Antibacterial & Mildew-proof Property of TOLI Vinyl Flooring and Others

Antibacterial Products - Test for Antibacterial Activity and Efficacy (JIS Z 2801)

The same testing should be also conducted for non-antibacterial specimen.

To keep the antibacterial property of the vinyl floor covering, non-shiny antibacterial wax “T Wax” from TOLI or shiny MEDICALWEL 21LLFREE EXCELLA (made-to-order product) may be used. The wax is also applicable for the surface of the SHOWER real design (certified fire-retardant wallpaper).

About SEK Mark

SEK Mark is the certification mark for the products that meet the performance criteria of Japanese Textile Evaluation and Testing Association (JETAA) and Japan Textile Evaluation and Testing Association (JETAA). The mark is used in the healthcare segments (special purpose), and they also passed the testing of antibacterial property to MRSA. The criteria of SEK Mark indicates the high standards of antibacterial property and efficacy of human body to reduce bacteria growth.

Antibacterial Property

Criteria for Evaluation:

0%. Antibacterial (Antibacterial Active Value: ≥2.0)

Guidelines for Evaluating the Data:

When the antibacterial active value for each bacteria (Bacillus Cerculosis, Staphylococcus Aureus, and E. coli) is more than 2.0, the floor covering has sufficient antibacterial property.

Test Method:

Antibacterial Property of TOLI Vinyl Flooring and Others.

Antibacterial Active Value = Log

Mildew-proof Property

Criteria for Evaluation:

0%. Mildew-proof (Mildew growth is invisible to the naked eye).

Guidelines for Evaluating the Data:

When the bacteria count on non-antibacterial specimen is more than 35%, the floor covering has sufficient mildew-proof property.

Test Method:

Mildew-proof Testing - Test Method A (JIS Z 2801)

Spray mildew-mixed sponge suspension to the specimen and place mildew at 28°C and 95% RH for 4 weeks. Check the growth of fungal filament by the naked eye, and it is necessary by a stereomicroscope.

About TOLI Mark

TOLI Mark indicates the performance of antibacterial property and mildew-proof property of the floor covering. It also shows an excellent antibacterial performance as well as high safety.

Antibacterial Property of GA-100FH & GA-8900

Results of Antibacterial Testing

Determination of Antibacterial Activity and Efficacy of Textile Products (JIS L 1902 Absorption Method)

GA-100FH

<table>
<thead>
<tr>
<th>Kind of Bacteria</th>
<th>Functional Activity Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus Aureus</td>
<td>≥0.3</td>
</tr>
<tr>
<td>Pseudomonas Aeruginosa</td>
<td>≥0.3</td>
</tr>
<tr>
<td>MRSA</td>
<td>≥0.3</td>
</tr>
</tbody>
</table>

GA-8900

<table>
<thead>
<tr>
<th>Kind of Bacteria</th>
<th>Functional Activity Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus Aureus</td>
<td>≥0.4</td>
</tr>
<tr>
<td>Pseudomonas Aeruginosa</td>
<td>≥0.4</td>
</tr>
<tr>
<td>MRSA</td>
<td>≥0.4</td>
</tr>
</tbody>
</table>

Safety Testing

Fungal Activity Value measured Value SEK Standard

Acute Oral Toxicity More than 2,000mg/kg Positive

Skin Irritancy Negative

Skin Sensitization Negative

Cell Toxicity Negative

Antibacterial Wax

Mildew-proof Property

Criteria for Evaluation:

0%. Mildew-proof (Mildew growth is invisible to the naked eye).

Guidelines for Evaluating the Data:

When the bacteria count on non-antibacterial specimen is more than 35%, the floor covering has sufficient mildew-proof property.

Test Method:

Mildew-proof Testing - Test Method A (JIS Z 2801)

Spray mildew-mixed sponge suspension to the specimen and place mildew at 28°C and 95% RH for 4 weeks. Check the growth of fungal filament by the naked eye, and it is necessary by a stereomicroscope.

Antibacterial Property & Washing Durability

Test Item

Standard

TOLI Antibacterial Curtain < Certified According to SEK Antibacterial Finished (special purpose) >

Excellent antibacterial property to 5 bacteria, such as MRSA/penicillin-resistant, *Most suitable for hospitals and healthcare facilities with its durability to frequent washing.

Antibacterial Property & Washing Durability

Test Item

Standard

TOLI Stain-Resistant and Deodorant Wall Covering with Antibacterial Film (certified Fire-Retardant Wallpaper)

Deodorant property has also added-stained “PUNICARE” wall covering. Suitable for the spaces where you are concerned about stains and odors. It also shows an excellent antibacterial performance as well as high safety.

Excellent Stain-Resistance;

The water stain and the adhesive residue during the installation can be easily removed. The adhesive residue can be peeled off as a thin skin after being dried up.

Ozor Elimination;

Bad odors such as ammonia and hydrogen sulfide can be eliminated.