency with respect to the studied micro-organism.



*Sample not presenting an antimicrobial activity
=> $R \sim 0$*



*Sample presenting a good microbial activity
=> $R > 2.0$*

Results with the strain *Staphylococcus aureus*

The chart below shows the experimental values of the antimicrobial activity for each samples tested.

Antimicrobial activity



In conclusion, it appears clearly that the sample B develop an antimicrobial activity on the strain *Staphylococcus aureus*, by comparison with painted plasterboard (value of the antimicrobial activity superior to 2).

Fintex homeStop glassfiber fabric has a real antimicrobial effectiveness on this strain.