

CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 1011668.145/3752

CUSTOMER

CUSTOMER REF. 186

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SAMPLE DETAILS

DATE RECEIVED 02/06/2009

A6 MOULDINGS

ORDER NO.

METHOD: Determination of Antibacterial Activity using Test Based on JIS Z 2801:2000

DATE ANALYSED 03/06/2009

DATE REPORTED 05/06/2009

RESULTS (AS CFU CM²)

SAMPLE	SPECIES	CONTACT TIME		REDUCTION (INITIAL)	
		0 hrs	24 hrs	Log 10	%
ABS CONTROL NATURAL	<i>E coli</i>	2.2E+04	< 100.00		
ABS + 1% BIOMASTER	<i>E coli</i>	2.2E+04	1.7E+02	2.1	99.22%
ABS CONTROL NATURAL	MRSA	2.5E+04	< 100.00		
ABS + 1% BIOMASTER	MRSA	2.5E+04	< 25.00	≥ 3.00	≥ 99.90%

Key: NS = Poor survival on control supplied.

The above data shows the difference in the population following contact with the surface of the samples listed for 24 hours at 35°C under a RH of > 95% relative to the initial population.

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Laboratory Report: 1011668.145/3752

Test Method: JIS Z 2801:2000

Materials Tested: Injection moulded ABS

Analysis of antibacterial performance using JIS Z 2801:2000 method

Report Number: 1011668.145/3752

Report Date: 05/06/2009

Materials tested: Injection moulded ABS

Organisms tested: MRSA
E. Coli

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Introduction

This report details the analysis carried out on the test samples, including an overview of the test method, the test results, an interpretation of those results and copies of the associated laboratory certificates.

Test Samples

Control: Injection Moulded ABS

Test Samples: Injection moulded ABS containing Biomaster masterbatch

Test Method

The samples were tested according to the JIS Z 2801:2000 method, briefly summarised as follows;

Each test sample is inoculated with a suspension of the test organism (for example, MRSA). The inoculum is held in contact with the test sample using a sterile polyethylene film. All test samples are inoculated in triplicate, with an additional three replicates of the control.

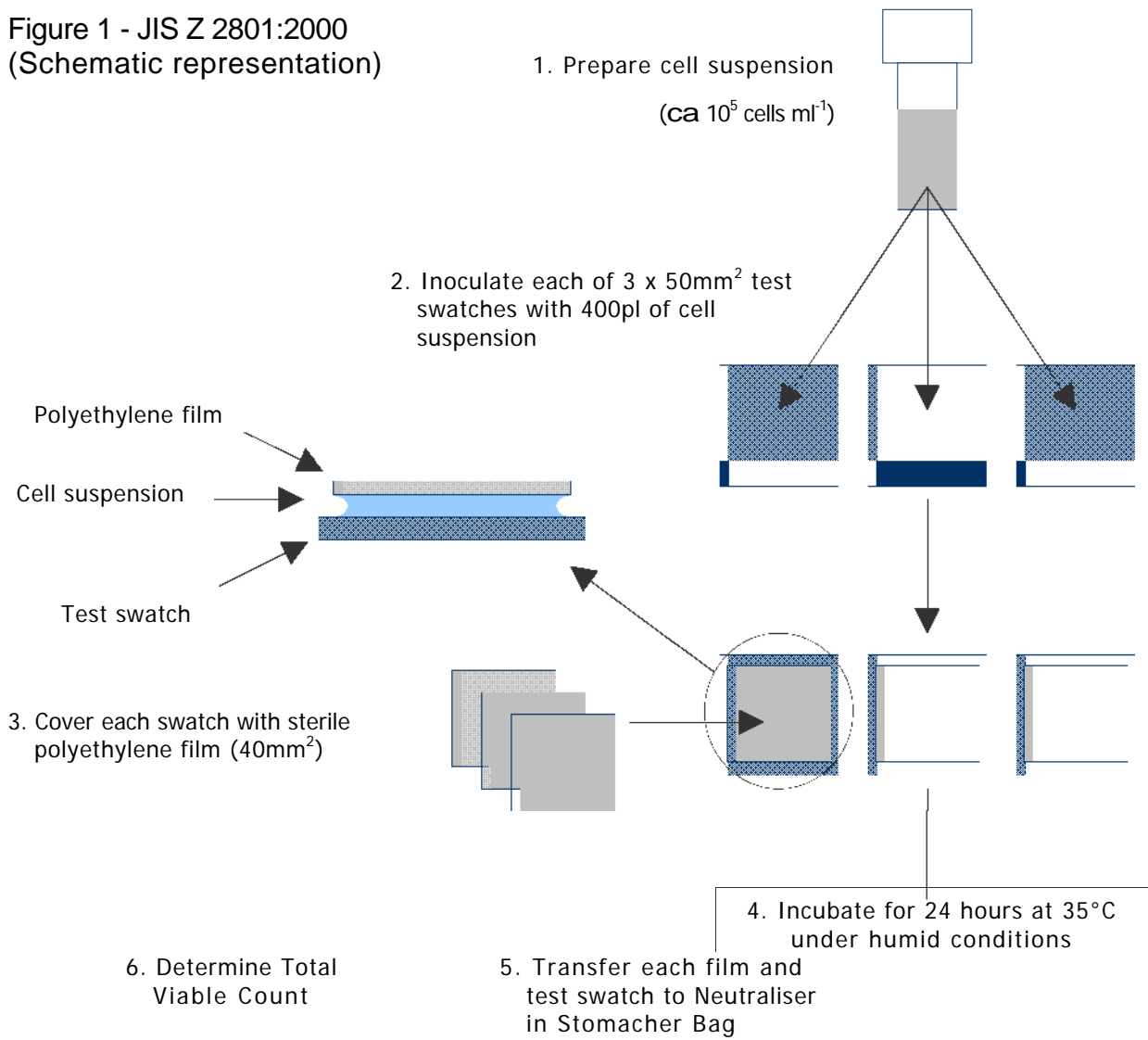
The bacterial population on three control replicates is evaluated immediately following inoculation. This is assumed to be the initial population on all test samples (i.e. a the population at zero hours).

The remaining samples are incubated for the test period (typically 24 hours) at 35°C, at which time the bacterial population is evaluated.

A comparison of the bacterial population at the beginning and end of the test period is made and presented in tabular and graphical form.

A pictorial representation of the test method is shown in figure 1.

Figure 1 - JIS Z 2801:2000
(Schematic representation)



Results

The following tables show the average results for each test sample.

Notes: CFU = Colony Forming Units
The theoretical limit of detection is 10 CFU.

MRSA				
Sample	CFU at 0 Hours	CFU at 24 Hours	Log CFU reduction vs Control	% reduction vs Control
Control	2.5E+04	<100.00	-	-
50206 - ABS with 1% Biomaster	2.5E+04	<25.00	>_ 3.00	99.90%

E. Coli				
Sample	CFU at 0 Hours	CFU at 24 Hours	Log CFU reduction vs Control	% reduction vs Control
Control	2.2E+04	<100	-	-
50206 - ABS with 1% Biomaster	2.2E+04	1.7E+02	2.1	99.22%

Conclusion

The samples containing Biomaster masterbatch exhibited excellent biocidal properties against the test organisms.

It should be noted that, due to dilution factors, the limit of detection for the test is 10 colony forming units and results below this level are recorded as $<10^1$.

In the above tests no viable colonies were identified on any test samples.