【Test purpose】

It is generally recognized that bacteria will lead to diseases like food poisoning and allergy. If you leave your clothes with perspiration there for a long time, bacteria will incubate by treating perspiration as its nutrient.

With increasing demand of healthy life, many garments, furniture coverings and accessories with antibacterial property are produced. The function of suppressing the incubation of bacteria can be named as "antibacterial property", "antibacterial deodorant activity", or "bacterial inhibition property". Nissenken carries out this test according to SEK standard (Japanese).

【Testing method - JIS L1902 -】

①Absorption method-Quantitative Test

This is the most basic method of determination of antibacterial activity and also in coincidence with two standards mentioned in SEK mark - "standard for antibacterial deodorant finished products" and "standard for antibacterial finished products".

Principle

Compare the number of colonies or ATP amount on the surface of antibacterial finished fabric and control fabric after incubating under the same condition for same time.

Assessment

The results will be judged according to bacteriostatic activity value and bactericidal activity value.
① Bacteriostatic activity value
② Bactericidal activity value

Principle
Filter test bacteria with membrane filter made of Fluorocarbon polymer or acetate. Use the filter to scratch the surface of antibacterial finished specimen and control fabric to transfer the test bacteria. Place them still under the same condition for the same time, then calculate the number of living bacteria or ATP amount, and get the bacterial decrease value.

Assessment
Calculate the bacterial decrease value.

③ Halo method
If the antibacterial agent used during the finishing is dissolvable, the antibacterial activity can be assessed conveniently through this method.

Principle
First, make the agar plate with appointed strains, then put the antibacterial finished specimen on the 37°C agar plate for 48 hours. At last, measuring the width of inhibitory zone of bacteria incubation which is also named halo.
Assessment
Assess the antibacterial activity and efficacy by calculating the width of halos.

**[Testing method of SEK mark]**

<table>
<thead>
<tr>
<th>Antibacterial deodorant processing</th>
<th>Antibacterial finishing</th>
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<tbody>
<tr>
<td>SEK (BLUE)</td>
<td>Common application</td>
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<tr>
<td>Staphylococcus aureus</td>
<td>○</td>
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<tr>
<td>Klebsiella pneumoniae</td>
<td>—</td>
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<tr>
<td>MRSA</td>
<td>—</td>
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<tr>
<td>Escherichia coli</td>
<td>—</td>
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<tr>
<td>Pseudomonas aeruginosa</td>
<td>—</td>
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<tr>
<td>mraxella osloensis</td>
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</tbody>
</table>

※ ○ Indispensable bacteria ▲ Optional bacteria
※ To the new type bacteria - mraxella osloensis, there is no relative instruction in JIS L 1902. But in order to get certification of SEK Mark, we still carry out the testing on basis of JIS L 1902. And the test can only be carried out in Tokyo Laboratory.

◆ Because the [JEC301 SEK Mark textile certification standard (Japanese)] also judges washing durability of finishes. So the fabric can also be tested after washing.

◆ If you have any doubt about other testing methods or any bacterial strains, please contact us.