



# ISHIZUKA GLASS Co., Ltd.

## Advanced Glass Company

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26 July 2013

Messrs. UAB Algol Chemicals - Baltkam

ISHIZUKA GLASS CO., LTD.  
Advanced Glass Company

### REPORT ON ANTI-MICROBIAL TEST RESULT

#### 1. Sample:

Coated artificial marble (IONPURE WPA<10u), received on June 25<sup>th</sup>

No.	Sample
1.	1 (with IONPURE)
2.	5 (without IONPURE) -
3.	Y1(with IONPURE)
4.	Y5 (without IONPURE) -

#### 2. Outline of test:

The test was executed in according with "JIS Z 2801-2010."

Pretreatment: Immersion with 50 degree water for 16 hours

<Bacteria used for test>

*Escherichia coli* NBRC3972

*Staphylococcus aureus* NBRC12732

#### 3. Test result:

Table 1. Test result of Anti-microbial effect against *Escherichia coli*

Sample	Number of living bacteria			Antimicrobial activity value against Blank	Reduction %
	At beginning (Per cm <sup>2</sup> )	After 24 hours (Per piece)	After 24 hours (Per cm <sup>2</sup> )		
1. 1 (with IONPURE)	$1.3 \times 10^4$	$<1 \times 10^2$	$<11$	$>5.4$	$>99.999$
2. 5 (without IONPURE)	$1.3 \times 10^4$	$2.7 \times 10^7$	$3.0 \times 10^6$	-	-
3. Y1(with IONPURE)	$1.3 \times 10^4$	$2.0 \times 10^5$	$2.3 \times 10^4$	2.1	99
4. Y5(without IONPURE)	$1.3 \times 10^4$	$2.7 \times 10^7$	$3.0 \times 10^6$	-	-
Control (Film only)	$1.3 \times 10^4$	$2.7 \times 10^7$	$3.0 \times 10^6$		

Table 2. Test result of Anti-microbial effect against *Staphylococcus aureus*

Sample	Number of living bacteria			Antimicrobial activity value against Blank	Reduction %
	At beginning (Per cm <sup>2</sup> )	After 24 hours (Per piece)	After 24 hours (Per cm <sup>2</sup> )		
1. 1 (with IONPURE)	$7.0 \times 10^3$	$<1.1 \times 10$	$<11$	$>3.9$	$>99.9$
2. 5 (without IONPURE)	$7.0 \times 10^3$	$8.3 \times 10^5$	$9.2 \times 10^4$	-	-
3. Y1(with IONPURE)	$7.0 \times 10^3$	$7.2 \times 10^2$	80	2.0	99
4. Y5(without IONPURE)	$7.0 \times 10^3$	$9.2 \times 10^4$	$1.0 \times 10^4$	-	-
Control (Film only)	$7.0 \times 10^3$	$4.5 \times 10^5$	$5.0 \times 10^4$		



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#### 4. Consideration:

Samples 1 and 3 showed antimicrobial efficacy against both *Escherichia coli* and *Staphylococcus aureus* as its activity value exceeded the standard value of 2.0, which means this application has a >99% bacterial reduction rate.

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