# TEST REPORT
# 22/0184

## Results for controls and samples listed below:

Lexan F6006 as Controls
Lexan F6006 with microshield as samples: 1) No Wear, 2) Dry Wear y 3) Wet Wear

**July 11th, 2022**

# [Measurement of antimicrobial activity on plastic surfaces according to normative ISO 22196]

# Measurement of antimicrobial activity on surfaces

## INFORMATION FOR THE ASSAY

a) Measurement procedure: According to the international normative ISO 22196.
b) Characteristics of samples and control specimens: Plastic types with 1.31 mm thickness. Dimensions of specimens for measurements: 5x5 cm.
c) Film types with 0.3 mm thickness. Dimensions of specimens for measurements: 5x5 cm, which were supported on a gray plastic substrate for measurements.
Taken as controls:
- Lexan F6006


Taken as samples:
– Lexan F0606 with microshield: 1) No Wear, 2) Dry Wear y 3) Wet Wear


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c) All specimens were sterilized by spraying isopropyl alcohol and softly cleaned with a cotton ball.
d) Cover film: Parafilm with dimension of 4x4 cm and sterilized under UV.
e) Specie of test bacteria: [redacted] ATCC 4157 ($3.26x10^5$ cells/mL, 400 uL as inoculum).
f) Viable bacteria in inoculum/specimen, $1.3x10^5$ CFU/specimen.

**RESULTS**

**Table 1.** $U_0$, $U_t$ and $A_t$ values estimated from CFU/$cm^2$ values for samples and controls; and log reduction of [redacted] ATCC 4157 for samples based on controls, at 24 h of contact.

| Controls and samples ID | Cells (CFU)/cm2 | Average cells (CFU)/cm2 | Average Log U0 and Log Ut | Log At | Average percentage reduction based on control at 24 h | Log reduction | Average log10 reduction |
|---|---|---|---|---|---|---|---|
| Lexan F6006 C1 0h | 1.35E+05 | | | | | | |
| Lexan F6006 C2 0h | 1.58E+05 | | | | | | |
| Lexan F6006 C3 0h | 1.76E+05 | 1.56E+05 | **5.19** | | | | |
| Lexan F6006 C1 24h | 1.43E+05 | | | | | | |
| Lexan F6006 C2. 24h | 6.69E+04 | | | | | | |
| Lexan F6006 C3. 24h | 1.04E+05 | 1.30E+05 | **5.12** | | | | |
| Lexan F6006 with microshield NW 1 | 2.50E+04 | | | 4.40 | | 0.72 | |
| Lexan F6006 with microshield NW 2 | 0.00E+00 | | | 0.00 | | 5.12 | |
| Lexan F6006 with microshield NW 3 | 0.00E+00 | 8.33E+03 | | 0.00 | **93.6** | 5.12 | **3.65** |
| Lexan F6006 with microshield DW 1 | 4.56E+03 | | | 3.66 | | 1.46 | |
| Lexan F6006 with microshield DW 2 | 0.00E+00 | | | 0.00 | | 5.12 | |
| Lexan F6006 with microshield DW 3 | 2.06E+03 | 2.21E+03 | | 3.31 | **98.3** | 1.80 | **2.79** |
| Lexan F6006 with microshield WW 1 | 1.14E+04 | | | 4.06 | | 1.06 | |
| Lexan F6006 with microshield WW 2 | 2.61E+04 | | | 4.42 | | 0.70 | |
| Lexan F6006 with microshield WW 3 | 6.25E+01 | 1.25E+04 | | 1.80 | **90.4** | 3.32 | **1.69** |

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The assay met the test validation: (Lmax-Lmin)/(Lmin) ≤ 0.2 (0.02565). The antibacterial activity was estimated by the Log reduction/cm$^2$ of [redacted] ATCC 4157 between controls and treated samples, as is indicated in equation: $(Ut - Uo) - (At - U0) = Ut - At$.

**INTERPRETATION OF RESULTS:** As higher is the antimicrobial activity value (R, Log reduction), means that microorganisms are higher inhibited, and to the contrary, as lower is the value of antimicrobial activity, means that microorganisms are lower inhibited. Logarithmic reductions of UFC/cm$^2$ ≥ 3 of tested samples *vs* respective reference controls, are taken as sufficient antimicrobial activity.

**Report responsable,**

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