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TECHNICAL SERVICE REPORT

Evaluation of Dry-Film Protection against Bacteria

PINTURAS Y RECUBRIMIENTOS URSAN SPAIN

Report No.: TRCH 2020-1705

Date: 12.11.2020

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1 BACKGROUND INFORMATION

Customer	Pinturas y Recubrimientos Ursan	Altakem
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2 RECEIVED SAMPLES

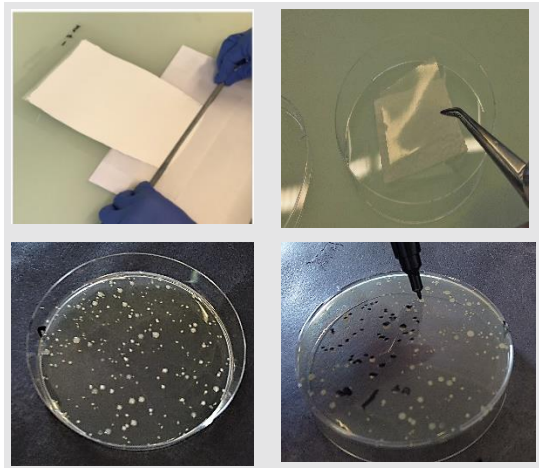
Sample List	Reference (as on sample)	Biocide name + amount added [%]	Test required / Comment
1	SANOX (Muestra 1)	Blank	JISZ 2801 (<i>E.Coli</i> ; <i>S.aureus</i>)
2	SANOX (Muestra 1)	0.25% Sanitized AC+	JISZ 2801 (<i>E.Coli</i> ; <i>S.aureus</i>)
3	SANOX (Muestra 2)	Blank	JISZ 2801 (<i>E.Coli</i> ; <i>S.aureus</i>)
4	SANOX (Muestra 2)	0.25% Sanitized AC+	JISZ 2801 (<i>E.Coli</i> ; <i>S.aureus</i>)



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3 METHODOLOGY

JIS Z 2801: Antibacterial products - Test for Antibacterial Activity and Efficacy



Test Conditions:

Sample Size	6 flat, square samples with a surface measuring 5 cm x 5 cm and a maximum thickness of 1 cm.
Neutralizer used	Buffered saline with Tween 80 - 0.01 %
Contact Time	24 hours at 37° C
Incubation Temp	37° C
Media & Reagents	Soyabean-casein digest agar

Scope:

This standard specifies the test for antibacterial activity and efficacy to bacteria on the surface of antibacterial products.

Duration:

14 days (including 4 days of preparation)

Sample Requirement:

1. Blank (untreated product)
2. Antibacterial product

Test Reference Organisms:

Bacteria:

<i>Staphylococcus aureus</i>	ATCC 6538P
<i>Escherichia coli</i>	ATCC 8739

Criteria of Antibacterial effectiveness:

Antibacterial Activity Value (R)	Log reduction (%)	Antibacterial Efficacy Results
≥ 2.0	≥ 99.00	Shows Antibacterial efficacy
< 2.0	< 99.00	Insufficient Antibacterial efficacy
< 1.0	< 90.00	Do not show Antibacterial efficacy

The **R value** shows the difference in the logarithmic values of number of viable bacteria between antibacterial product and untreated product after inoculation followed by incubation of bacteria.

Country / Year:
Switzerland / 2019



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4. RESULTS MICROBIOLOGY / ANALYTIC

JIS Z 2801: Test for Antibacterial Activity and Efficacy:

Sr.no.	Sample details		Test Organisms	Activity (R)	% Reduction
1	SANOX (Muestra 1)	Blank	<i>E.coli</i>	>5.80	>99.99
			<i>S.aureus</i>	>5.50	>99.99
2		0.25% Sanitized AC+	<i>E.coli</i>	>5.80	>99.99
			<i>S.aureus</i>	>5.50	>99.99
3	SANOX (Muestra 2)	Blank	<i>E.coli</i>	2.50	99.68
			<i>S.aureus</i>	2.70	99.80
4		0.25% Sanitized AC+	<i>E.coli</i>	>5.80	>99.99
			<i>S.aureus</i>	>5.50	>99.99



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5. RECOMMENDATION / DISCUSSION

The dry-film testing according to JIS Z 2801 against *Escherichia coli* and *Staphylococcus aureus* bacteria shows that the tested samples of

- SANOX (Muestra 1) with 0.25% Sanitized AC+ and SANOX (Muestra 2) with 0.25% Sanitized AC+ shows perfect bacterial reduction of >99.99% thereby exhibits good antibacterial activity.
- SANOX (Muestra 1) Blank shows perfect bacterial reduction of >99.99% while SANOX (Muestra 2) Blank shows bacterial reduction of >99%. The antibacterial effect of Blank might come from the in-can preservatives which might already present in the samples. This would provide only initial antibacterial effect and will lose their effect subsequently and quickly.
- The addition of Sanitized AC+ would give your products long term, durable & stable antibacterial effect and would also help for antibacterial claim or registration.

Therefore, we recommend using 0.25 % Sanitized AC+ in your SANOX (Muestra 1) & SANOX (Muestra 2) products because it provides stable, durable & ensures sufficient dry-film antibacterial protection of your products.

For further information or support, please contact our technical support.